
ALABAMA COMMISSION ON THE
EVALUATION OF SERVICES

Downloadable Files

evidence.alabama.gov/2025NLPES

1. Cost-Effectiveness_Template (Blank Template for Future Use)
2. Cost-Effectiveness_CS1 (For follow along with presentation on Case Study 1)
3. Cost-Effectiveness_CS1 Control (Control template for Case Study 1)
4. Cost-Effectiveness_CS2 (Pre-filled template for Case Study 2)
5. Copy of Slides
6. Copy of Case Study Handouts

Learning Objectives

1. **Differentiate cost-effectiveness analysis (CEA) from cost-benefit analysis (CBA).**
2. **Apply a structured template** to organize program costs and calculate cost per unit of outcome.
3. **Recognize and document boundary decisions** in CEA.
4. **Navigate incomplete or imperfect data** when conducting CEA in practice.

Cost-Effectiveness Analysis

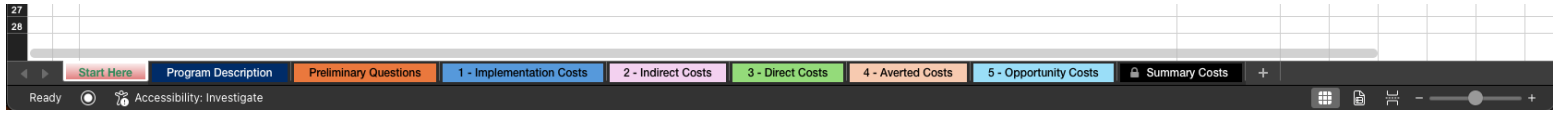
- Outputs: *Cost per unit of outcome* (e.g., cost per participant employed, cost per rearrest averted).
- Outcomes measured in **natural units**, not dollars.
- Useful when benefits are important but hard to monetize.
- Answers: *"What is the cost to achieve one more unit of this outcome?"*

Cost-Benefit Analysis

- Outputs: *Net benefit* or *benefit-cost ratio*.
- Both costs and outcomes are expressed in **dollar terms**.
- Requires assigning monetary values to outcomes (e.g., $ value of reduced recidivism, increased earnings).
- Answers: *"Do the benefits outweigh the costs in dollar terms?"*

Differentiate cost-effectiveness analysis (CEA) from cost-benefit analysis (CBA).

Cost-Accounting Template



Cost-Effectiveness Template Overview & Instructions

The goal of this template is to help evaluators collect costs associated with operating a program or intervention. It includes direct and indirect costs as well as costs associated with implementation, marketing, training, and capital. It also includes program participant costs and adverted costs. For many *ex post facto* evaluations, collecting all of the cost components will be difficult. Collecting as much of this information for both the program or intervention being evaluated and the *status quo* or comparable program will provide the evaluator, program managers, and policy makers with a monetary metric from which to base decisions. If an effect size of the program's impact is available, it can be used to provide an estimate of the program's cost per unit of impact.

Collecting this data will also help to identify the funding necessary to scale up or replicate the program.

* Note : This template was built using existing templates and resources made available by The Abdul Latif Jameel Poverty Action Lab (J-Pal) at MIT. Those resources can be at the link listed below.

Instructions:

1. **Complete the 'Program Description' tab.**

This section helps to define the program and its components. By documenting the essential nature of the program, it will help to understand the following:
* Critical components of the program
* Whether the program started from scratch or was added to an existing program or operation
* Unaccounted for costs

There is space to complete "optional program information" to fully describe the program.
This tab would also be a good place to document a program's logic model or links to external information about the program.

2. **Complete the 'Preliminary Questions' tab.**

Questions 1-4 help determine whether certain categories of cost apply to your program. Question 4 allows you to use an estimate of the program impact (if available) to get a preliminary estimate of the program's cost per unit of impact.

3. **Complete the "Costs" tabs.**

These tabs break down the cost categories into likely cost components. Not all components will apply to every program or intervention. If a cost is known but not quantified, list the cost component under the appropriate section and include a note. Each tab contains a "Miscellaneous Costs" section to identify known costs that you don't believe fit into any of the pre-determined fields.

