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SCHOOL OF SOCIAL WORK

# Conducting Meaningful Cost Analysis

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## Purpose

- review what steps are needed to perform a cost analysis, in particular focusing on the “ingredients” of data.
- talk about the barriers for calculating costs and conducting the analysis.



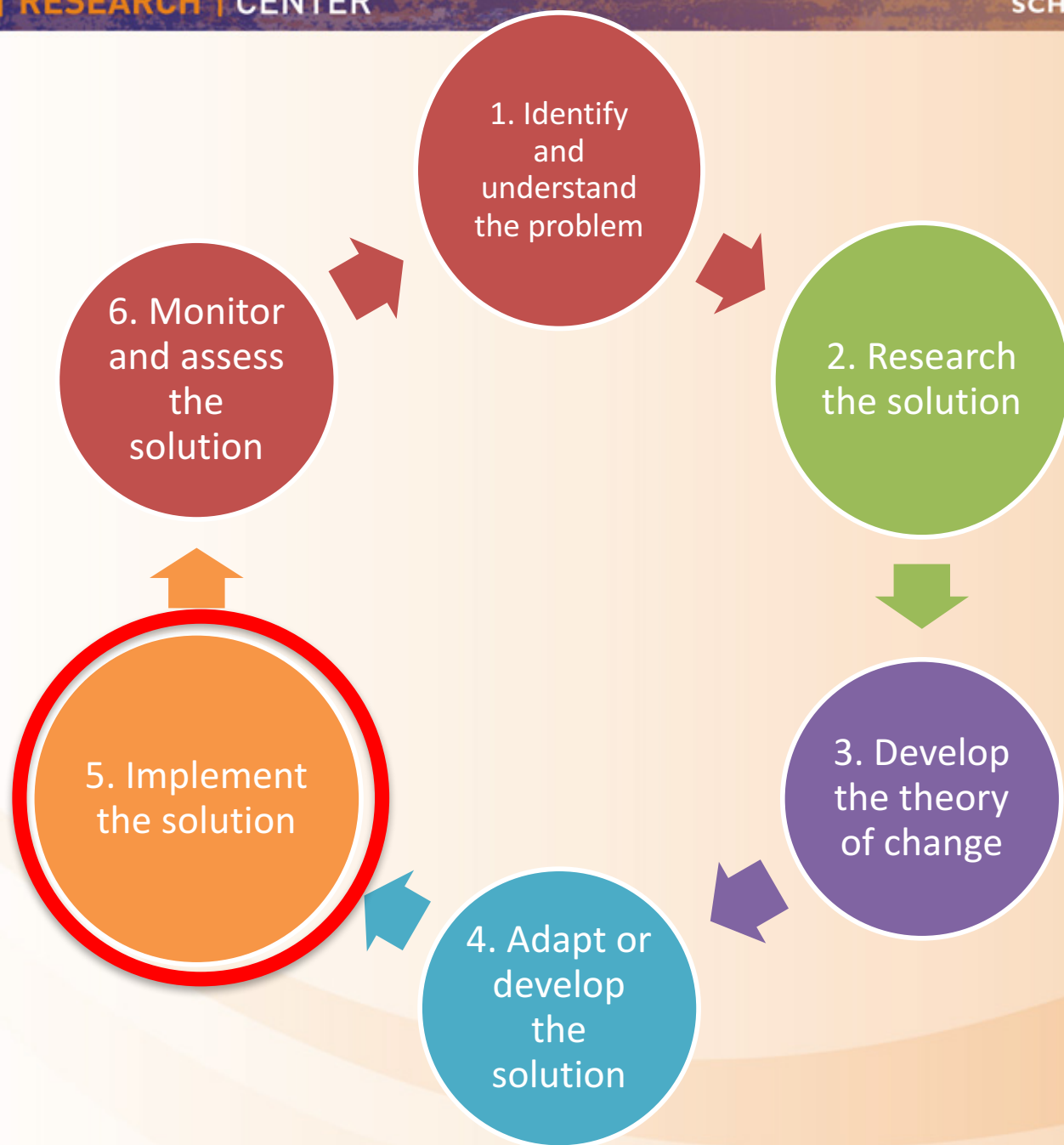


“Cost analysis is a thorough description of the type and amount of all resources used to produce program services.”

Source: Yates, B. T., Delany, P. J., & Dillard, D. L. (2001). Using cost → procedure → process → outcome analysis. In Bruce A. Thyer (Ed.), *the Handbook of Social Work Research Methods* (pp. 207-238). Thousand Oaks, CA: Sage.

