

Introduction and Overview of Cost Modeling

Getting Real About the True Costs of Programs for Children and Youth

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Learning Objectives

At the end of this lesson, you will be able to do the following:

- Differentiate between market costs and true costs for programs and services.
- Describe the difference between a cost estimation, cost study, and a cost model.
- Describe the different people and groups who participate in creating cost models.
- Define strategic public financing and identify how cost modeling fits into it.
- Identify at least two reasons why states and communities invest in cost models.

Lesson Resources

Example Cost Model (contact us for access)

! Note to Participants

Throughout this course, we provide suggestions about how to identify, collect, and analyze data for cost modeling using Excel. We understand that participants come from diverse backgrounds and possess varying levels of experience with Excel, data collection, analysis, and cost modeling. Our aim is not to be prescriptive, but rather to offer enough guidance for nontechnical participants to feel successful in learning how to cost model. We encourage users to adapt our recommendations to their specific work contexts and leverage their own methods and skills throughout the entire process. We recognize and welcome the creativity and expertise that participants bring, allowing them to personalize and tailor the approach to best suit their needs. Our goal is to empower users to gain valuable insights about the process of cost modeling while utilizing their own unique strengths and abilities.

1.1 Background and Motivation for the Cost Modeling 101 Course

Increasingly, policymakers, advocates, and families recognize that the current approach to setting child care **subsidy rates** based on market rates is inadequate. Consequently, it is essential to understand and apply alternative methods when determining these costs. **Market rates** (also referred to as market costs) often do not reflect the true cost of providing high-quality care and education, leading to underfunded programs and low wages for the early childhood workforce. This has resulted in an overworked and severely underpaid workforce, with high levels of turnover that undermine the consistent relationships with children that are essential for healthy learning and development.

Figure 1 summarizes the differences between market cost and the <u>true cost</u> of quality care. Market cost considers how much people can afford to pay, while the true cost of quality is really concerned with the actual cost of care. Identifying the actual, or true, cost of care means accounting for all the variables and costs that go into running a program. True cost of quality programming is much higher than market cost. It is important to calculate the true cost of care because that can influence the daily rates that states and communities set for quality care. This is why many

states and cities turn to cost modeling as an alternative approach to determine the true cost of providing quality children and youth programs.

Cost models account for a wide range of factors, including wages and benefits for staff, rent or mortgage payments, utilities, equipment and supplies, and other expenses. By providing a more accurate understanding of the true cost of providing high-quality programs, cost models can help policymakers, advocates, and other community members make more informed decisions about how to invest in programs and services to improve outcomes for children and youth. As such, cost modeling has become an increasingly popular tool among state and city leaders seeking to address the challenges facing child and youth serving systems.

While cost modeling has primarily been used to determine the true cost of care for early childhood care and education, cost modeling can also be used for other ages, programs, and services beyond child care. Many of the other child and youth sectors have yet to utilize cost modeling to the extent that the child care industry has, but the benefits of uncovering true cost helps programs and systems pinpoint their gaps in funding and plan for additional funds needed to improve program quality.

Figure 1: Market Cost Versus True Cost of Child Care

Market Cost Versus True Cost

Understanding the differences between true cost and market cost

helps set rates that support more stable, higher quality care

Market Cost

- · How much people can afford to pay
- Often reflects what a child care program charges to fill its classrooms
- Child care programs often subsidize their infant classrooms with preschool classrooms because infant care is more expensive due to smaller classroom sizes and lower ratios
- Average market cost of child care ranges from \$12,000-\$17,000 annually per child (as of 2023)

True Cost

- · Actual cost of providing care
- Reflects ALL costs associated with running a classroom
- Centers follow designated rates for infant and preschool classrooms in line with the best quality of care
- Average true cost of child care ranges from \$25,000-\$35,000 annually per child (as of 2023)

Goals and Format of Cost Modeling 101

Children's Funding Project has designed 12 lessons to help you learn about the process of cost modeling, regardless of your technical expertise. This course covers different types of cost models; explains why cities, states, and communities invest in cost models; describes who participates in creating a cost model; and details the different steps involved in the process of cost modeling.

