Dartmouth Health

Project ECHO

Center for Program Design & Evaluation
CPDE | Dartmouth College

WELCOME to

Stronger by Design: An ECHO for Practical Strategies to Evaluate and Amplify Impact

Session 1, The Power of Evaluation for Strengthening Communities, October 9, 2025

Series Learning Objectives

1. Creating a program logic model linking key goals and outcomes to program strategies as a roadmap for designing an evaluation to monitor progress and program success
2. Identifying the highest value-to-effort questions to answer through evaluation methods
3. Identifying the highest value data for your program and options for gathering data from existing sources or new methods (e.g., surveys, focus groups)
4. Making sense of data using basic methods and tools (e.g., Excel) and create data visualizations and written summaries for reports
5. Feeling more confident working with data and evaluation principles while recognizing when it may be more efficient and effective to work with evaluation experts to support data needs

Series Sessions

Date	Session Title
10/9/2025	The Power of Evaluation for Strengthening Communities
10/23/2025	Creating a Roadmap to Measure Success
11/6/2025	From Theory to Practice: Hands-on Evaluation Planning Workshop
11/20/2025	Gathering Data and Information about your Program
12/4/2025	Making Sense of Program Data to Help Others See your Value
12/18/2025	From Theory to Practice: Building your Evaluation Tools and Strategy

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Session 1:
The Power of Evaluation for Strengthening Communities

Dr. Jennifer Wenner

10.9.2025

Today's Plan

Making Evaluation work *for* you and *with* you

- Making sense of the terms
- Effort to Impact – a little can go a long way
- Seeing your program's 'data' everywhere
- Reviewing and sharing data with your community

Common Questions

Are the people using my program getting what they **really need**?

Are we reaching the **people we intended**? What is **getting in the way** of people using the program?

Is our program being implemented as **efficiently/effectively** as possible? What can we **do better**?

Should we continue to invest in these activities? **Are we having the impact we think we are?**

Myths that can get in the way

“We know our people need X, Y, Z. We’re the experts at designing those kinds of programs and activities.”

“I’ll get some testimonials from the moms who really like our program.”

“We know some people have trouble getting into our program but there’s nothing we can do about that.”

“We’ve been doing this work for decades, it must be working. Look at all the people we serve.”

“We don’t have the time/money to evaluate our programs”

“No one on our team has the training to analyze data.”

What is Program Evaluation?

"the **systematic collection** of information about the **activities, characteristics, and outcomes** of programs to **make judgments** about the program, **improve** program effectiveness, and/or **inform decisions** about future program development."

(Patton, 1997)

What is Program Evaluation?

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The Power of Evaluation

Provides us with ‘real’ information

- Learn and adjust to what constituents need and want
- Reveal processes that no longer work (e.g., a costly marketing campaign that isn’t reaching target audience) and where things are working well
- Data to justify more staff or services
- Results that demonstrate our program impact to people, our communities and partners

Other Reasons to Evaluate

Monitoring program utilization (who, how many, when; *equitable* access)

Resource allocation (do we need all our staff at that event; how many XX did we give out to whom; is this the best use of funding)

Implementation fidelity (do we deliver the program consistently; are refreshers needed)

Knowledge generation (what is our most popular program; why do people come back to us)

Accountability (showing funders / board / community we are doing what we say we are)

Outcome & Impact Assessment (are we succeeding at our mission; are people better because of what we do)

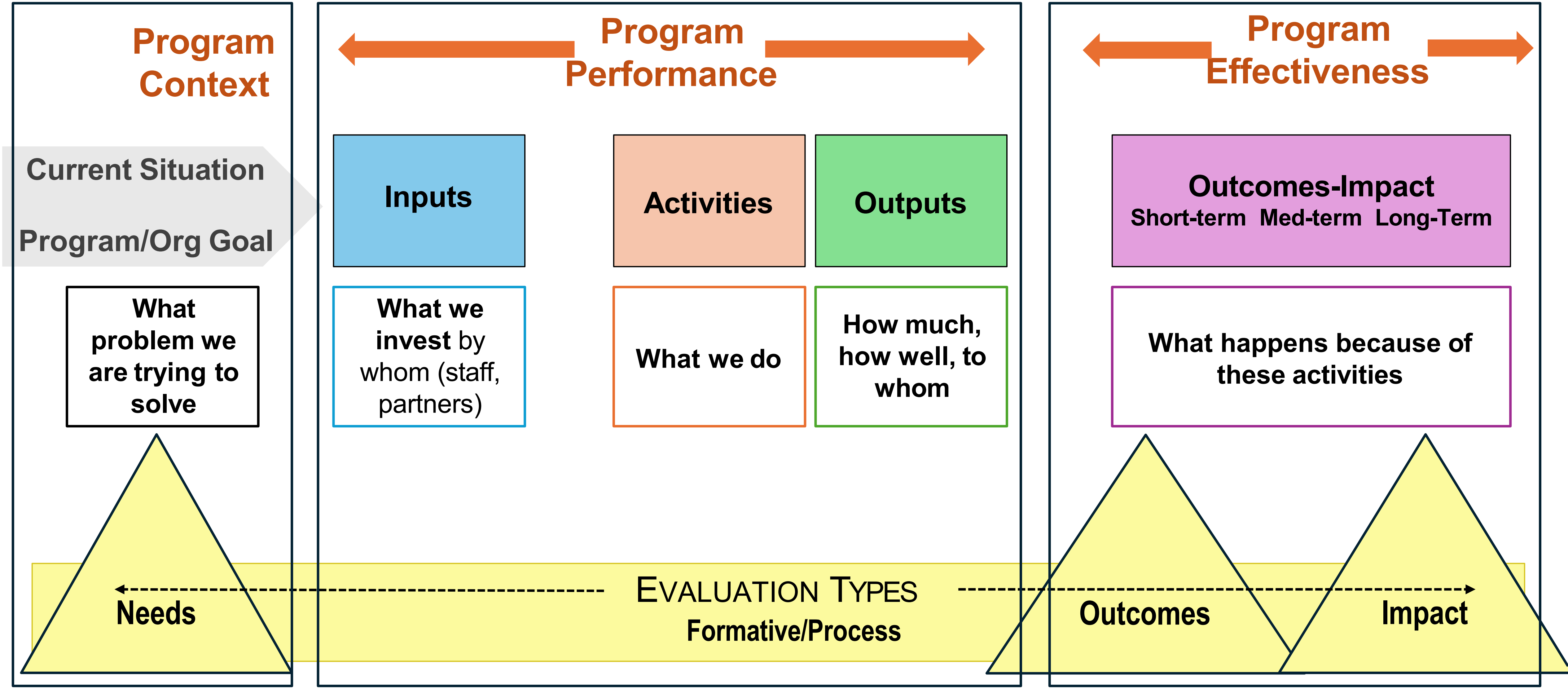
Some Common Evaluation Terms	Meaning and Use
Indicator/Leading Indicator	What we need to see/measure to *know if we've met a goal*
KPIs	Key performance indicators – usually our *priority indicators*
Milestones	Another way to describe an indicator of success: *what we want to see or achieve* with program activities
Metrics (or Measures)	*Things we can count*, observe, listen for, track, & describe to know if we have met a goal; our indicators use these
Data	The *information* we have counted, observed, heard
Methods	The *way* we collect the data/information on our program
Goal	Broad statement about what the *program is trying to accomplish*
Objective	A *specific result or interim step* the program is trying to achieve on the way to meeting a goal

The Three Steps of Nonprofit Measurement, Evaluation, and Learning

Source: The Bridgespan Group

The Three Steps of Nonprofit Measurement, Evaluation, and Learning

Evaluation Types for Your Program Road Map



Adapted from learningforsustainability.net/evaluation-questions

Benefits of a Road Map

Engage program partners

Ensure logical connections

Support strategic planning

Program marketing/website

Inform decision-making and resource prioritization

Photo by Taras Zaluzhnyi on Unsplash

Effort to Impact

Critical to identify what is most important to learn

- What are the most vital outcomes
- Short → Medium → Long-term

Then what is most feasible to collect/assess

The Three Steps of Nonprofit Measurement, Evaluation, and Learning

Data is Everywhere

- Data is information – information that is going to tell you something of importance about your program
  - Quantitative – what can be counted
  - Qualitative – things people say or that you observe
- Primary data – the information *you (your program)* collect
- Secondary data – information about your program or users that *others* have collected