## Outline

1. CQI and cost analysis
2. Ingredients of cost
3. Our project
4. Barriers for calculating costs
5. What we learned
6. Questions and discussion



Source: CQI Training Academy. (2014). CQI cycle of learning and improvement tip guide.

Figure 1. CQI Cycle of Learning and Improvement



# Strategies for calculating costs



# 1. Itemize resources used to implement the program.

Personnel  
(salaries  
and  
benefits)

Materials  
and  
supplies

Facilities /  
office  
space

Depreciation  
costs of  
durable  
equipment


Travel

Utilities



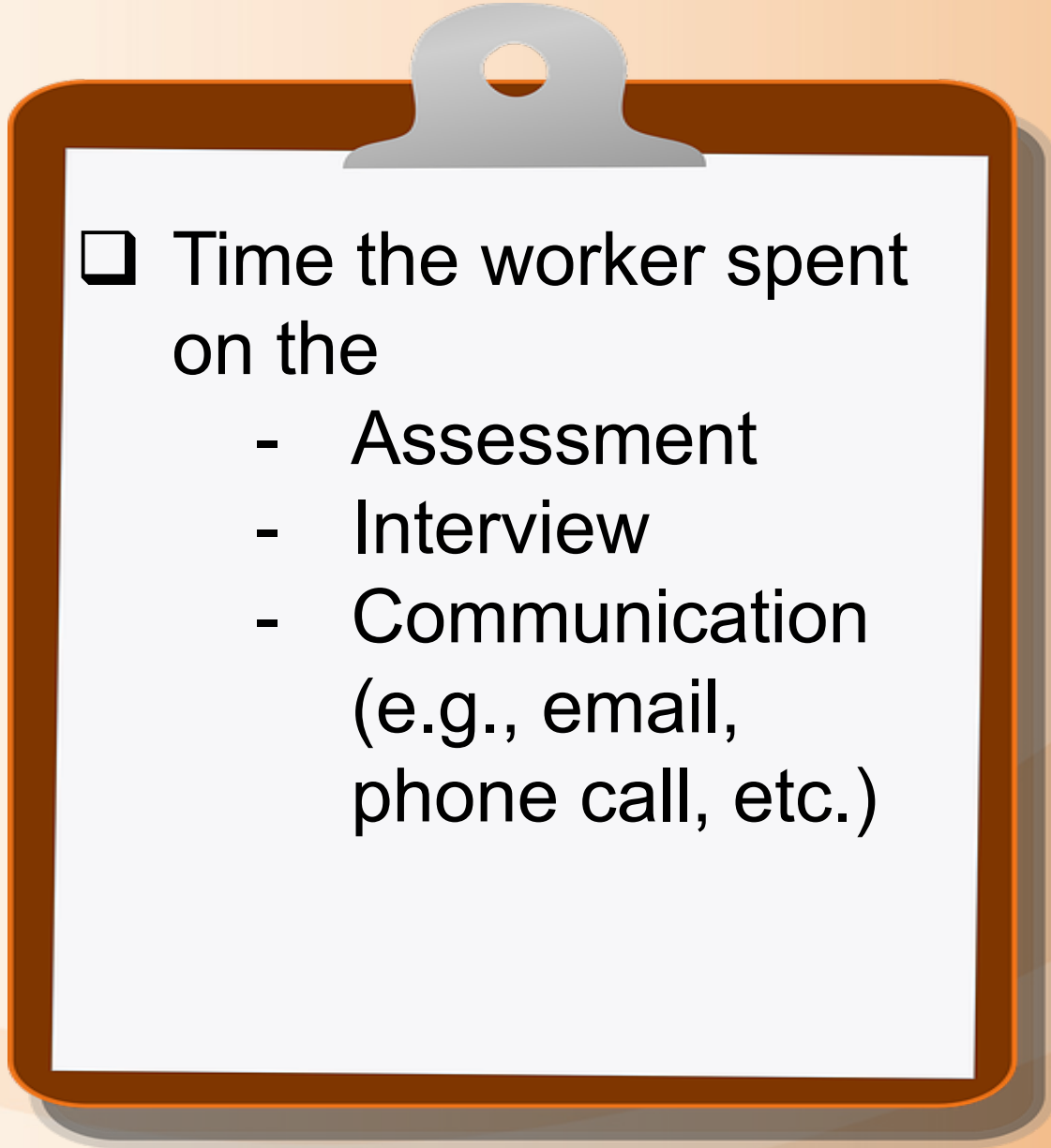
## 2. Collect **data** on resource costs.