We will guide you through each step in the cost modeling process and introduce relevant terms that are linked to an online glossary. You will explore authentic examples and scenarios from communities that have invested in cost models, allowing you to see the concepts applied in real contexts. Lessons include reflection and discussion questions, along with an Equity Check section where you will focus on how equity is addressed in the cost modeling process. You also will find links to additional resources if you wish to learn more about the topics introduced in a given lesson. Finally, each lesson offers interactive worksheets that guide you through the decisions you need to make to build your own cost model. By the end of this course, you will have a completed cost model and resources to use as you continue your cost modeling journey.

Are you ready to start? Let's begin!

1.2 What Is a Cost Model?

A cost model is a method of calculating the true cost of delivering a program or service. To compute a true cost, you must determine all the actual costs required to run your desired program or service. This includes understanding how much money your state or community will need to spend based on the program requirements, staffing needs, employee wages and benefits, facility rent and utilities, and the number of expected participants, among other factors.

Cost models can be created to explore different scenarios that calculate the current true costs of programs and systems based on program requirements and/or licensing standards, as well as the cost of a high-quality and comprehensive system. At Children's Funding Project, we also include in our cost models the key factors that contribute to equitable outcomes. For example, we use new compensation scales that reflect the value of providing employees a <u>living wage</u> as we promote the sustainability of systems by supporting staff well-being and retention and addressing racial wage gaps.

Cost models are commonly used for short-term cost identification, such as current or projected costs for the next year, but they can also be used for longer-term forecasting and continuous improvement costs overtime. This enables municipal and state leaders to plan not only for the implementation but also for the sustainability of new programs and services.

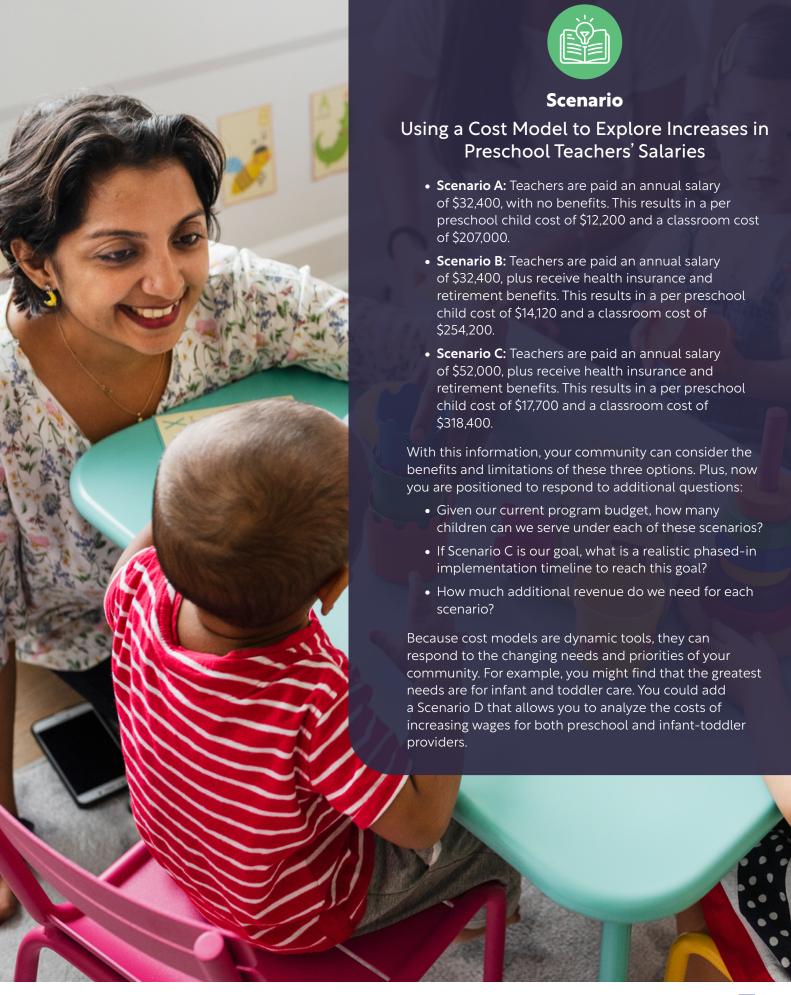
When you invest in a cost model, you are paying for a dynamic tool usually in the form of a spreadsheet. This tool draws from and synthesizes different data sources into a comprehensive user-friendly spreadsheet that allows you to ask questions and explore answers to different scenarios related to your desired program or service.

