



# **An introduction to per-child cost analysis**

Presented by:

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# Learning objectives

- Introduce you to a per-child cost analysis tool
- Demonstrate per-child cost analysis by reviewing how it has been applied to a child-care center

## Learning objectives

- Understand how changes in income and cost variables affect the bottom line
- Provide an opportunity for you to consider how this type of analysis can be used for your center

## Breakeven Analysis

- Breakeven Analysis is a tool that lets us determine the level of activity (number of children enrolled) that will cover all expenses.
- The breakeven point is that point where the business has no profit and no loss.

- **Breakeven Chart Data**

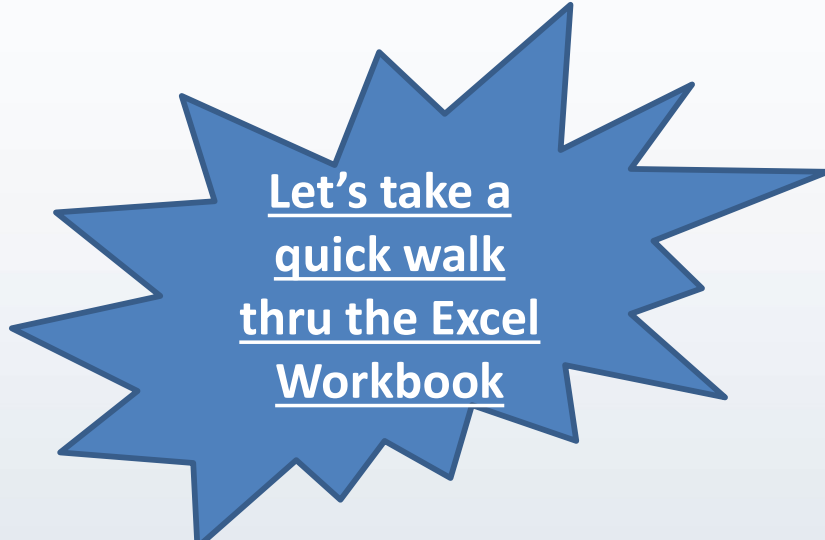
The per-child cost workbook is a more sophisticated break-even analysis tool.

BE Chart is a quick and easy way to calculate BE for a classroom.  
Handouts include an activity to guide you through creating a BE Chart.

# Per Child Cost Analysis Tool

- This tool was designed to help centers determine profitability per enrollment group or classroom and to support critical decisions about setting tuition rates, staff compensation, managing expenses, and changes in operations.

***What if...?***



Let's take a  
quick walk  
thru the Excel  
Workbook



## Second Home Child Care Center Profile

- The center has a licensed capacity of 40 children.
- The center is open 52 weeks of the year and offers several programs: infant, toddler, pre-school, and before/after school
- The center has 12 paid staff; the director and one lead-teacher are full-time
- Full time staff receive paid health insurance at a cost of \$625/month



# PCC Analysis Tool

**PCC Analysis Demo  
File**





## Second Home Child Care Center: Staff

- ▶ Here we enter both costs for both Administrative and Teaching staff. Administrative Staff costs are considered Indirect Costs and Teaching Staff are Direct Costs. You will see how that data is used in when we get to those worksheets.
- ▶ Staff costs include, wages, taxes and benefits.



## Second Home Child Care Center: Staff

- ▶ Enter tax rates in the appropriate fields.
- ▶ State and Federal Unemployment is calculated using the base wage. Employers only need to pay unemployment on wages earned up to the base wage. For NH that is \$14,000 and for Federal it is \$7,000. You may need to change it based on your state (E.g. VT = \$16,100).



## Second Home Child Care Center: Staff

- ▶ Enter weeks per year, hourly wage, and hours per week for each employee. If an employee is salaried, calculate an hourly wage for that employee. For example, assume the Director is salaried, for our purposes we want an hourly wage. Take annual salary and divide it by the number of weeks in a year and the number of hours in a week:  $\$39,000/52/40$ , which = \$18.75 an hour.



## **Second Home Child Care Center: Staff**

- ▶ Recall from our center profile that full-time employees receive health benefits. Enter that information for each eligible employee in Column M.
- ▶ Note that the Number of Weeks (Column B) changed for the Before/After School Program and the Summer School Program. Make this change if it applies to your center.
- ▶ Result is the monthly teaching staff costs per group/room.