### Direct cost

- 
- Employee salaries
  - Employee benefits
  - Initial service costs
  - Costs associated with services
  - Costs of out-of-home placement



## Direct cost (*continued*)

- 
- Time the worker spent on the
    - Assessment
    - Interview
    - Communication (e.g., email, phone call, etc.)





## Indirect cost

- Administrative
- Management
  - Training
  - Accounting
  - HR
- Infrastructure costs
  - IT
- Facilities



### 3. Collect data on resource allocation.

- Proportion of salaries/fringe benefits for the caseworker
- Value of any volunteer labor
- Educational materials
- Client support materials
- Cars
- Computers/laptops
- Office supplies
- Office space

Category	Activity
Services to enrolled families	Parent group meeting



4. Estimate the value of direct and indirect costs.



5. Create an estimate of total costs.





6. Estimate costs of individual program components or activities.



7. Estimate costs per participant.



8. Conduct analyses and examine cost variation.

*Source:*

Calculating the Costs of Child Welfare Services Workgroup. (2013). *Cost analysis in program evaluation: A guide for child welfare researchers and service providers*. Washington, DC: Children's Bureau, Administration for Children and Families, U.S. Department of Health and Human Services.



## Checklist for establishing a cost analysis

- ✓ Familiarize oneself with the interventions that will be evaluated: What are the goals?
- ✓ Decide whether a cost analysis is worth doing.
- ✓ Recognize the audience. What are their needs? What program or service will be analyzed?
- ✓ What date range will be covered?
- ✓ What comparisons will we make?

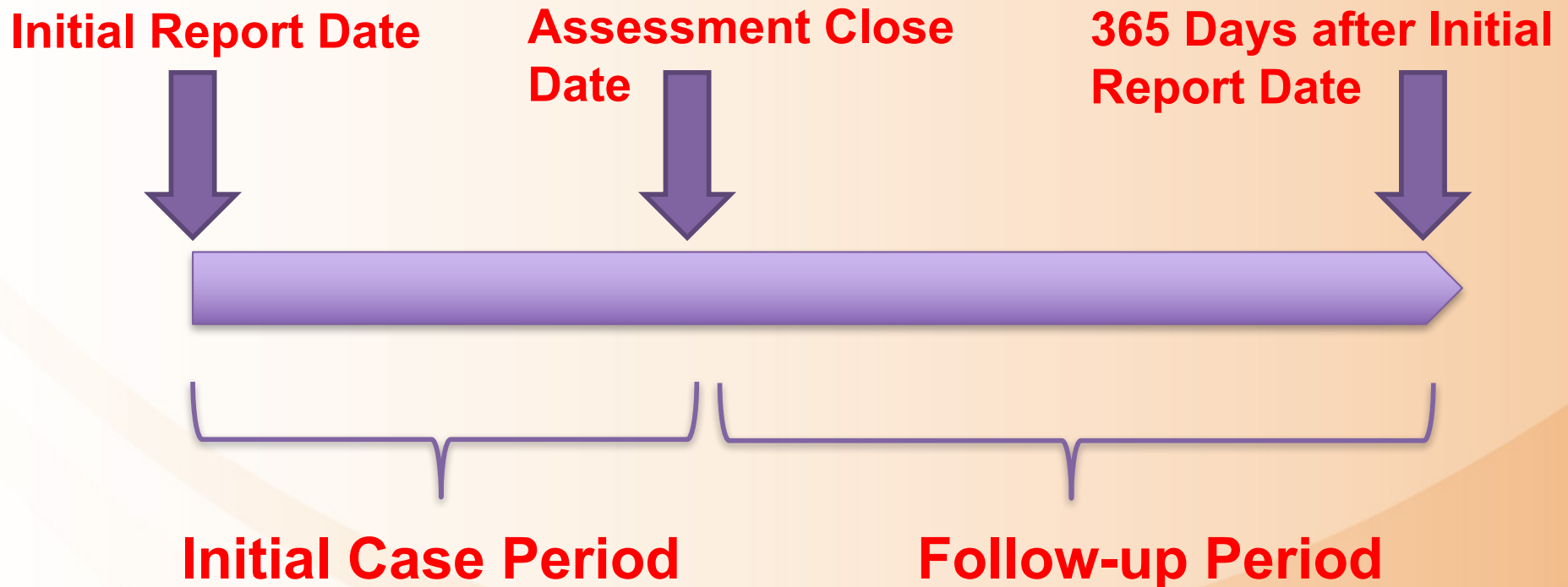


## Cost analysis for our evaluation project

- Cost evaluation was one of the outcomes in the evaluation project.
- To test the theory that a new program would produce higher costs during the **initial** assessment and lower the costs during the **follow-up** period.