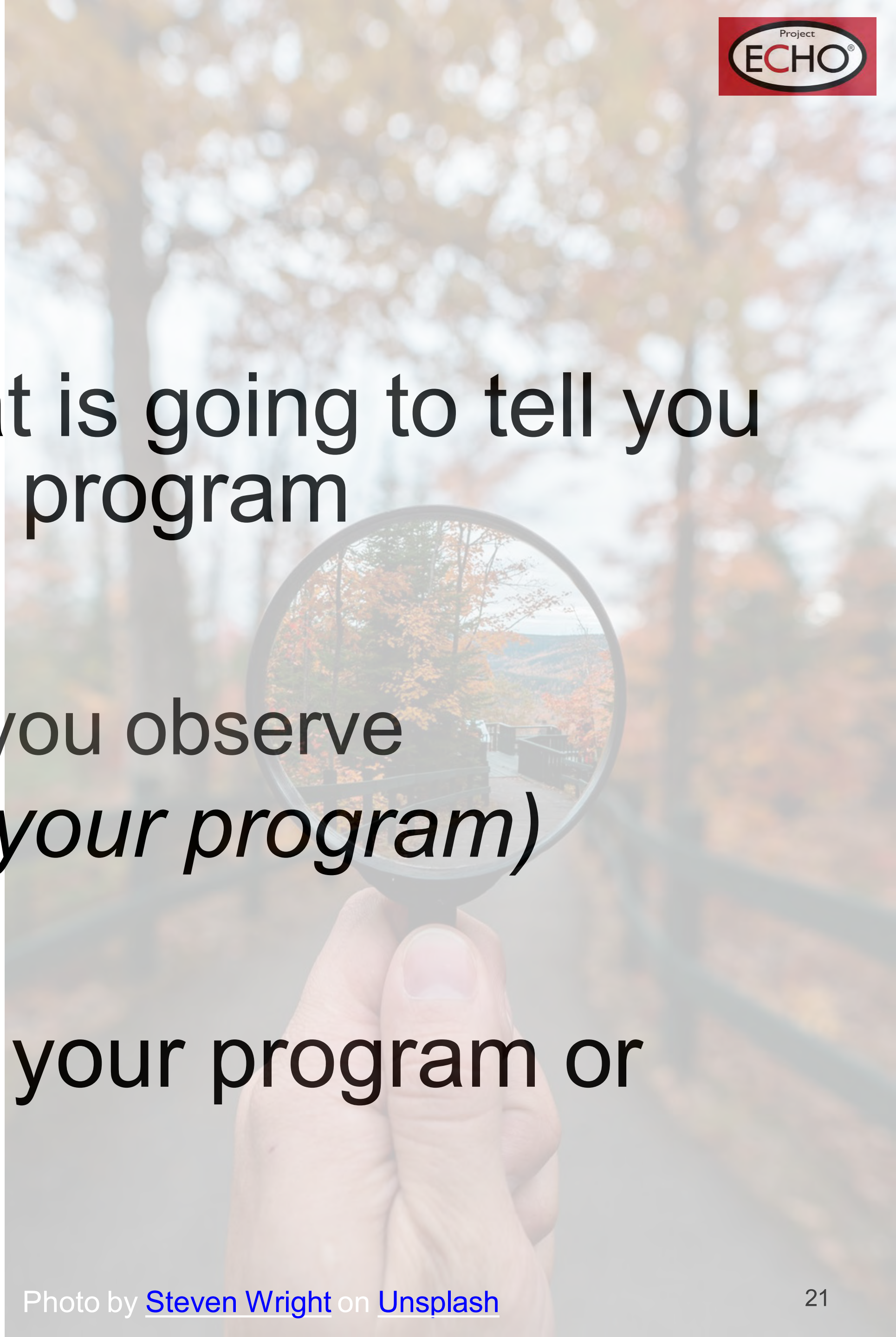


Photo by Steven Wright on Unsplash

The Three Steps of Nonprofit Measurement, Evaluation, and Learning

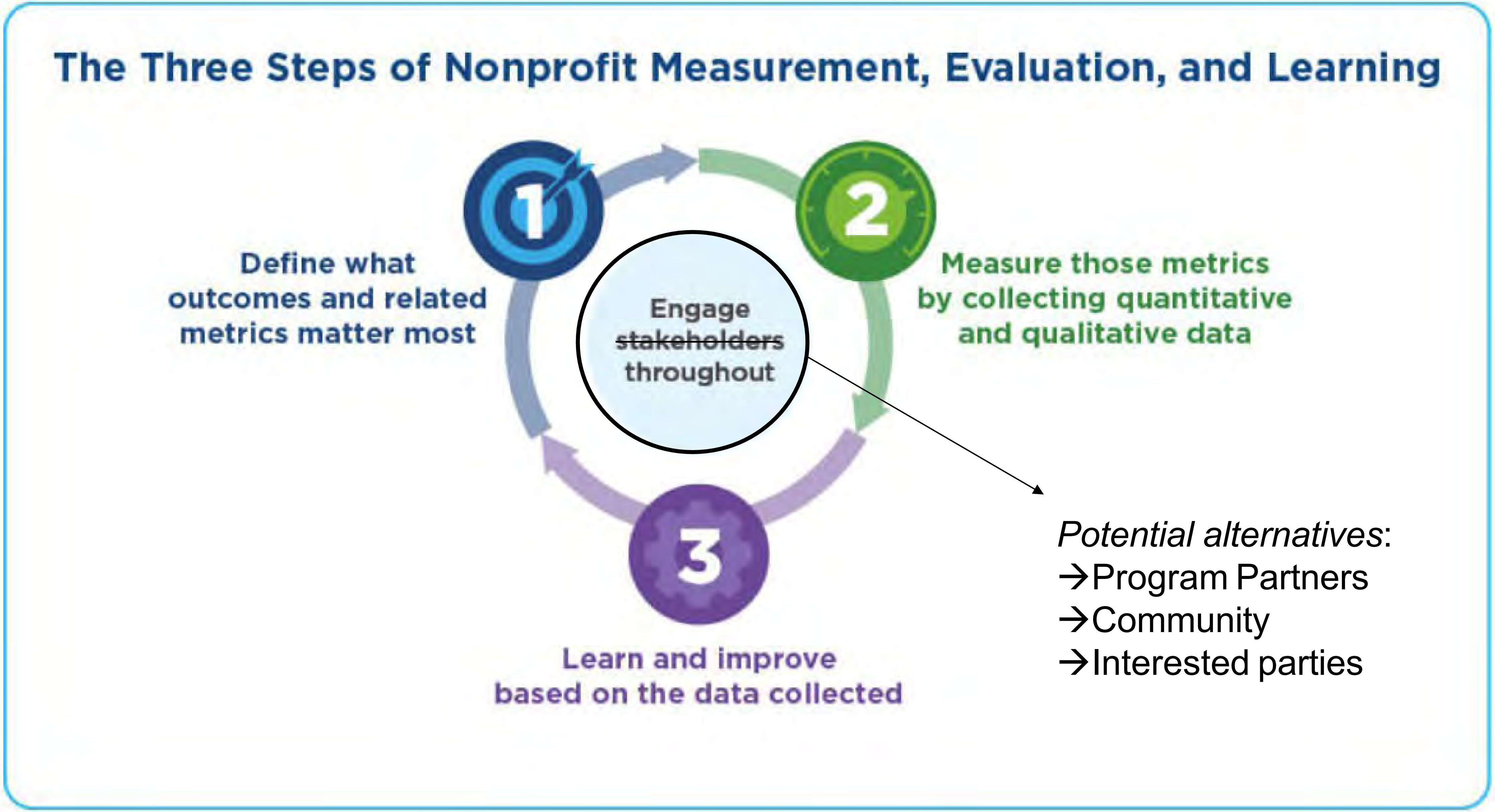
Using your data to learn and improve

Review data regularly

Data-driven decision-making

Share results with community

skynesher/Getty Images



Potential alternatives:
→Program Partners
→Community
→Interested parties

Engaging your community

Not only when collecting data and sharing results, but also when *planning* data collection processes

With each step of evaluation, think about:

- Who should be consulted?
- Who will use the results and what is most useful to know?
- Who will be impacted by the results?