4. **Review 'Summary Costs' tab for the total cost of the program.**

When outcomes are identified and collected or when the program's impact is available, a cost-effectiveness calculation will be provided (cost per unit).

Additional Tips:

This template uses conditional formatting to populate, hide, reveal, and fill some cells.
Many cells are shaded light gray to indicate that they will pre-populate based on data entered elsewhere in the workbook.
Cells that do not need to be completed based on your inputs will be shaded with a dark grey, lined pattern.

Link:

https://www.povertyactionlab.org/resource/conducting-cost-effectiveness-analysis-cea

Three Information tabs:

- Start Here = Instructions
- Program Description
- Preliminary Questions

Five Costing Tabs:

- Implementation
- Indirect
- Direct
- Averted
- Opportunity

One Summary Tab

Apply a structured template to organize program costs and calculate cost per unit of outcome.

Program Description

nd the measured values of each outcome. Also indicate whether the period of time for which outcomes were measured aligns with the period of time for ber of outcome periods contained with the cost period. This number may be fractional.	List of Outcomes	# of times the outcome has occurred	Are the outcomes for the total period that costs are being calculated?
	Program Completion (WA)	102	Yes
	CNC machining certification (WA)	97	Yes
	OSHA Certification (WA)	102	Yes
	Employed in manufacturing (WA)	80	Yes
	Increased wages earned (WA)	1071	Yes
	Employed in manufacturing (AE)	40	Yes
This is calculated in the effect size estimate. (See Summary Costs)	Increased wages earned (AE)	0	Yes
	Employed in manufacturing (ICER)	102	Yes
This is calculated in the effect size estimate. (See Summary Costs)	Increased wages earned (ICER)	0	Yes

	Response	Notes
Annual Revenues: *(Use the notes to distinguish source of funds by amount or percentage)*		
Program Duration: *(Designed or Average Length of Time a Participant is in the Program)*	8 weeks	
Frequency/Intensity: *(How often and to what extent is the program delivered. Examples include M-Th for 8 hours, Weekly, Daily)*	6 hours/day, 4 days/week	
Delivery Setting: *(A description of the physical setting where the program is delivered or received. Examples include in-person, in-home, school-based, virtual, etc.)*	In-person	
Delivery Location: *being delivered. Examples include statewide, all counties, all schools, multiple counties/cities. If the locations are less than the whole, please provide a listing or link to a listing)*	Metropolis, Metro	
Annual Capacity: *(The maximum number of participants that can be served with the existing resources)*	180	6 chorts of 30
Target Population: *(A description of the population the program is designed to serve.)*	Adults 18+ with high school diploma, unemployed/underemployed	
Waitlisted or Unserved Population:		

Apply a structured template to organize program costs and calculate cost per unit of outcome.

Preliminary Questions

Questions That Will Shape The Template

These questions will identify which tabs need to be filled. **Tabs 2 - Indirect Costs** and **3 - Direct Costs** are required. Questions 1-3 below determine if any additional tabs need to be used. Question 4 allows you to use an impact estimate (if available) to get a preliminary cost-effectiveness calculation on the **Summary Costs** tab.

	Select One Answer
1 Were there any costs associated with start-up or implementing the program?	Yes
For example, costs the were incurred solely for the purpose of standing up the program. These cost should include targeting and marketing costs and well as initial staff hiring and training costs. These costs are typically one-time or are might be higher/lower than the regular operating costs due to the unique nature of starting a program.	
If NO, then SKIP TAB 1 - Implementation Costs	
2 Were there any averted costs? Costs of the organization that reduced in size or discontinued as a result of the program?	Yes
Only include significant and realized or likely to be realized costs here. Do not include costs that were repurposed for the program as averted costs. For example, a reduction in workforce due to automation or technology ***is an averted cost****. Repurposing a facility for a program thereby reducing the cost of another program* ***is not an averted cost.***	
If NO, then SKIP TAB 4 - Averted Costs	
3 Were there any associated costs for program participants, including averted costs of the participant?	Yes
For example, were participants required to pay a fees or a portion of the cost of a product or service? Its is also possible to account for large time commitments for the participants on this tab.	
If NO, then SKIP TAB 5 - Opportunity Costs.	
4 Do you have an impact estimate for the intervention?	Yes
If an impact estimate is available, filling out this table will allow for a back-of-the-envelope cost-effectiveness calculation on the final page.	