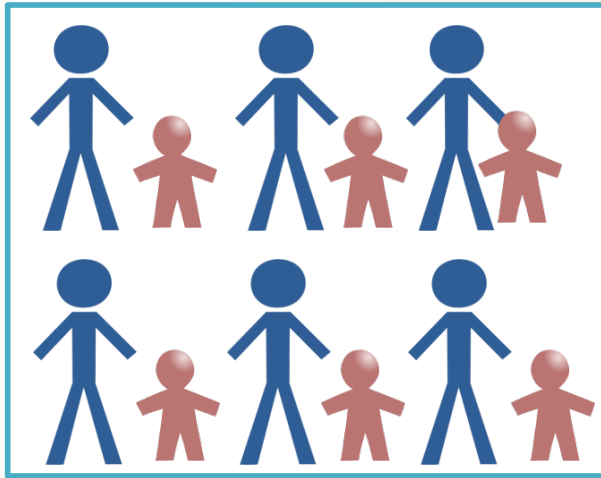
# Initial case and follow-up service periods for the cost analysis



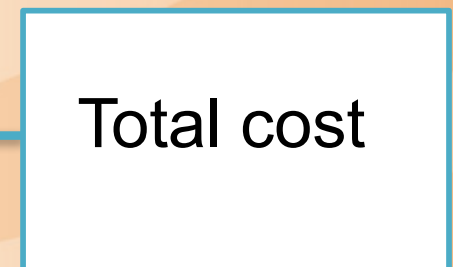
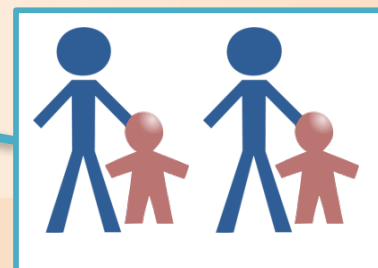
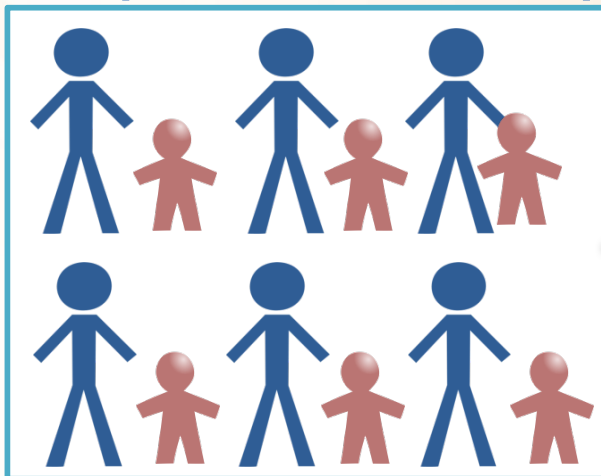


# Analysis design (unit = family)

Treatment Group



Comparison Group







# Cost Types

- First, we asked: What do we care about?
  - We care about pieces that change with the New Program
  - We don't care about anything that is the same between Business as Usual and the New Program
  - For example, no new facilities are needed, no new supplies



# Cost Types

- So ask yourself, What do I care about?
  - Do I care about costs to start the program FROM SCRATCH somewhere else?
  - Or are these costs more about small changes to Business as Usual?
- For example, let's say the program is about motivational interviewing



# Cost Types

- Second, we asked: Of the things we DO care about, what can we access?
  - State level evaluations mean lots of different systems and lots of different gatekeepers
  - For example, we couldn't get information about exact employee salary



# Cost Types

- So ask yourself, What can I get access to?
  - Ideally... But of course, we don't live in an ideal world!
  - For example, how much burden can we put on workers?



# Cost Types

- Third, we asked: How accurate can our cost category measures be?
  - Of the things we do care about and can get access to, how accurate is the information we have?
  - For example, worker time spent with families



# Cost Types

- So ask yourself, How accurate can I get without going crazy?
  - Do you want to take the Accountant Approach, the Back of Envelope Approach, or something in between?