Photo source: https://evidenceforaction.org/blog-posts/what-weve-learned-about-approaches-community-engaged-research

Questions & Discussion

Any questions?

Challenges and successes that anyone would like to share/discuss?

Photo by Dominik Van Opdenbosch on Unsplash.com

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Case Discussion

Program Maturity ⟷ Evaluation Needs

Program Start Up
- Community Needs
- Strategic Planning
- Program Design

Early Years
- What's working well, for whom?
- What needs adjustment?
- Early program successes

Mature Program
- Impact evaluation
- Success stories for grants, media
- Process eval to make refinements

Programs at an Early Stage

Is anyone at this stage?

What are the most important things you need to guide your program/services now?

What are the challenges you face where evaluation might help (but also feel hard to fit in)?

Mature Programs

Is anyone at this stage?

What are the most important things you need from evaluation right now?

Case Example – Mature Program

High Jump – educational program for academically advanced middle school students with socioeconomic needs to help launch them into better high schools and beyond

- Formative Youth experience assessments at program end points
  - Used staff input to create the experience assessments
  - Reviewed results with program team to assess what's working well and where improvements are needed
- Family Surveys to bring in additional input

References

Patton, M. Q. (1997). *Utilization-focused evaluation: The new century text* (3rd ed.). Sage Publications, Inc.

Eval Academy: https://www.evalacademy.com/resources/p/10-reasons-to-evaluate-infographic

The Bridgespan group: https://www.bridgespan.org/insights/nonprofit-organizational-effectiveness/a-practical-guide-to-nonprofit-measurement-evaluation-and-learning

Bitesize Learning: https://www.bitesizelearning.co.uk/resources/impact-vs-effort-matrix-explanation-template

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Stronger by Design: An ECHO for Practical Strategies to Evaluate and Amplify Impact

Session 2, Creating a Roadmap to Measure Success,
October 23, 2025

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Session 2:
Creating a Roadmap to Measure Success

Catherine Denial, M.S.

Sidney May, Ph.D.

Nancy Boyer, Ph.D.

October 23, 2025

Today’s Plan

Definition & importance of a logic model

Components of a logic model

Theory of change vs logic model

Using logic models in evaluation

Case study

Discussion

What is a logic model?

A **visual roadmap** of how your organization/program is supposed to work

A powerful **tool** for planning, implementing, managing, and evaluating an organization/program

Terms you might come across around logic models

- Theory of change
- Causal pathway
- Program roadmap
- Program model
- Conceptual framework

Photo by Taras Zaluzhnyi on Unsplash

The power of a logic model

Clarifies how and why your organization/program is supposed to work

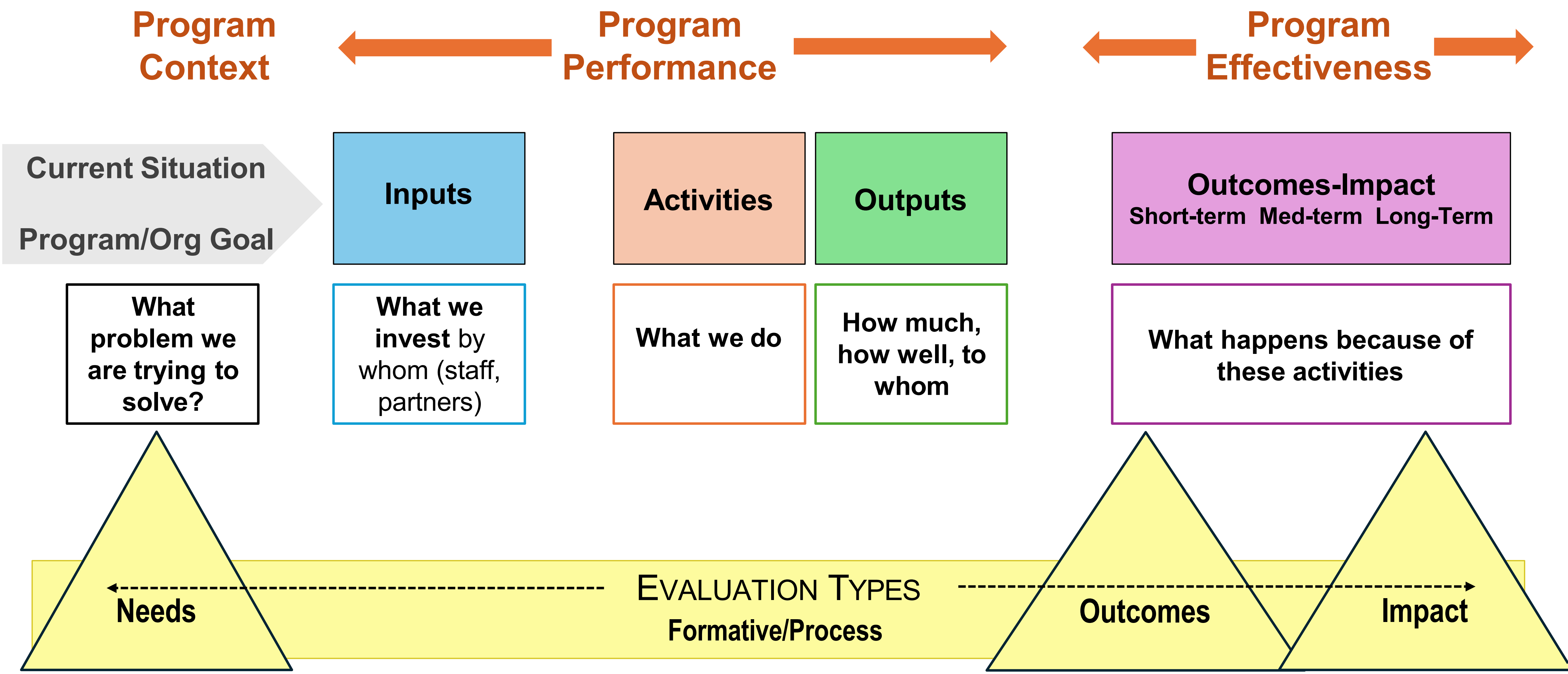
Provides a common language and shared understanding of purpose

Identifies what needs to be monitored and evaluated

Facilitates learning and **supports** evidence-based decision-making

Supports fundraising and grant writing

Your program roadmap (the logic model)



Adapted from learningforsustainability.net/evaluation-questions

Inputs: What we invest

Inputs

Staff, trained supervisors (incl. local staff)

Funding

Volunteers

Beneficiaries

Logistical tools (e.g., walkie talkies, internet access, vehicles)

Building materials (e.g., cement, wood, nails, drywall, mud, paint) and tools

Understanding of local disaster impact and community need

The resources a program has available to invest in the work

Include personnel, finances, technology, facilities, supplies

Consider contextual factors (structural or regulatory) that may impact inputs

What are the resources you need to operate your program?

Activities: What we do

Activities

Train volunteers in disaster-resilient construction techniques

Repair/Build homes (e.g., install foundation, build walls, frame roof, hang drywall, mud drywall, paint, install doors and trim, install flooring)

Monitor volunteer safety

Coordinate between beneficiary and organization

Document work

Participate in long-term response committees

What the program does with the resources

Includes processes, events, actions needed for program implementation

Might be considered the interventions or program strategies that are used to bring about the desired changes or results

What are your strategies or activities?