For example, your state or community might want answers to the following questions:

- What would it cost to increase preschool teachers' salaries in our city so they can all earn a living wage?
- What is the cost of expanding youth workforce development services to all eligible young people in our community?
- What would the true cost of care be for infants and toddlers if our state lowered the ratio and group size requirements?
- How much would it cost to increase eligibility for juvenile diversion programs in our county?
- How much money would it take to increase the quality of our family child care programs to a level 3 in our Quality Rating and Improvement System (QRIS)?
- What is the cost to implement a universal quality improvement framework in our city's out-ofschool time programs?
- What would it cost for our city to provide centerbased early childhood education and care with and without enhanced comprehensive services?

The power of the cost modeling tool is that it allows you to explore different scenarios by varying the factors that impact the costs of your desired program or service—and you can do this easily with just a few clicks on your spreadsheet.

To demonstrate this, let's return to the question, "What would it cost to increase preschool teachers' salaries in our city so they all can earn a living wage?" You could use the cost modeling tool to explore a few scenarios and compare the total costs resulting from each one, as outlined in Scenario: Using a Cost Model to Explore Increases in Preschool Teachers' Salaries (see page 5).



What's the Difference Between Cost Estimations, Cost Studies, and Cost Models?

The dynamic nature of cost models is an important feature that distinguishes them from cost estimations and cost studies:

- A <u>cost estimation</u> is an approximate cost figure based on available data to define a momentary funding need to achieve a goal. Cost estimations are typically conducted to obtain a dollar amount used to either start crafting child and youth investment campaign plans or specify a starting point for approved local ballot measures about how to allocate funds. For example, as part of New Orleans' strategic financing plan, local advocates developed cost estimates for a potential two-year action plan for the implementation of a larger <u>10-year plan for improving the lives of children and</u> youth of New Orleans.
- A cost study is a static point in time analysis of the cost of a program or service. For example, the Vermont Early Care and Education Financing
 Study is a cost study that estimates the cost of achieving a high-quality early childhood education system with a well-compensated workforce, accompanied by a sliding-scale parent contribution in the state using a mixed delivery system. The study provides a system cost estimate for a point in time, but it does not provide flexibility to explore how the cost varies based on changes to program characteristics or policy choices, or over time.
- A <u>cost model</u> is a tool that allows you to ask questions and explore scenarios about different impacts on the true cost of a program or service in a dynamic manner. Sometimes cost modeling is referred to as revenue and expense modeling, fiscal modeling, or cost estimation modeling.

Children's Funding Project works primarily with cost modeling because it is the industry standard and is becoming a more widely used term—including in federal policy language as seen with the Administration for Children and Families use of cost modeling in discussion of rate setting for Child Care & Development Block Grant funding. Cost modeling is also a preferred method for calculating true costs of program or service delivery because of its flexibility to model different scenarios versus cost studies that are limited to providing a snapshot of one set of parameters at one point in time.



Reflection/Discussion Question

Given your current role, what program or service would you want to calculate the true cost of delivering?

1.3 Overview of Input Data in Cost Modeling

Input data is entered into a cost model to calculate costs of different program scenarios. Cost models use different types of input data including determined data and estimated data. We have provided an overview of input data here to introduce you to the topic, and then in Lesson 6, you will explore these concepts in more detail.

Determined data is data that is known and fixed. It is not based on assumptions or estimates. Determined data is often used to set the boundaries or requirements for certain aspects of the cost model.

Estimated data is data that is not known and must be estimated. It is based on assumptions or guesses when certain information is unavailable or missing.