Impact Estimate	**13043.25**
Sample Size	**120**
Aggregate Impact	**1565190**

Apply a structured template to organize program costs and calculate cost per unit of outcome.

Implementation Costs

Component 1: Implementation Costs

Please include costs of implementing the intervention. This can include the cost of items distributed to participants, the cost of staff who worked solely on implementation activities, or the cost of creating and maintaining technologies or resources developed for the intervention.

			Unit	Unit Cost	# of Units	Total Cost	Notes
I		**Initial Staff Recruiting and Training**					
		Insert one line for each component. Insert additional rows below if necessary and copy the formula in Column H.					
	1	*Lead Instructor Recruitment*	Total	$ 2,500	1	$ 2,500.00	Background check, skills assessment, int
	2	*Lead Instructor Initial Training*	Item	$ 75	80	$ 6,000.00	2-week intensive curriculum training befor
	3	*Support Staff Hiring*	Total	$ 1,200	2	$ 2,400.00	Job placement coordinator and program a
	4						
	5						
		Subtotal:				$ 10,900.00	
II		**Program Setup & Development**					
		Insert one line item for each component. Insert additional rows below if necessary.					
	1	Curriculum Development	Total	$ 15,000	1	$ 15,000.00	External consultant to develop CNC curric
	2	*Employer Partnership Development*	Total	$ 3,500	1	$ 3,500.00	Outreach to manufacturing partners, MOU
	3	*Program Licensing/Certification*	Total	$ 2,200	1	$ 2,200.00	OSHA training certification, CNC program
	4						
	5						
		Subtotal:				$ 20,700.00	
III		**Marketing and Outreach to Launch**					
		Insert one line item for each component. Insert additional rows below if necessary.					
	1	Website Development	Total	$ 4,000	1	$ 4,000.00	Program-specific landing page and applica
	2	Print Marketing Materials	Total	$ 1,500	1	$ 1,500.00	Brochures, flyers, application packets
	3	Community Outreach Events	Event	$ 800	5	$ 4,000.00	Information sessions at community center
	4						
	5						
		Subtotal:				$ 9,500.00	

Apply a structured template to organize program costs and calculate cost per unit of outcome.

Indirect Costs

Please include costs that cannot be directly linked to a specific product or service but are necessary for the overall operation of the business. They are often referred to as overhead costs. These costs are typically shared organizational resources that support the program but aren't program-specific.

		Unit	Unit Cost	# of Units	Total Cost	Notes	Instructions
I	**Facility Costs**						Record any facility costs that are not exclusively for the benefit of the program. If the facility is for the sole use of the program, those costs should be included on **Tab 3 - Direct Costs**. Additionally, if costs are allocated based on specific amount of usage by the program, they should be entered on **Tab 3 - Direct Costs** as well.
	Insert one line for each component. Insert additional rows below if necessary and copy the formula in Column H.						
1	Rent/Facility Use						
2	Utilities						
3	Maintenance/Repairs						
4							
5							
	Subtotal:				$ -		
II	**Administrative Costs**						
	Insert one line item for each component. Insert additional rows below if necessary.						Record any organizational costs that are allocated to the program. Costs will include salaries/benefits as well as products, software, contracted services, fees, and premiums carried by the organization that benefit the program.
1	*Management/Supervision*	Total	$ 8,000	1	$ 8,000.00	10% of director's salary allocated to the program	
2	*Accounting/Finance*	Total	$ 4,000	1	$ 4,000.00	Payroll, benefits processing, compliance	
3	*Legal/Compliance*	Total	$ 2,000	1	$ 2,000.00		
4	*IT Support*	Total	$ 2,400	1	$ 2,400.00		
5	*HR Administration*	Total	$ 3,000	1	$ 3,000.00	Payroll, benefits processing, compliance	
6	*Marketing & Communications*						
7	*Insurance*						
8	*Security*						
9	*Quality Assurance/Evaluation (Only include external evaluation costs that were procured by the organization)*						
10							
11							
12							
	Subtotal:				$ 19,400.00		
III	**General Operations**						Costs associated program operations that are allocated across all of the organization's operations.
	Insert one line item for each component. Insert additional rows below if necessary.						
1	Office Supplies						
2	Phone/Internet						
3	Printing/Copying						