## Second Home Child Care Center: Staff

- *Let's Review*
  - Administrative staff costs captured for Indirect Cost allocations
  - Classroom staff costs captured to calculate the monthly staffing cost per group/room. The 'Direct' staffing cost.
  - Data captured for each staff person = weeks per year x hourly wage x hours per week
    - Taxes are calculated automatically based on given information
    - Monthly benefits are added as they apply – you input that data
  - Before/After & Summer School programs are often adjusted to reflect actual number of weeks program runs



## Second Home Child Care Center: Indirect Costs

- ▶ Here we capture Indirect Costs - costs that support the entire center; they are not specific to a classroom or age group.
- ▶ Administrative wages are pulled over from the Staff worksheet
- ▶ We enter the typical or average monthly expense for each expense line item.
- ▶ Total Indirect costs can be used to calculate the 'Indirect Cost' per enrolled child.
- ▶ The number of children enrolled is pulled from the Tuition worksheet, which is coming. When you first use the worksheet, you won't see the Indirect Cost per child until you've completed the tuition worksheet.



# Second Home Child Care Center: Indirect Costs

- ***Let's Review***
  - Indirect Costs include non-teaching staff
  - Indirect costs are calculated monthly and used to determine the indirect cost per child



## Second Home Child Care Center: Direct Costs

- ▶ Next, we capture Direct Costs - costs that are directly influenced by the number of children enrolled, likely to be program costs, such as supplies, food, field trips.
- ▶ Teaching wages are pulled over from the Staff worksheet





## Second Home Child Care Center: Direct Costs

- ▶ Direct costs are allocated based on each group or room's percent share of total enrollment. This is done for all line items except tuition discounts and food income, which we will talk about shortly.
- ▶ Enrollment is pulled from the Tuition Worksheet. You will not see enrollment numbers or Direct Cost calculations until you complete that worksheet.
- ▶ Enter the typical or average monthly expense for each expense in Column B. The allocation to each program will calculate automatically.



## Second Home Child Care Center: Direct Costs

- ▶ If you offer tuition discounts, enter the average monthly amount of the discounts for each group/room in the column designated for that group/room. **For example, enter the average monthly tuition discount provided to infants in Column C.** The discount is treated as an expense – it is a simple way to capture the reduction in income from discounts.



## Second Home Child Care Center: Direct Costs

- ▶ If you receive Food Income to support a food program, enter the average monthly amount of food income received for each group/room in the column designated for that group/room. **For example, enter the average monthly food income received for the infant group/room in Column C. Enter the food income amounts as a negative**, as the income offsets the cost of food. We enter the typical or average monthly expense for each expense line item.
- ▶ Result is the average monthly cost per group/room. We use this information to calculate the Direct Cost per program and you will see that result in the Output worksheet.



## Second Home Child Care Center: Direct Costs

- *Let's Review*
  - Direct Costs include teaching staff and program expenses.
  - Program expenses are allocated to each group/room based on that group/room's percent of enrollment.
  - The impact of tuition discounts are captured as an expense.
  - Food income is recorded here as well and entered as a negative as the income received reduces food expense.
  - Results in this worksheet are used to calculate the Direct cost per child for each program.



## Second Home Child Care Center: Tuition

- ▶ This workbook is designed to work with licensed capacity – you can choose the capacity for each classroom based on your preferred capacity, staff/child ratios, etc. – whichever works best for you. However, you must enter a number for this tool to work.
- ▶ Next, we enter data on enrollment, including our tuition rates and enrollment numbers. Enter data in columns that are applicable to your center. Perhaps, you enroll children on 5-day, 3-day, and 2-day schedule only. That is where you will enter data. If you use half days, there is a section for that.



## Second Home Child Care Center: Tuition

- ▶ Enter the rate for each room, based on the number of enrollment days. Then enter the number of children enrolled at each rate.
- ▶ The full-time equivalent of children enrolled is calculated automatically. We want the FTE enrolled as it tells us how much unused capacity is available. If we used total children enrolled (which is 44), it would look as if we were over-capacity. Unfortunately, not every child enrolls for a five full days, so there typically is unused capacity.



## Second Home Child Care Center: Tuition

- ***Let's Review***
  - Enter the full and half day rate for tuition for each group/room (infant, toddler, etc.)
  - Enter the number of children enrolled at each rate for the specific number of days for each group
  - Result one: full-time equivalent enrollment for each group/room
  - Result two: tuition per week and month for each group/room

## Second Home Child Care Center: Output

- Most of this worksheet pulls data from other worksheets.
- The only inputs are the number of weeks for both the before/after school and summer school programs.
  - **We only want to capture income and expense for these programs for the length of time they are running, not the full year, which is what we do for the other the infant, toddler, and preschool programs.**





## Second Home Child Care Center: Output

- The primary outputs in this worksheet are:
  - **Annualized income, expense, and net income, which indicates if each program is making or losing money.**
    - Calculated by multiplying income and expense by 12 months – adjusted for B/A and Summer School programs.
    - In this scenario net income for the year is negative, \$-1,648.32.
    - Notice that the Before/After School and Summer School programs are subsidizing the other groups.