It's important to note that estimated data needs to be backed by a rationale and a clear process for computing the numbers because the assumptions informing your estimations can significantly change the outcome. Let's say that you were going to enter estimated data into a cost model, and it was a best guess about the average enrollment in each classroom. If you assumed that classrooms are 100% full (or fully enrolled) instead of being 75% or 85% enrolled, you would see a big impact on your per child cost for those data inputs. Therefore, identifying and discussing the rationale and assumptions that informed your estimated data values will be essential for building an accurate cost model.

Many factors influence the input data built into cost models including but not limited to who is involved in creating the cost model, as well as the policies, regulations, funding streams, and payment policies that constrain program and service costs. These factors continually change, which is why it's crucial to plan for regular updates to the cost model after the initial investment. (Lesson 10: Maintaining and Sustaining Your Cost Model expands on this topic.)

By identifying and discussing the input data in advance, you can create a cost model that accurately reflects the cost of different scenarios, including different levels of quality and employment/working conditions.

1.4 Who Develops a Cost Model?

Creating a cost model requires collaboration and input from a variety of groups and individuals with a vested interest in the cost model's development and success. This group includes direct service providers; state, local, and Native nation government agencies; intermediaries; nonprofits; philanthropies; consultants; postsecondary institutions; families; and community members. Different organizations can lead the process. It is common for state and local government agencies that manage comprehensive programs and services for children and youth to lead the cost modeling process. Often, they coordinate all the people involved and contract with a consultant or postsecondary institution to build the actual cost model. Alternatively, nonprofit organizations or children's cabinets may initiate and lead the process.

Engaging these various groups and individuals is critical to the planning and execution of the cost model process. When it comes to the expenses involved in providing high-quality programs for children and youth, providers and parents are the true experts who play an essential role in making sure that expenditures are captured comprehensively and accurately in cost models. The involvement of different individuals throughout the process will ultimately define the cost model's robustness, as well as the accuracy and effectiveness of its outcomes. (Lesson 4 provides a comprehensive discussion about involving key individuals and groups in the cost modeling process.)



1.5 Overview of Cost Modeling as a Component of Strategic Public Financing

We believe that cost modeling should always be understood as a valuable component of a larger, comprehensive, and <u>integrated system of funding</u> programs and services for children and youth. We refer to this approach as <u>strategic public financing</u>.

What Is Strategic Public Financing?

Strategic public financing is a process that allows states and communities to assign a cost to their goals and policy priorities for children and youth and, ultimately, to identify ways to cover those costs. It often builds on existing strategic plans by addressing the following three questions:

- **1. Current investment:** How much funding supports our goals right now?
- **2. True cost:** How much will it cost to fully fund our goals?
- **3. New funding:** How do we fill the gap between current funding and needed funding?

To learn more about the components that make up the process of strategic public financing, check out Children's Funding Project's <u>Funding Our Kids 101</u> series. In addition, Lesson 12 covers this concept in more depth.

The Limits of Conducting Cost Models in Isolation

Without providing communities options for covering the true cost of their desired programs and services, those services are likely to remain mere aspirations. This can be deflating for communities that feel an urgency to ensure their children and youth have opportunities today that allow them to thrive to their ability. To see what this might look like, explore Scenario: A Cost Model to Fund High-Quality Tutoring for High School Students (see page 8). Cost models created in isolation rather than as one element of a larger strategic approach are valuable, but incomplete, resources. A cost model alone cannot provide your state or community with a tangible plan for securing the sustainable funding needed to implement the programs and services that you want to make available to children and youth.





Scenario

A Cost Model to Fund High-Quality Tutoring for High School Students

Imagine your community invests in a cost model because you want to know how much it will cost to fund a high-quality tutoring program for all the high school students in your three school districts. Your cost model will allow you to compare different scenarios. Imagine being able to explore the following:

- Different combinations of the ages, geographies, and total number of students you could serve (Should we make the program available to seniors only? Can we include freshmen through seniors? Should we start with a few schools where the needs for tutoring are the greatest or can we provide this service to all students?)
- The hours that tutoring could be available (Will the program be available after school for only two hours once a week? Will it be available before and after school or during school hours?)
- Competitive compensation rates for staff (You want to attract high-quality and experienced applicants to work in the program and, ideally, local individuals who reflect the student population they will serve.)