When categorizing costs, ask…

"If I were starting this program in a new location, would this be a separate line item in my program budget (direct) or would it come from general organizational overhead (indirect)?"

Direct Costs

Component 3: Direct Costs

Please include the direct costs associated with operating the program. Overhead costs should be included on **Tab 2 - Indirect Costs**. Please do not include staff that were hired only to identify potential program recipients (**Tab 1 - Implementation Costs**) or staff costs associated with evaluating the program.

		Unit	Unit Cost	# of Units	Total Cost	Notes	Instructions
I	**Personnel Costs**						
	Insert one line for each employee position. (If multiple employees in the same position have different salaries, you can either include each on its own row or combined them and select 'Total' for [Unit]. If more than one employee is counted for a position, please indicated the number of employees in the notes). Insert additional rows below if necessary, and copy the formula in Column H so that total costs will correctly populate.						
1	Lead Instructor	Months	$ 4,500.00	12	$ 54,000.00	Salary + benefits for full-time instructor	Cost data for full-time, salaried workers should generally be available by month or year. Remember to include employee benefits along with personnel costs. Please describe employees' main tasks or duties in "Notes."
2	Assistant Instructor	Months	$ 3,200.00	12	$ 38,400.00	Part-time position during training delivery	
3	Job Placement Coordinator	Months	$ 3,800.00	12	$ 45,600.00	Full-time position for employer relations	
4							
5							
	Subtotal:				$ 138,000.00		
II	**Program Materials and Resources**						
	Insert one line for each position. If there is more than one employee per position, please sum the hours worked for all employees of that position. Insert additional rows below if necessary and copy the formula in Column H.						
1	Training Materials per Participant	Participant	$ 150.00	120	$ 18,000.00	Textbooks, safety equipment, supplies	Cost for supplies and materials used in the delivery of services or operation of the program.
2	Consumable Materials	Month	$ 800.00	12	$ 9,600.00	Metal stock, cutting tools, maintenance	
3	Software Licensing	License	$ 200.00	20	$ 4,000.00	CAD/CAM software annual licenses	
4							
5							
	Subtotal:				$ 31,600.00		
III	**Participant Support**						
1	Weekly Stipends	Participant- Week	$ 100.00	1440	$ 144,000.00	$200/week x 8 weeks x 180 participants	Cost for direct incentives or support paid to or covered for participants in order to participate in the program.
2	Transportation Assistance	Participant	$ 100.00	120	$ 12,000.00	Bus passes for participants without vehicles	
3							
4							
5							
	Subtotal:				$ 156,000.00		
IV	**Facility Costs**						

- **Direct ≠ Variable**
- **Follow the participant to find the dollars**
- **Transparency matters more than perfection**

Apply a structured template to organize program costs and calculate cost per unit of outcome.

Averted Costs

Component 4: Averted Costs

Please enter any **costs averted by the organization as a result of the intervention.** Only include costs here that are significant.