Outputs: How much, how well, and who you reach

Outputs

beneficiaries with safe, sanitary, and secure lodgings

houses built

volunteers trained

Rebuilt % of homes in XYZ neighborhood

Served XYZ types of beneficiaries

Direct products of program activities

Includes types, levels, and targets of services to be delivered

Tangible or observable manifestations of the intervention or program activities

What does your program produce and who do you reach?

Outcomes: What happens because of the activities

Outcomes

Short-term:

- Beneficiaries move back into home
- Volunteers gain practical skills in building/construction

Medium-term:

- Beneficiaries feel safe and secure in their home
- Reduction in housing costs (no longer pay for mortgage and rent)
- Volunteers recommend program to others & donate

Long-term:

- Housing security (fewer unhoused or temporary housing)
- Damage from future disasters is mitigated

Specific changes in program participants' behavior, knowledge, skills, status, and/or level of functioning

Can be broken down into short-term, medium-term, and long-term outcomes

What changes as a result of your program?
How do you distinguish between short, medium, and long-term outcomes?

Theory of Change

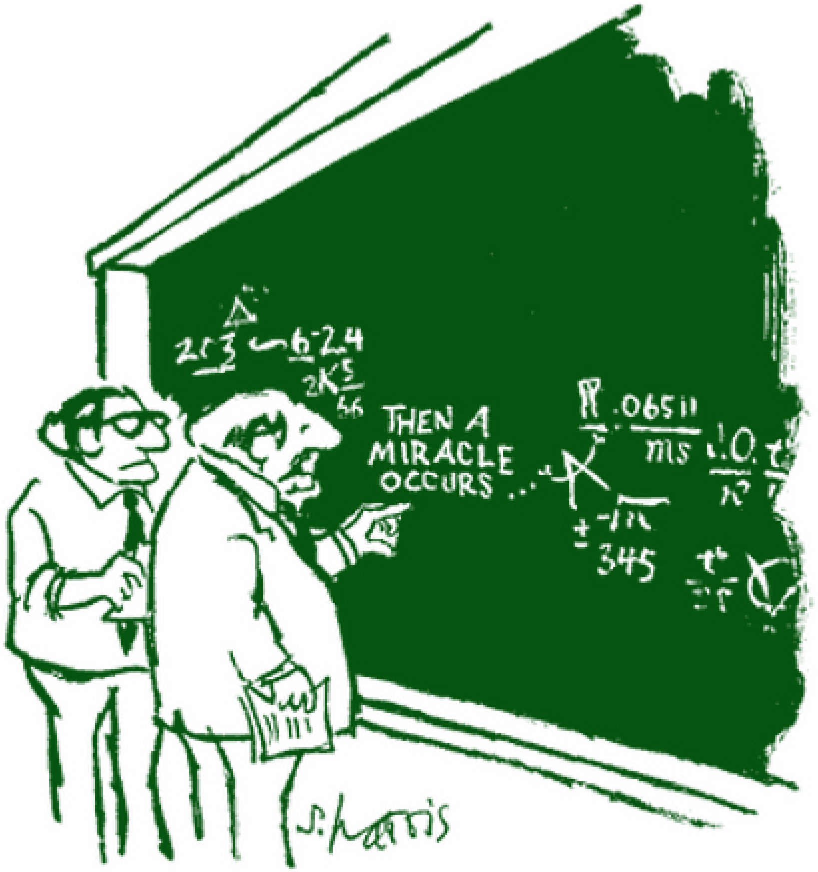
The logic model which provides the **“what” and “how”** of a program

The theory of change provides the **“why”** the program or activities work to achieve the outcomes

Explains **why we expect the changes to occur** - connecting why certain activities result in certain outcomes

Underlying assumptions of how your program works that can be tested and measured

Developed from prior research or evaluation on similar programs, expert opinion, perspectives of staff, managers, partners and community members about how the intervention works, and research-based theories



“I think you should be more explicit here in step two.”

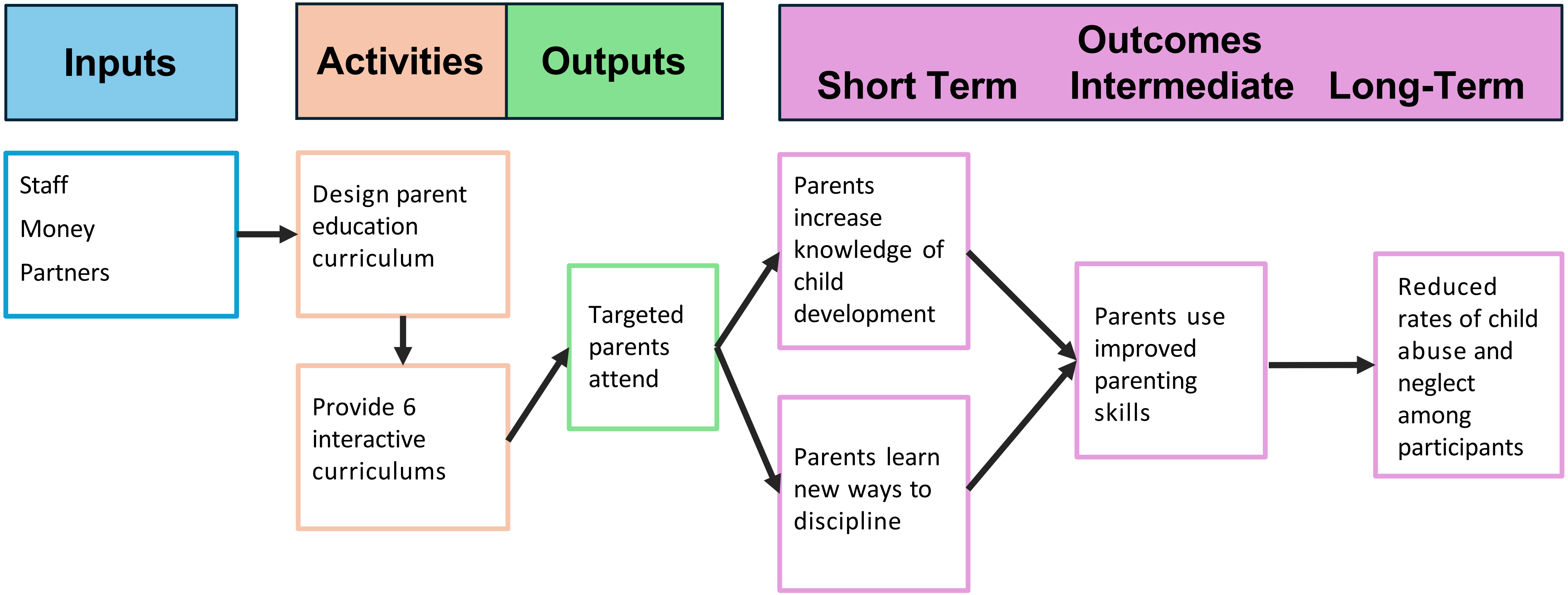
Example: Community Food Access Program

Inputs	Activities	Outputs	Outcomes
Staff (ED, Development, and Admin)	Establish weekly farmers market	50 weekly markets held annually	<u>Short-term</u> • 75% awareness of local produce • 60% increased food prep knowledge • 40% increase in SNAP produce
Community foundation funding	Implement SNAP/EBT payment system	25 vendors participating regularly	
Local farmer partnerships	Create/distribute multilingual information	2,000 customer visits recorded	<u>Medium-term</u> • 50% shop monthly • 65% increased produce consumption
Donated community center space	Offer hands-on cooking classes and demonstrations	500 SNAP/EBT transactions processed	
Core volunteers		24 cooking demonstrations, 100 unique participants	<u>Long-term</u> • Food access difficulty reduced by 25% • 15% fewer ER visits for diet-related issues
Refrigeration equipment			

Goal Improved food security, nutrition, and health outcomes through sustainable, community-driven food systems change