As you and your team work through these scenarios, you feel energized as you can imagine how much value this program will add for youth in your community. Yet, you still have questions:

- What is our next step?
- How will we close the gap between the small amount of current funding we have for a tutoring program and the actual cost of implementing this program?

Reflection/Discussion Questions

Reflect on your current work with local communities or partners, and consider how you would answer the following questions:



- Is your community addressing all three elements of strategic public financing: (1) current investment, (2) true cost, and (3) new funding? Or, is your cost model being created in isolation?
- How will you plan to address the gap between current funding and the funding needed to support your program?

1.6 Why Should States and Communities Invest in Cost Models?

The most common use of a cost model is to help state and local leaders compare the actual cost of administering a program with the market cost, or the amount people can afford to pay. However, states and communities also use cost models to achieve a variety of goals including understanding the impact of different program options and policy choices on cost. In the next section, we explore the most common reasons for investing in cost models, along with some examples of how cost modeling could be beneficial in achieving those goals.

To Set a Daily Rate for Subsidized Programs Such as Preschool or Child Care

- Your state wants to compare the costs for programs that primarily serve infants and toddlers versus those that serve 3- and 4-year-old children. Understanding these different costs can help your state leaders set their daily rates for subsidized child care or state-funded preschool programs.
- You are interested in increasing compensation rates for your early childhood teachers and providers. Cost modeling will help you understand what it will cost in your state or community to increase your daily subsidized rates so you can pay teachers a living wage and in doing so, improve the quality of your early childhood programs.

To Cost Out a Grant, Contract, Program, Service, or Initiative

- You want to know how much it would cost to serve more children with disabilities and special needs in your community programs. Or, you want to add a bilingual preschool program to your district. Cost models are a valuable tool for analyzing different options for implementing these goals so you can consider various choices before you confirm what you want to fund.
- Your community is interested in contracting services for underserved populations such as those requiring infant care. Cost modeling allows you to understand the true cost of an infant classroom along with quality requirements—such as lower ratios, higher teacher qualifications, and mental health consultation services among others.
- States and counties often want to know how

much it will cost to implement a quality improvement initiative. Cost models allow them to explore the actual cost of different levels of quality care. For example, they can see how much it would cost to invest in increasing program quality at an out-of-school time program based on different levels of a state **Quality Rating and Improvement System (QRIS)** or other quality standard.

To Cost Out the Impact of a Change in a Policy

- Some communities used cost modeling to analyze the impact that COVID-19 restrictions (e.g., required reduction in group size) had on the cost of children- and youth-serving programs.
- With increasing awareness about the need to raise compensation for teachers and providers, cost models help communities identify how minimum wage mandates will impact the cost of running children- and youth-serving programs.

To Cost Out a Desired System and/or Fiscal Planning

- Cost models support states and communities to do fiscal planning for systems development. For example, imagine a city that wants to determine the cost of a child care system with the following characteristics:
 - Families up to 800% of the federal poverty level are eligible for subsidized child care.
 - No family would pay more than 7% of the family's income toward care.
 - Teachers would be compensated on a scale similar to one used for public school teachers.
 - Families would be able to easily access care that meets their needs within their community.
 - In this example, cost models would allow policymakers to explore the cost of implementing these new features in stages over time.
- State leaders also use cost models to inform the work of governors' early childhood funding commissions or children's cabinets that need true costs to inform their fiscal planning, such as to expand state preschool dollars.

To Advocate for Increased Investment in Programs and Services for Children and Families

- Cost models are valuable tools for advocacy. They
 can help educate budget decision-makers about
 how the child care market operates and how
 problematic current compensation rates are for
 the child care workforce.
- Cost models can inform budget decision-makers and community members about the true costs of child and youth services compared to the more limited information gleaned from market rate studies and help them understand the various impacts of their policy decisions. A comparison of market rates with the outputs of cost models will clearly reveal funding gaps that can help

policymakers and community members plan for building more equitable and sustainable systems. Additionally, cost models provide essential information for states and communities interested in expanding and/or providing incentive programs and services for underresourced and special populations (e.g., infants and toddlers, children with disabilities and special needs, dual language learners, children living in rural communities, and children in the foster care system).