## Second Home Child Care Center: Output

- # of children to breakeven – remember our chart. This tells us how many children we need to cover our current cost (breakeven), which we have to do before we can start making money. BE is calculated by dividing monthly expenses by the monthly tuition per child.

## Second Home Child Care Center: Output

- Utilization Rate - Amount of capacity per classroom used based on current enrollment. You can see that most rooms are under-utilized, particularly, the infant room and the toddler room. Higher enrollment equals a higher utilization rate. Knowing your historical utilization rate is helpful in budgeting. If you historically only reach 85% utilization in a particular room, you do not want to budget any higher than that when you are planning ahead.
  - *Note that the center utilization rate (percent of capacity) is 86%. The ideal for long-term sustainability is to aim for 90% of higher.*



- Scenario One Variable Costs
- Scenario Two Increase Rates
- Scenario Three Increase Enrollment



## Second Home Child Care Center: Scenario One

- ***Variable Costs***
  - Director decides to cut advertising budget in half – commissioning one large ad rather than two
  - Director decides to email center annual newsletter/report rather than mail it to reduce annual printing costs to \$120 and annual postage to \$600
  - Director renegotiates food contract and cuts some food expense, reducing annual cost to \$6,000
    - **What is the annualized net income now?**

**\$631.68**

## Second Home Child Care Center: Scenario One

- **Variable Costs**

- Director also reduces annual professional development benefit to \$175/employee
  - What is the annualized net income now? **\$1,531.68**
  - What happened to the cost per-child?

	<i>Before changes</i>	<i>Reduced Costs</i>
<b>Monthly</b>	<b><u>Total Cost</u></b> <b><u>Per Child</u></b>	<b><u>Total Cost</u></b> <b><u>Per Child</u></b>
Infant Room	\$ 933.20	\$ 925.89
Toddler Room	\$ 792.17	\$ 787.22
Preschool Room	\$ 702.13	\$ 696.74
Before/After School	\$ 459.89	\$ 454.51
Summer School	\$ 358.11	\$ 352.73





## Second Home Child Care Center: Scenario Two

- ***Increase Rates***
  - Director decides to increase infant and toddler rates, which are the most highly subsidized by other programs:
    - **Infant annualized net loss: \$9,367.79**
    - **Toddler annualized net loss: \$8,890.20**

## Second Home Child Care Center: Scenario Two

- ***Increase Rates***

- Director increases each infant and toddler day rate by \$3

- **What is the annualized net income?**

**\$,1087.68**

- Director increases each infant and toddler day rate by \$5 instead

- **What is the annualized net income now?**

**\$2,911.68**



Let's get  
a Side by  
Side  
View



## Second Home Child Care Center: Scenario Two

	Annualized for Enrolled Children			Enrollment Metrics	
	Monthly	Total Cost	Tuition	Net Income	# of Children to Breakeven
Infant Room	\$ 58,231.79	\$ 49,872.00	\$ (8,359.79)	6.07	65%
Toddler Room	\$ 91,258.20	\$ 84,096.00	\$ (7,162.20)	10.42	96%
Preschool Room	\$ 74,145.32	\$ 72,864.00	\$ (1,281.32)	8.95	88%
Before/After School	\$ 43,873.27	\$ 50,760.00	\$ 6,886.73	9.16	88%
Summer School	\$ 11,387.74	\$ 22,392.00	\$ 11,004.26	5.39	88%
Other Room/Group	\$ -	\$ -	\$ -	0.00	0%
Other Room/Group	\$ -	\$ -	\$ -	0.00	0%
<b>Total</b>	<b>\$278,896.33</b>	<b>\$ 279,984.00</b>	<b>\$ 1,087.68</b>		<b>86%</b>