Adapted from https://unlock-grants.com/blog/logic-model/#post/0

Example 2: Parent Education



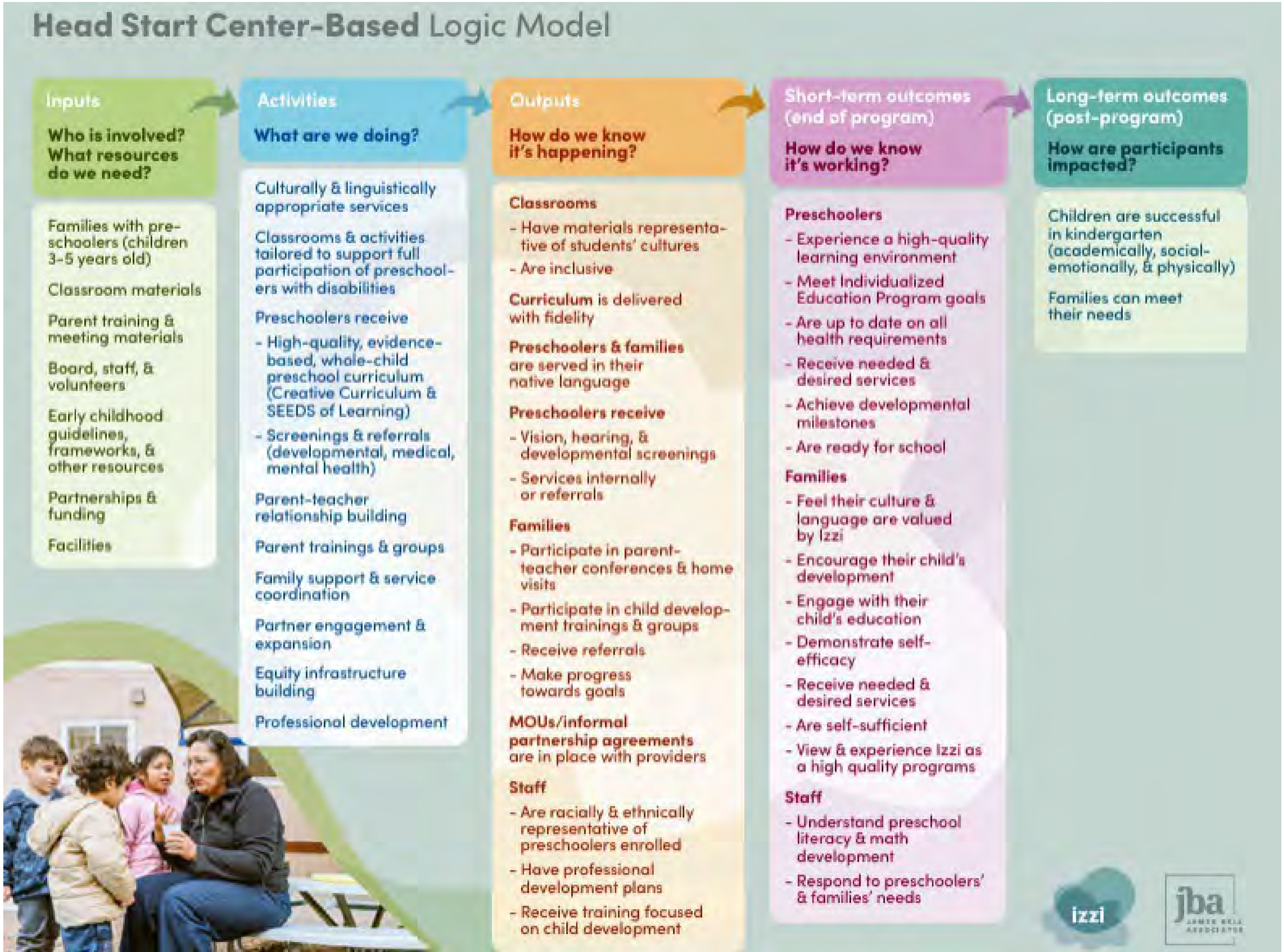
Adapted from University of WI Cooperative Extension

Sample logic model

Izzi Early Education Logic Model

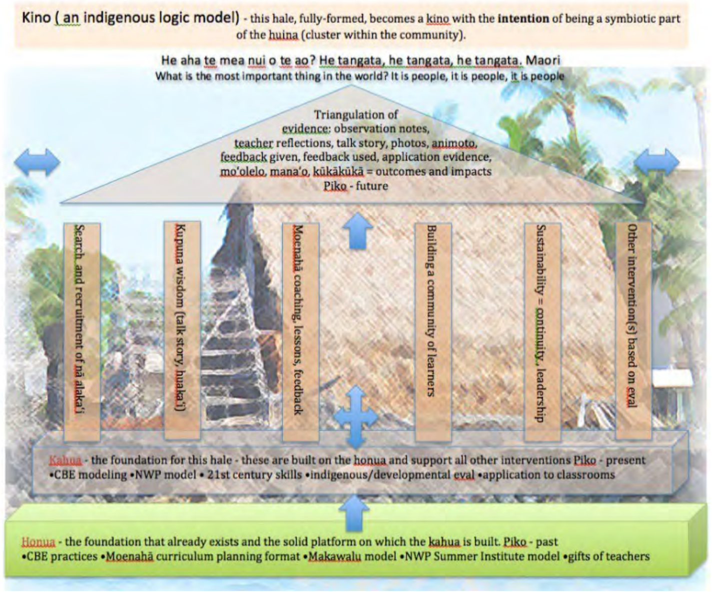
Izzy Early Education provides comprehensive child development support and services to families in the San Francisco Bay Area

https://www.jbassoc.com/resource/izzi-early-education-logic-models/



Alternate Formats

- Edit based on the unique needs of your audience
- Maintain the same basic building blocks (e.g., inputs, activities, outputs, outcomes)
- Formats can adapt to different understandings of theory and logic



http://puremanao.blogspot.com/2012/07/kino-indigenous-logic-model-post-1-of-4.html

Colorado Violence and Injury Prevention Network
ciac.colorado.gov/files/D2DF/CO%20Violence%20and%20Injury%20Prevention%20-%20Mental%20Health%20Promotion%20Strategic%20Plan%202016-2020_CDPHE.pdf

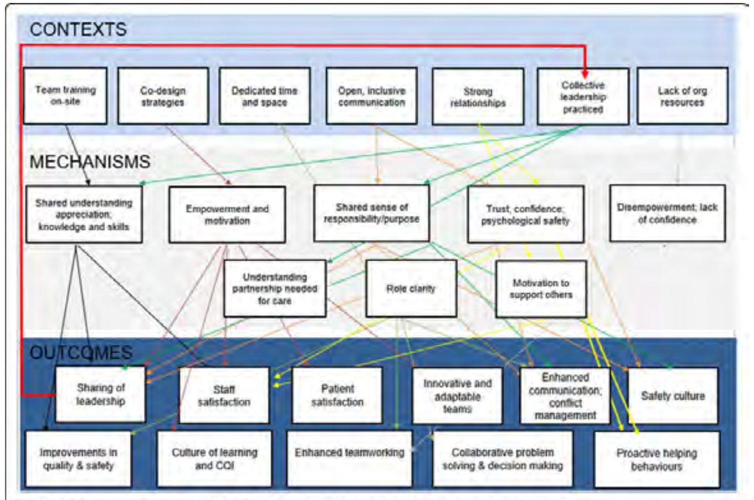
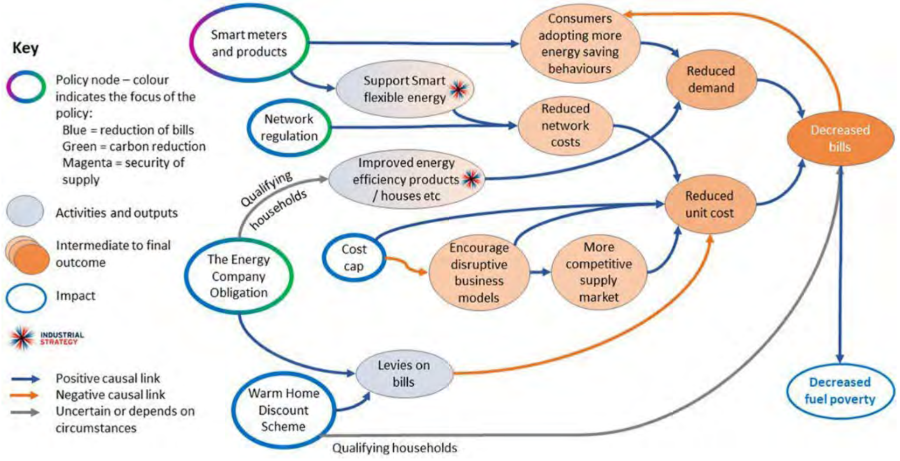