		Unit	Unit Cost	# of Units	Total Cost	Notes	Description
I	**Labor Costs**						Labor costs that are discontinued due to the intervention. Please describe the positions or activities that were discontinued in "Notes."
	Insert one line for each position. If there is more than one employee per position, please sum the hours worked for all employees of that position. Insert additional rows below if necessary and copy the formula in Column H.						
1	Basic Skills Program Staff Reduction	Total	$ 25,000	1	$ 25,000.00	Eliminated 0.5 FTE from existing pathways program	Labor costs should be available in hours or days. If you only have a total estimate, choose "Total" and enter 1 for "# of Units."
2							
3							
4							
5							
	Subtotal:				$ 25,000.00		
II	**Capital Costs**						Capital costs that would be deemed unnecessary due to the intervention. These costs should only be included if they are realized or there is a high likelihood that they will be realized. (Example: If a building is owned by the organization and is unlikely to be repurposed for a different use, the capital costs are not averted.)
	Insert one line for each product. Insert additional rows below if necessary and copy the formula in Column H.						
1							
2							
3							
4							
5							
	Subtotal:				$ -		

- **Averted ≠ Benefit**
- **Use marginal costs, not averages**

Apply a structured template to organize program costs and calculate cost per unit of outcome.

Opportunity Costs

Component 5: Opportunity Costs

Please enter any **opportunity costs of the participant** in order to participate in the program. For a program with a large number of participants this may have to be averaged or estimated. If the cost is known but cannot be quantified, still list the cost component and note that the actual cost could not be quantified. Any averted participant costs should also be listed here.

		Unit	Unit Cost	# of Units	Total Cost	Notes	Description
I	**Foregone Wages**						Wages that a participant was previously earning but had to either stop earning or work less hours in order to participate. Provide a description of the foregone wages and how it was determined in the [Notes] column.
1	Participant Foregone Wages	Participant	$ 2,400	120	$ 288,000.00	Average $15/hour x 20 hours/week x 8 weeks	
2							
3							
4							
5							
	Subtotal:				$ 288,000.00		
II	**User Costs**						Costs incurred by the participant in order to participate.
1	Additional Childcare	Participant	$ 150	45	$ 6,750.00	Estimated for participants with children	
2							
3							
4							
5							
	Subtotal:				$ 6,750.00		
	Total:				$ 294,750.00		

- **Opportunity cost is real, even if not on the books**
- **Estimate with simple proxies**
- **Perspective Matters**

Apply a structured template to organize program costs and calculate cost per unit of outcome.

Summary Costs

2	**Indirect Costs**	Costs **not directly associated with delivering the program**. These costs includes those generally associated with overhead expenses.	$19,400.00	
3	**Direct Costs**	Costs to deliver the program. This includes all staff who are necessary to the program daily operations as well as marginal costs.	$364,047.37	
4	**Averted Costs**	Costs **averted as a result of the intervention**. Only include costs that are significant.	($25,000.00)	
5	**Opportunity Costs**	Costs that the **participant incurred as a part of the intervention**. These costs might include foregone wages, new costs, marginal costs, and actual averted costs.	$294,750.00	
		Total Costs:	$808,297.37	**Total Actual Costs:** *(Excludes Averted and Opportunity Costs)*

	Cost per Identified Outcome	
Program Completion (WA)	$7,924.48	
CNC machining certification (WA)	$8,332.96	
OSHA Certification (WA)	$7,924.48	
Employed in manufacturing (WA)	$10,103.72	
Increased wages earned (WA)	$754.71	
Employed in manufacturing (AE)	$20,207.43	
Increased wages earned (AE)		
Employed in manufacturing (ICER)	$7,458.90	<== Manually adjusted formula to show ICER ==>
Increased wages earned (ICER)		
Aggregate Impact:	841.5	
Cost per Unit of Impact:	$960.54	<== Increased wages earned (AE) ==>
Aggregate Impact:	841.5	
Incremental Cost per Unit of Impact:	$904.11	<== Increased wages earned (ICER) ==>

Apply a structured template to organize program costs and calculate cost per unit of outcome.