*Increased Rates*

	Annualized for Enrolled Children			Enrollment Metrics	
	Monthly	Total Cost	Tuition	Net Income	# of Children to Breakeven
Infant Room	\$ 58,231.79	\$ 50,544.00	\$ (7,687.79)	5.99	65%
Toddler Room	\$ 91,258.20	\$ 85,248.00	\$ (6,010.20)	10.28	96%
Preschool Room	\$ 74,145.32	\$ 72,864.00	\$ (1,281.32)	8.95	88%
Before/After School	\$ 43,873.27	\$ 50,760.00	\$ 6,886.73	9.16	88%
Summer School	\$ 11,387.74	\$ 22,392.00	\$ 11,004.26	5.39	88%
Other Room/Group	\$ -	\$ -	\$ -	0.00	0%
Other Room/Group	\$ -	\$ -	\$ -	0.00	0%
<b>Total</b>	<b>\$278,896.33</b>	<b>\$ 281,808.00</b>	<b>\$ 2,911.68</b>		<b>86%</b>

~ Totals exclude Summer School  
\* Before/After School & Summer School Adjusted to reflect income and expense for # of weeks each program is run. Input # of weeks for each program in cells J2 and K2.

### Overall

- Positive net income.
- Breakeven shifts a little bit.
- We haven't done anything to address our utilization rate.

## Second Home Child Care Center: Scenario Two

- **What happened to the cost per-child?**
  - Stayed the same – made changes in tuition, not expenses.
- **What happened to net income per-child?**

<b>Monthly</b>	<i>Before changes</i>		<i>Increased Rates</i>	
	<b><u>Total Cost</u></b>	<b><u>Net Income</u></b>	<b><u>Total Cost</u></b>	<b><u>Net Income</u></b>
	<b><u>Per Child</u></b>	<b><u>Per Child</u></b>	<b><u>Per Child</u></b>	<b><u>Per Child</u></b>
Infant Room	\$ 933.20	\$ (150.12)	\$ 933.20	\$ (123.20)
Toddler Room	\$ 792.17	\$ (77.17)	\$ 792.17	\$ (52.17)
Preschool Room	\$ 702.13	\$ (12.13)	\$ 702.13	\$ (12.13)
Before/After School	\$ 459.89	\$ 72.19	\$ 459.89	\$ 72.19
Summer School	\$ 358.11	\$ 346.05	\$ 358.11	\$ 346.05

## **Second Home Child Care Center: Scenario Three**

- ***Increase Enrollment***
  - Director taps into her network, word of mouth, contact list, etc. to increase enrollment:
    - **One infant attending 4 days a week is added to enrollment**

## Second Home Child Care Center: Scenario Three

Monthly	Annualized for Enrolled Children			Enrollment Metrics	
	Total Cost	Tuition	Net Income	# of Children to Breakeven	Utilization Rate
Infant Room	\$ 58,231.79	\$ 56,160.00	\$ (2,071.79)	6.22	75%
Toddler Room	\$ 91,258.20	\$ 82,368.00	\$ (8,890.20)	10.64	96%
Preschool Room	\$ 74,145.32	\$ 72,864.00	\$ (1,281.32)	8.95	88%
Before/After School	\$ 43,873.27	\$ 50,760.00	\$ 6,886.73	9.16	88%
Summer School	\$ 11,387.74	\$ 22,392.00	\$ 11,004.26	5.39	88%
Other Room/Group	\$ -	\$ -	\$ -	0.00	0%
Other Room/Group	\$ -	\$ -	\$ -	0.00	0%
<b>Total</b>	<b>\$278,896.33</b>	<b>\$ 284,544.00</b>	<b>\$ 5,647.68</b>		<b>88%</b>
<small>~ Totals exclude Summer. * Before/After School &amp; Summer School Adjusted to reflect income and expense for # of weeks each program is run. Input # of weeks for each program in cells J2 and K2.</small>					

- What is the annualized net income?
  - \$5,647.68; infant room still negative.
- What happened to the utilization rate?
  - 75%

**Bump up enrollment first!**



# Wrap-up

- **Handouts:**

- **Clean Master *Per Child Cost Analysis* workbook, so you can plug in your center data.**
- ***Per Child-Cost Demo* workbook with *Additional Scenarios* handout.**
  - Play with it to see how additional changes impact net income, breakeven, and the utilization rate.

## Wrap-up

- **Per-child cost analysis workbook:**
  - **Be sure to use it:**
    - Whenever you are considering adjusting your program (e.g., adding a classroom)
    - Whenever you are considering a significant change in operating costs (facility relocation, adjustment in mortgage)
    - When budgeting (the time of year you are most thoughtful about your income and expense)
    - **Keep a clean master file** (so you can always start over)



# Questions?

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## Sources

- First Children’s Finance,  
<http://www.firstchildrensfinance.org/>
- *Understanding Cost Structures at Child Care Centers*, The Good Work Network
- *The Bottom Line for Children’s Programs: What you need to know to manage the money* by Gwen G. Morgan and Bess R. Emanuel