Many communities invest in cost models with two or more goals in mind. Examine one state's goals for its early childhood care and education services in the Case Study—Choosing Cost Modeling: A Real-Life Example from Illinois.

Reflection/Discussion Questions



- What are your goals for a cost model?
- Which reasons best reflect why your state and/or local community would consider investing in a cost model?



Case StudyChoosing Cost Modeling: A Real-Life Example from Illinois

In Illinois, state leaders commissioned a set of cost models to evaluate and address the following goals:

- Create multiple program models to support family choice and need
 - Full day/part day
 - School year/year-round
 - Center-based in community, school-based, family child care home, group family child care home,
 Head Start, Early Head Start, home visiting
 - Children with disabilities, dual language learners, children from families with limited access to economic resources
- Programs with/without enhanced comprehensive services
- Tiered services based on developmental and psychosocial needs of individual children
- Wage parity across positions and existing funding streams
- Identification of barriers to funding and the provision of high-quality early childhood education and care services
- Different staffing models with appropriately qualified support staff

For more information, read the Illinois Cost Model for Early Childhood Education and Care Services.

1.7 Strengths and Limitations of Cost Modeling

"Cost models are not a magical silver bullet.
On their own, they cannot solve the problem of underfunding that leaves too many families behind and undervalues the work of child care providers. But developing a cost model will give you data to demonstrate what your community needs in order for providers to offer quality child care for families."
—Sarah Eicher and Kate Ritter, Children's Funding Project

Cost modeling is a helpful tool that individuals and groups can use for many purposes, however, it is important that you also keep in mind its limitations. Figure 2: Cost Modeling's Limitations summarizes what cost modeling can be used for and also highlights what it is not able to do.

1.8 Roadmap to Cost Modeling

Figure 3: Roadmap to Cost Modeling shown on page 12 illustrates the various steps in the cost modeling process from beginning to end. Some individuals will be engaged in all these steps while others will only participate in a few.

1.9 Equity Check

As an organization, Children's Funding Project is committed to improving equity by expanding opportunities for children and youth in communities and states across the nation through strategic public financing. Throughout this course you will encounter Equity Check sections that provide questions and considerations to help you be intentional about making decisions and taking actions that focus on equity when you develop a cost model for your state or community. The equity frameworks are tailored to each lesson's specific topic and will guide you to consider equity in that part of the cost modeling process. For this introductory lesson, we invite you to consider the following overarching questions that are applicable to the entire cost modeling process.

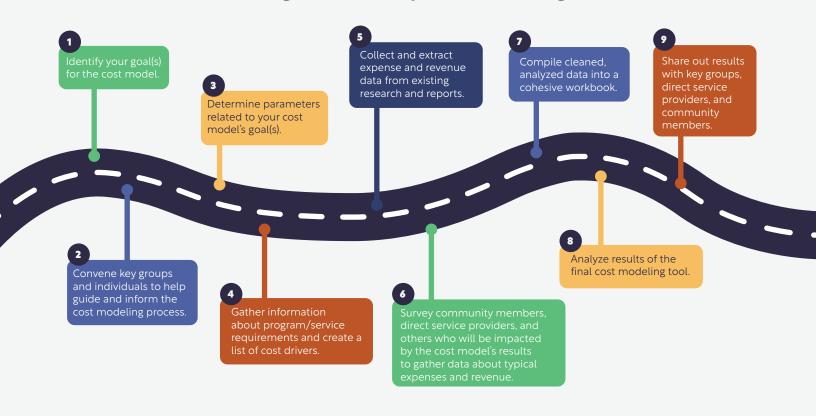
What Are You Trying to Solve?

Use an equity lens to consider how you are framing the problem you want to solve by asking the following questions:

- How are you ensuring that the problem you have identified for your state or community will promote equity?
- Are you considering the needs/priorities of those farthest from resources?