Boundary Decisions

- Time Horizon
- Perspective
- Relevant Cost and Outcomes
- Control group

Relevant Cost and Outcomes

1. **What's in the numerator?**
   Agency Perspective vs. Participant Perspective vs. Societal Perspective
2. **Who's in the denominator?**
   All enrolled vs. completers vs. "active participants"
3. **Do we cost the counterfactual?**
   Status quo parole supervision vs. Day-reporting
4. **How do treat in-kind contributions?**
   This can get trickier than it first looks.
5. **What counts as a cost offset? (Averted Costs)**
   Fewer jail bed days… averted or not

Case Study #1 | Within-Arm

Cost to Produce Analysis (*Total Actual Operational Costs)*

- **Cost per completion**

  $383,447 ÷ 102 = **$3,759 per completer**

- **Cost per CNC certification**

  $383,447 ÷ 97 = **$3,953.07 per certification**

- **Cost per employed in manufacturing (12-month follow-up)**

  $383,447 ÷ 80 = **$4,793 per participant employed in field**

- **Cost per $1/hour wage increase per participant**

  $383,447 ÷ ($10.50 × 102) = $358.03 per $1/hour increase

  This is a treatment-on-treated calculation.

Case Study #1 | Attributable Effect

Cost to produce “Net Effect” (treatment gain vs. control)

- **Cost per completion –** *Not Applicable (No control outcomes)*
- **Cost per CNC certification –** *Not Applicable (No control outcomes)*
- **Cost per employed (12-month follow-up)**

  $383,447 ÷ (120 × .33) = **$9,586 per participant employed in field**

  ↑ Percentage point increase in employment rate

- **Cost per $1/hour wage increase per participant**

  $383,447 ÷ (($10.50 - $2.25) × (102 ÷ 120)) = $456 per $1/hour increase

  ↑ This is an intent-to-treat calculation. (102/120)

Case Study #1 | Incremental Cost-Effectiveness Ratio

Net cost per net gain

- **Cost per completion –** *Not Applicable (No control outcomes)*
- **Cost per CNC certification –** *Not Applicable (No control outcomes)*
- **Cost per employed in manufacturing (12-month follow-up)**

  $383,447 - $47,490 ÷ (120 × .33) = **$8,484 per participant employed in field**

  Calculated in separate template

- **Cost per $1/hour wage increase per participant**

  $335,957 ÷ ($8.25 × .85) = $399 per $1/hour increase

Takeaways

1. **Efficiency ≠ Effectiveness**
   - Cost per completer or cost per output tells us about efficiency.
   - Only CEA — with a counterfactual — tells us about effectiveness.
2. **Boundary Decisions Define the Box**
   - Time frame, perspective, and denominator rules shape what your analysis can and cannot say.
   - Transparency is more important than perfection.
3. **Transparency Builds Credibility**
   - Allocations are assumptions — just document them.
   - Clear rules > precise guesses.
4. **Practical Tools Beat Perfect Theory**
   - The template is a scaffold: adapt it, simplify it, make it fit your program context.
   - The goal is usable analysis, not flawless models.

Apply a structured template to organize program costs and calculate cost per unit of outcome.