Fig. 1 Initial Programme Theory for collective leadership, depicting context-mechanism-outcome configuration

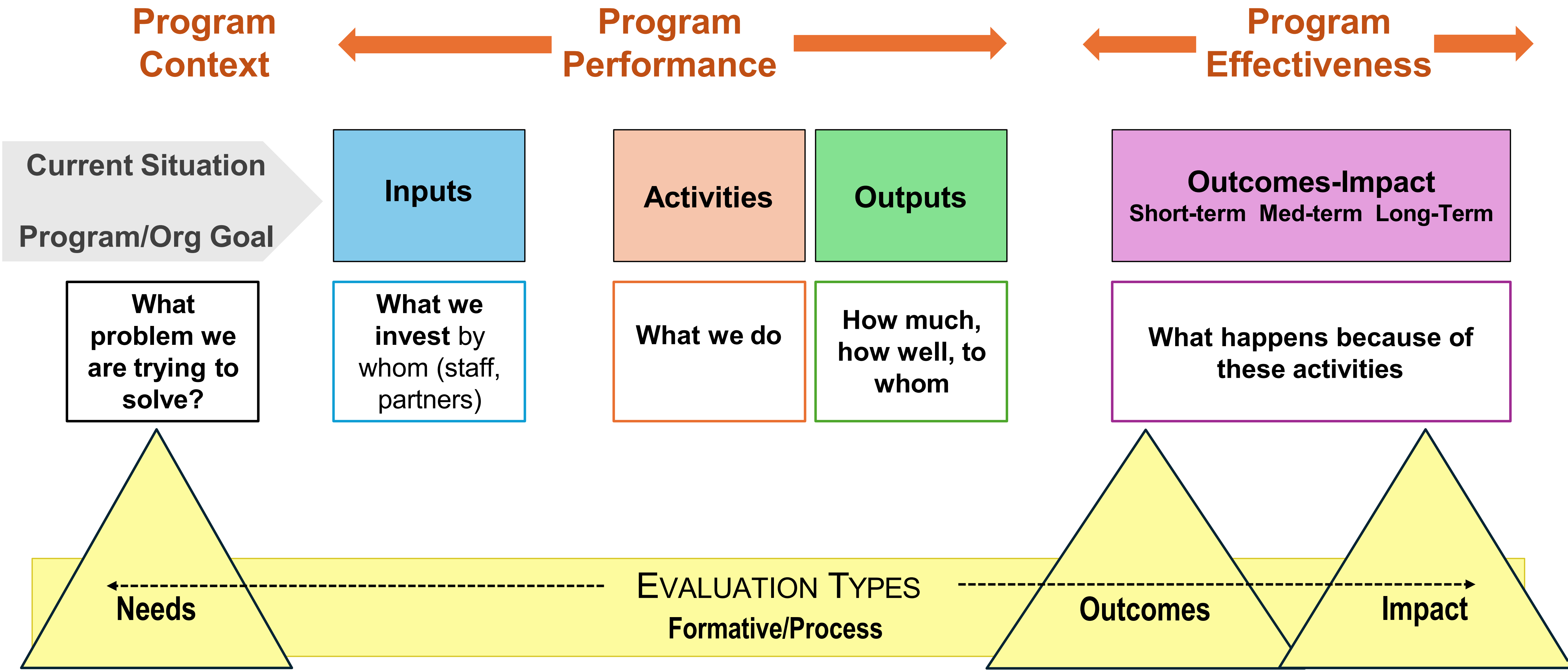
https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-020-05129-1

https://www.bonterratech.com/blog/logic-models-and-fundraising



Wilkinson, H., Hills, D., Penn, A., & Barbrook-Johnson, P. (2021). Building a system-based Theory of Change using Participatory Systems Mapping. Evaluation, 27(1), 80–101. https://doi.org/10.1177/1356389020980493

Evaluation is part of your program roadmap



Adapted from learningforsustainability.net/evaluation-questions

Using logic models in evaluation

What evaluation questions are you trying to answer?

Your logic model will provide the key areas to measure in an evaluation.

The Three Steps of Nonprofit Measurement, Evaluation, and Learning

See ECHO Session 4 for "Gathering Data and Information about Your Program"

The outcome of the evaluation may confirm the logic model or suggest changes. **Evaluation is ongoing.**

See ECHO Session 5 for "Making Sense of Data"

Case Study

Case Study (see handout)

Blue Sky Works (BSW) is a small nonprofit located in Manchester, NH

Their mission is ensuring that young adults have the skills, experiences, and support to achieve their full potential in their careers. The organization **aims to increase the career stability of low-income young adults** by providing them with **hands-on skill development in technology, career coaching, and job placement**.

The program has a **budget of $400,000, 5 full time staff, 10 part time volunteers**, and serves **150 low-income young adults age 18-25 annually**. The organization receives **in-kind donations** and multiple small-moderate size **grants from local businesses and foundations**.

BSW started in 2018 and is well-respected in the local community. **Referrals** to the program come from local high schools, city and state agencies, social service agencies, and word of mouth.

The leaders of BSWs know they do good work, but they don't know how to demonstrate it. They rely on **exit surveys** that provide little useful feedback, are often incomplete and have low response rates. They rely on anecdotes **and enrollment numbers** to show "impact".

The organization wants to apply for more substantial funding to grow their program and reach more participants, moving from local to state-wide and multi state access. In their attempt to go after larger funding opportunities they find it difficult to provide strong answers to questions covering the organization goals, reach, outcomes, measurement of outcomes, results, and how they use results to inform program improvement.

The board of directors is getting impatient with the staff not being able to bring in more funds and increase their reach and expand their programs. Staff are frustrated because they see the impact they are making but cannot articulate it in a way to get funders to pay attention.

Where do they start?

Example:

Goal: The organization aims to increase career stability for low-income young adults.

	Inputs	**Activities**	**Outputs**	**Outcomes-Impact** **Short-term Med-term Long-Term**
What problem are you trying to solve?	What we invest by whom (staff, partners)	What we do	How much, how well, to whom	What happens because of these activities
Young adults lack job opportunities in their community.	Staff Volunteers Funding Board of directors Technology supplies Curriculum Community relationships Physical space for training	Conduct 8-week technology training course Career coaching Job placement	150 low-income young adults age 18-25 complete program annually 4 program sessions annually	Short-term: Participants develop marketable technology skills, gain job search skills, confidence Participants get jobs in their trained field Medium-term: Participants progress in their careers (job growth, promotion, salary increases) Long-term: Participants have financially stability Community has more economic stability

Discussion and Questions

References

James Bell Associates. (2007). *Evaluation Brief: Developing a Logic Model*. Arlington, VA. August 2007

Kellogg Foundation Logic Model Development Guide: https://www.naccho.org/uploads/downloadable-resources/Programs/Public-Health-Infrastructure/KelloggLogicModelGuide_161122_162808.pdf

University of Wisconsin – Cooperative Extension: http://www.uwex.edu/ces/pdande/evaluation/evallogicmodel.html

Better Evaluation: https://www.betterevaluation.org/blog/using-logic-models-theories-change-better-evaluation

CDC: Evaluation framework: https://www.cdc.gov/evaluation/php/evaluation-framework-action-guide/index.html
and logic model: https://www.cdc.gov/evaluation/php/evaluation-framework-action-guide/step-2-describe-the-program.html

Up Next

- Next session: November 6th, From Theory to Practice: Hands-on Evaluation Planning Workshop
- Please submit your cases/questions and view course resources at the: DH iECHO site
- Recordings will be posted on the D-H ECHO website https://www.dartmouth-hitchcock.org/project-echo/enduring-echo-materials

Appendix
Additional Information and Examples

Situation, goals, & assumptions

Situation/problem: Before creating your logic model, you should write a "problem statement" or summary of the situation or problem your program is trying to address. Consider:

- What is known about the problem and solutions?
- Who is affected?
- What can be changed?
- Why does the problem exist?