Figure 2: Cost Modeling's Limitations Cost Modeling CAN ... Cost Modeling CANNOT ... Estimate what it costs to provide Create or ensure a funding strategy. programs, services, or a full system given a Cleanly and clearly say what a rate should specific set of standards. Inform the costs associated with quality Be a cure-all for inequitable **funding** standards that impact program structure. formulas and/or systems. Illustrate variation in cost by age, Provide individual program budgets. geography, program, and levels of quality. Inform a funding strategy.

Figure 3: Roadmap to Cost Modeling



- How are you defining and addressing the needs that the cost model will address? What data are you considering?
- Are you differentiating costs based on various needs?
- How are you aligning efforts for collective impact to equity?

Who Is Involved in the Cost Modeling Process?

Use an equity lens to consider who has the most influential voices throughout the process of building your cost model by asking the following questions:

- How are you prioritizing the participation of individuals and groups who are most impacted by the results/outcomes of the cost model process?
- How are you representing the different demographic groups within the state/ community?
- How are you supporting accessibility to the process for all desired participants? (e.g., What are the expected time commitments and when are meetings scheduled?)

How Will You Recognize and Celebrate Incremental Progress Toward Goals?

An important part of equity is simultaneously holding high expectations while holding yourself and others accountable and creating a culture of appreciation where progress is recognized for all who contribute. Consider the following questions:

- How are you creating a culture of appreciation?
- How are you ensuring everyone's contributions are recognized when progress is acknowledged?

1.10 Decision Point: Is Cost Modeling the Right Tool?

To start the process, you must first determine whether cost modeling is the right tool to help you achieve your program's or organization's goals. Answering the following questions can help you decide:

- Do you want to understand how much a program, service, goal, or priority costs?
- Do you need a cost estimation, cost study, or cost model?
- Is cost modeling the right approach to address the problem you are trying to solve?

- Will cost modeling integrate with a larger strategic public financing approach in your state/ community?
- Do you have the capacity and resources to build a cost model?

1.11 Key Takeaways

Takeaway 1: Market cost considers how much people can afford to pay for a program or service. True cost represents the actual cost of providing a program or service by accounting for all the variables and costs needed to run the program or service.

Takeaway 2: A cost estimation is an **approximate cost figure** based on available data to define a momentary funding need to achieve a goal. Cost estimation is not meant to be exact, but rather provides a ballpark number to serve as a jumping-off point. A cost study is a **static point in time analysis** of the cost of a program or service. A cost model is a **tool that allows you to ask questions and explore scenarios** about different impacts on the true cost of a program or service in a dynamic manner.

Takeaway 3: Individuals and groups involved in cost modeling can include direct service providers; state, local, and Native nation government agencies; intermediaries; nonprofits; philanthropies; consultants; postsecondary institutions; families; and community members. Engaging these key groups is critical to the planning and execution of the cost model process.

Takeaway 4: Strategic public financing is a process that allows states and communities to assign a cost to their goals and policy priorities for children and youth and, ultimately, to identify ways to cover those costs. Cost modeling allows states and communities to understand how much their goals or policy priorities will truly cost.

Takeaway 5: These are the most common reasons for investing in cost models:

- Set a daily subsidy rate for a program.
- Cost out a grant, contract, program, service, or initiative.
- Cost out the impact of a change in policy.
- Cost out a desired system and/or fiscal planning.
- Advocate for increased investment in programs and services for children and families.

1.12 Going Deeper: Learn More about Cost Modeling

If you are interested in learning more about the topics covered in this lesson, check out these resources:

<u>Charting the Path Forward: Using Cost Modeling to</u>
<u>Design New Solutions</u> Bipartisan Policy Center

Understanding the True Cost of Child Care in California: Building a Cost Model to Inform Policy Change Prenatal to Five Fiscal Strategies

The Cost of Quality Out-of-School Time Programs

Wallace Foundation (Note: This tool will be updated in the next two years.)



Children's Funding Project is a nonprofit social impact organization that helps communities, states, and Native nations expand equitable opportunities for children and youth through strategic public financing. childrensfundingproject.org