# The Accountant Approach

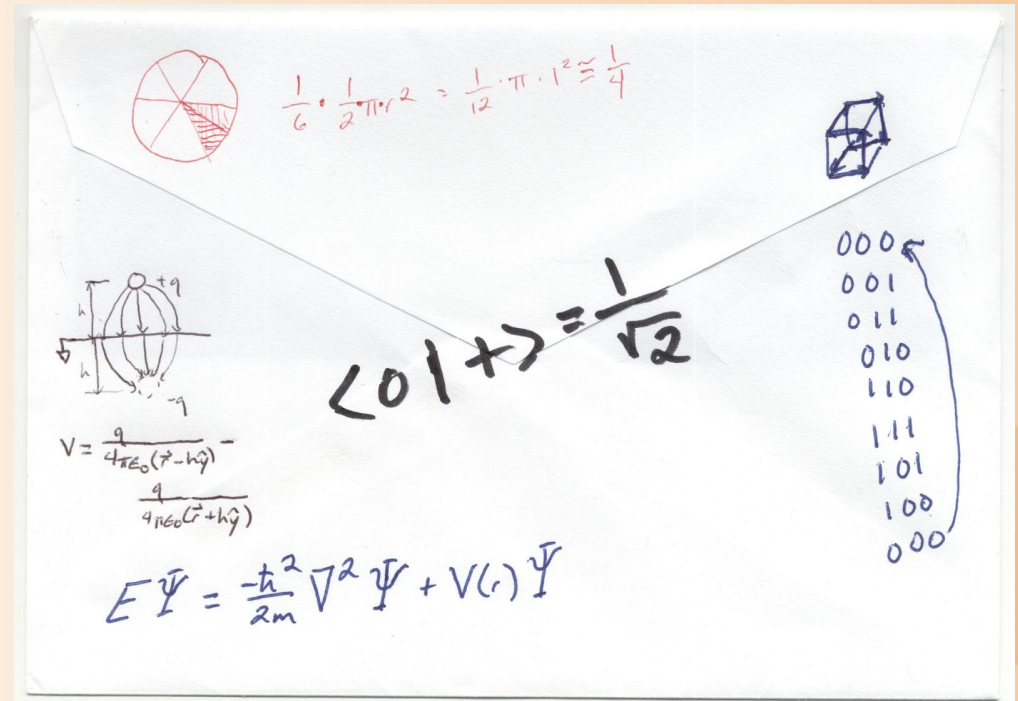
- Account for every possible cost in every possible way!
- You might need this approach!





# The Back of Envelope Approach

- Quick and dirty
- This might be the best you can do



Your own back of envelope calculations are unlikely to involve geometry.





## Or somewhere in between

- Most likely, you will choose a combination of the two
- Some categories allow exact calculations
- Others require rough approximations
- That's okay, as long as you note your certainty about all categories



## Cost Types

- Back to our experience...
- Worker time with families was a list of worker contacts with families
  - But we could not know A) how long the contact took, B) if the contact was face to face or via some other method, and C) if workers reliably used the same contact type for similar contacts



# Cost Types

- So what to do?
  - Find the most common contact types
  - Use an “expert panel” and ask them for their best estimates!
  - Average their estimates for an average time for each contact type



## The Result

- This resulted in a cost analysis containing this data:
  1. Worker contacts with families \* average time per contact \* average worker salary = Cost of worker time (for initial and follow-up periods)
  2. Service costs per family (for initial and follow-up periods)



## The Result

- And what did we find?
  1. Workers did spend more time with families in the new program
  2. This meant the new program cost more in the beginning
  3. But also no evidence that new program reduced costs in the follow-up period



## Is this useful at all?

- This was the hardest question to answer
- A few thoughts...
  1. People understand cost more intuitively than other measures
  2. But we KNOW that this is only a rough estimate of true cost
  3. So we have to be cautious in any conclusions we offer



## What we learned

- Garbage In/Garbage Out (GIGO)
- Watch out for ways in which variance is capped
- And watch out for times variance is huge!
- Consider the reasons you may (or may not) want to convert all units into dollars and cents
  - Or you might say, Make your cost analysis units Dollars and (Common) Sense



# Thank You !

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What questions do you have?

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Other questions to think about/discuss:

1. What is the role of cost analysis in your organization?
2. What are some barriers in conducting cost analyses?
3. Any thoughts on making your cost analysis more meaningful?





## References

- Calculating the Costs of Child Welfare Services Workgroup. (2013). *Cost analysis in program evaluation: A guide for child welfare researchers and service providers*. Washington, DC: Children's Bureau, Administration for Children and Families, U.S. Department of Health and Human Services.
- Levin, H. M. & McEwan P. J. (2001). *Cost-effectiveness analysis: Methods and applications* (2<sup>nd</sup> ed.). Thousand Oaks, CA: Sage.