Goal(s): Next, articulate the goals of the program (or organization, intervention). A goal is a broad, high-level statement that describes the long-term change you aim to achieve in response to the problem. Goals are directly informed by the problem statement and **serve as the foundation for identifying desired outcomes and ultimate impact.**

Assumptions: Beliefs we have about the program, participants, how the program will work. They include:

- Our definition of the existing problem and solution
- How the program will operate
- What we expect to see for outcomes
- What we know or think about participants including behavior and motivations
- External environment and context and how it influences the program and outcomes

Outcomes: What happens because of the activities

Specific changes (short, medium, long term) in program participants' behavior, knowledge, skills, status, and/or level of functioning.

Here is one option for thinking about the difference between short-, intermediate, and long-term outcomes:

OUTCOMES		
Short-Term	**Medium**	**Long-Term**
Changes in awareness, knowledge, attitudes, skills, opinions, motivations, behavioral intent	Changes in behavior, decision making, policies, action	Changes in conditions, social, health, economic, environmental, community level
Parental awareness of health requirements	Parent/child completes well-child visits annually	Access to health care Improved health outcomes

Theory of Change

The logic model which provides the "what" and "how" of a program

A theory of change provides the "why" the program or activities work to achieve the outcomes

Explains how the change will occur – connecting why certain activities result in certain outcomes

Underlying assumptions of how your program works that can be tested and measured

The theory of change can be developed from prior research or evaluation on similar programs, expert opinion, perspectives of staff, managers, partners and community members about how the intervention works, and research-based theories

Example: Simple Theory of Change

Our Build It! robotics program is designed to increase student interest in science, technology, engineering and math and give students experiences to build their confidence, problem solving and critical thinking skills. It is a 10 week after school robotics program.

Strategies used in our program…	**That research indicates…**	**Leads to these outcomes**
Students learn about programming, design, and engineering by building a robot from a kit of parts	Learning by doing through hands-on projects that are relevant and meaningful drive interest	Interest in STEM
Students work on teams to design and build their robot, guided by mentors	When adults serve as mentors but let students try and fail on their own, students build confidence; working on teams supports problem solving, collaboration, critical thinking	Increase confidence
Teams showcase their robots at a competition	Activities that end in a project where they interact with peers doing similar work, compete, or showcase supports confidence and interest	Increase problem solving, critical thinking

Logic Model Template

Program Goals:
Assumptions:

	Inputs	Activities	Outputs	Outcomes-Impact Short-term Med-term Long-Term
What problem are you trying to solve?	What we invest by whom (staff, partners)	What we do	How much, how well, to whom	What happens because of these activities

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https://geiselmed.dartmouth.edu/cpde/

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Session 3:
From Theory to Practice: Hands-on evaluation planning workshop

Rebecca Butcher, MS, MPH

11.6.2025

Creating a Program Logic Model → Theory of Change

Current Situation / Program/Org Goal	Inputs	Activities	Outputs	Outcomes-Impact (Short-term, Med-term, Long-Term)
What problem we are trying to solve?	**What we invest** by whom (staff, partners)	**What we do and to whom/where**	**How much, how well, to whom**	**What happens because of these activities**

The logic model describes the **"what" and "how"** of a program

The theory of change is **"why" we expect the changes to occur** – our assumptions or past evidence that certain activities will result in certain outcomes

Evaluation Types

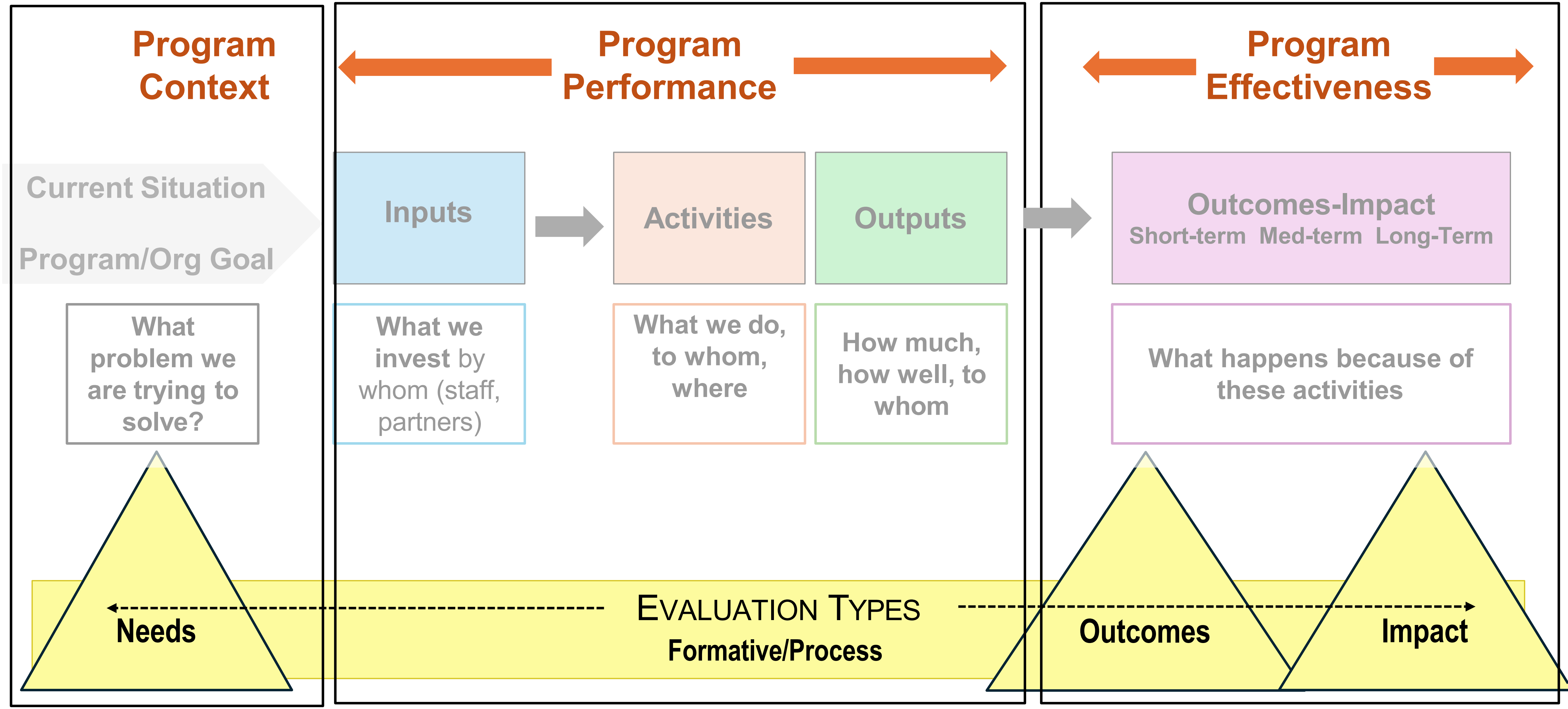
Formative/Process

Outcomes

Impact

Adapted from learningforsustainability.net/evaluation-questions

What are the Priorities for Evaluation?