Case Study #1 | CEA vs. CBA

Cost-Effectiveness Analysis (ICER) w/ opportunity and averted costs

- **Cost per additional participant employed**

  ($653,197 - $47,490) ÷ 39.6 = **$15,296 per participant employed in field**

- **Cost per $1/hour wage increase per participant**

  $605,707 ÷ $7.01 = **$720 per $1/hr increase**

Cost-Benefit Analysis

- **Annual earnings impact:**

  $7.01/hr × 1,860 hrs ≈ $13,039 per participant

  $13,039 × 120 = **$1.56M total benefit/year**

- **Program cost:** $605,707
- **Net benefit (1 year):**

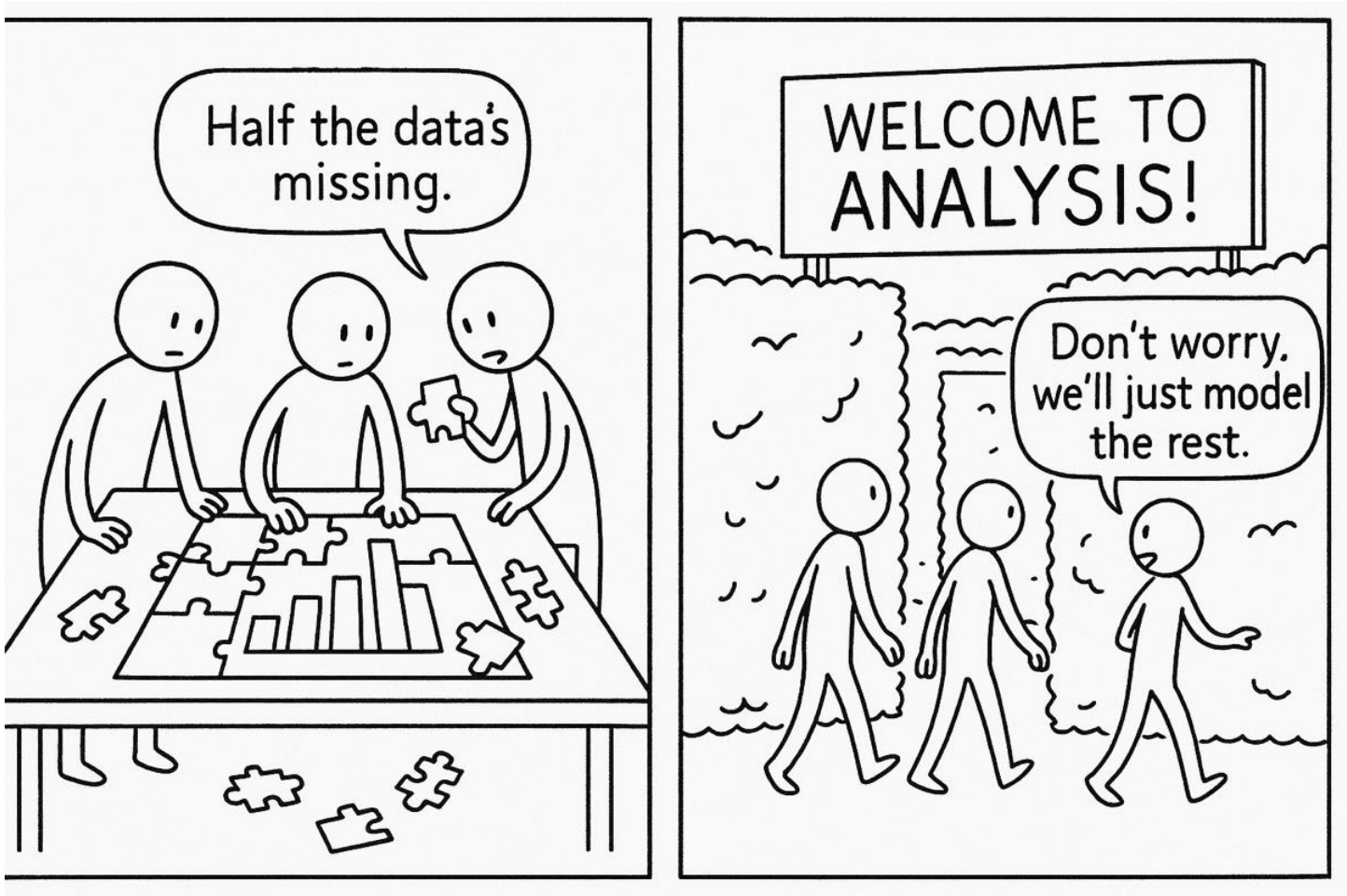
  $1.56M – $0.605M ≈ **+$911,000**

- **Benefit-Cost Ratio (1 year):**

  $1.56M ÷ $0.605M ≈ $**2.8 for every $1 of cost**

Differentiate cost-effectiveness analysis (CEA) from cost-benefit analysis (CBA).

Case Study #2 | TERC



Navigate incomplete or imperfect data when conducting CEA in practice.

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