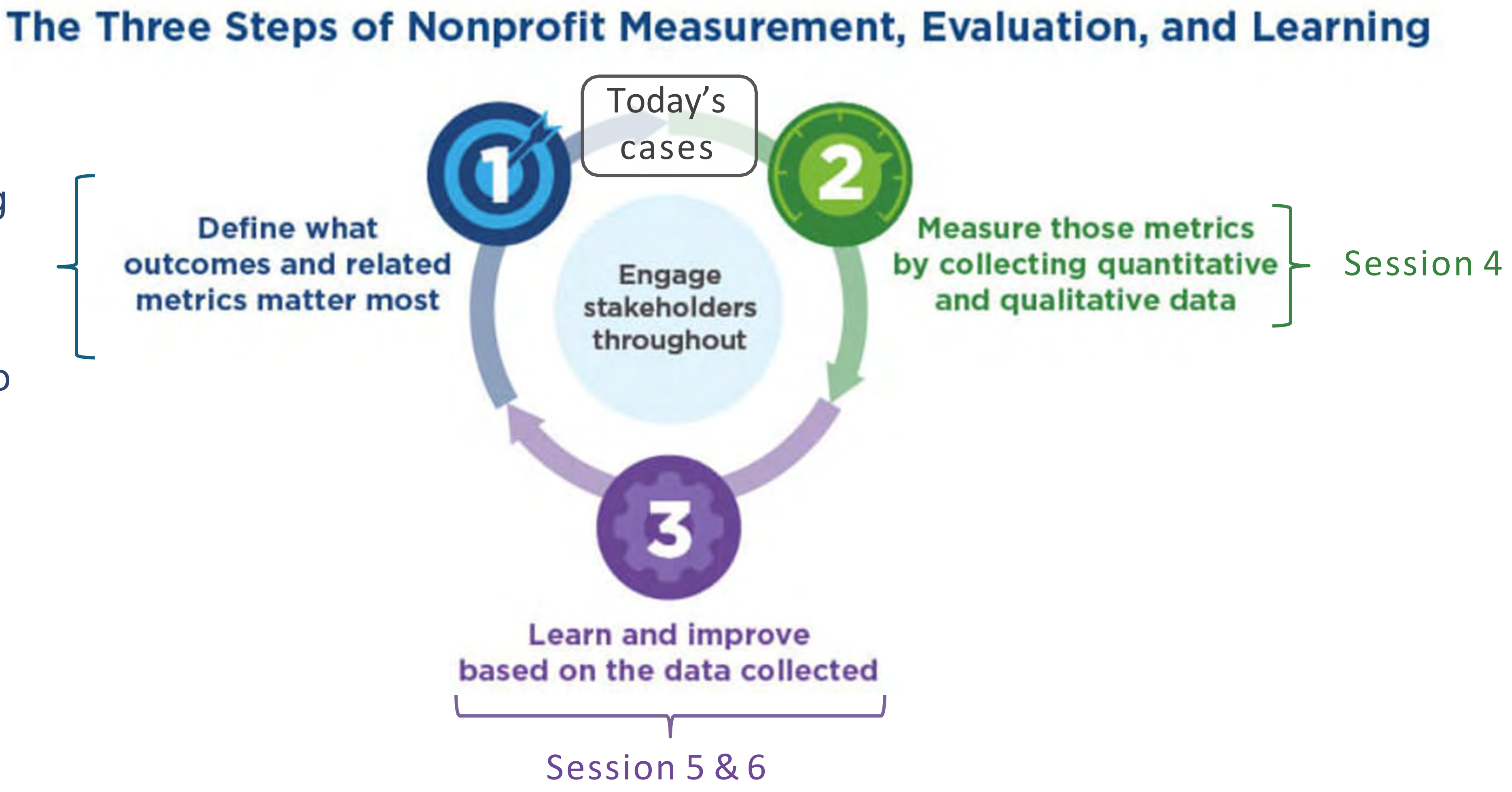


Adapted from learningforsustainability.net/evaluation-questions

Using logic models in evaluation

What evaluation questions are you trying to answer?

Your **logic model** will provide the key areas to measure in an evaluation.



Case Examples

Keene Public Library

Marti Fiske, Library Director

- Done well collecting quantitative information (e.g., number of items loaned, attendance at programs, etc.)
- Struggling with how to collect long-term impacts – past surveys done immediately after an event, so only capture what people *think* they'll be interested in pursuing, not what they truly followed up on.
- We get anecdotal feedback from frequent visitors, and when someone is particularly excited about something.
- Our main questions at this time:
    1. What happens after using our services?
    2. What are the long-term impacts or benefits to people from utilizing our public library?

How can we collect information on the long-term benefits of using our services? Surveys have notoriously low return rates, "good" questions are difficult to create, and people may not know or share how they are influenced.

Case Discussion

What could Marti and her team do next…

…to clarify outcomes of greatest interest?

…to identify potential data sources & measures?

Keene Public Library Logic Model

Inputs

What we invest

Knowledgeable Director and staff

Technology/Web access & expertise

State of NH Library System resources

Town funding & fees

Physical space & programming rooms

Activities

What we do, to whom

Book & media loans

Lap sit / early reading groups

Youth / Teen programs

Senior programs

Community events with other co-sponsors

IT/Search support

Outputs

How much, how well, to whom

# of books, videos, etc. loaned

# of programs offered to x, y, z groups

# of community events co-sponsored

# of tech support sessions

# of Inter library loans

# of genealogy / specialty searches done

Outcomes-Impact

Short-term Med-term Long-Term

What happens because of these activities

What are KPL's desired outcomes?

What would long term impact look like for KPL?

Generating Evaluation Questions from the Logic Model

Inputs

Knowledgeable Director and staff

Technology/Web access & expertise

State of NH Library System resources

Town funding & fees

Physical space & programming rooms

Activities

Book & media loans

Lap sit / early reading groups

Youth / Teen programs

Senior programs

Community events with other co-sponsors

IT/Search support

Outputs

# of books, videos, etc. loaned

# of programs offered to x, y, z groups

# of community events co-sponsored

# of tech support sessions

# of Inter library loans

# of genealogy / specialty searches done

Outcomes-Impact

Short (2-5 yrs)

Long (7-10 yrs)

Key Evaluation Questions

How many people use our programs?
-What ages, groups?
-Repeat patrons?

What services, programs are used the most?
-By whom?

What do patrons like most about library offerings?

What is the value-add that KPL brings to Keene?

How many voters support KPL funding and infrastructure projects?

What investments have been made to KPL in last 10 years?

Questions → Methods & Data

What do patrons like most about library offerings?

What is the value-add that KPL brings to Keene?

Outcomes

Ideas?

How many voters support KPL funding and infrastructure projects?

What investments have been made to KPL in last 10 years?

Impacts

Ideas?

DH Value Institute Learning Center

Vicky Adams, Principal Performance Improvement Consultant, DHMC

What we do and data currently collected

- number of students that we train and certify
- student feedback for every class we teach to assess where program improvement is needed
- projects that are executed (mostly Yellow belt for certification)
- data about Idea Board implementation and usage

Challenges

- Difficult to quantify the dollar value of the work or other ”hard measures” due to lack of data
- Engagement scores may reflect value of the training but lack feedback about skills with CQI
- Engagement of high-level leaders in training is sparse

Evaluation Questions

What and how can we measure the impact of the training and project execution on the organization and system given the noted constraints (lack of data, limited leader engagement)?

How do we help high level leaders understand the value of the program and participate in training?

Case Discussion

What could Vicky and her team do next…

…to identify impacts at the level of the organization?

…to identify potential data sources & measures?

…to engage leaders in the program?

Current situation or goal	Inputs	Activities	Outputs	Outcomes/Impact Short, Med, Long term
What problem are we trying to solve?	What we invest by whom - resources (staff, partners)	What we do	How much, how well, to whom	What happens because of these activities
Increase capability and capacity for improvement work	-Blackbelts -Specialist (coordination & support) -Curriculum -Space -Tech -Tools & templates -The Book (LSS Guide for Improving HC) -PI staff training & education	-Curriculum planning, accreditation, scheduling, communication, marketing, recruitment LT, YB, GB, E2Ws, L@DH -Class delivery -Coaching -Curriculum creation & revision -Document and track training & cert -Track projects -Idea board support -Recognition: --LPMR, GB, YB cert --SES planning, recruitment, delivery -Data collection & analysis of programs -Partner w/LLD -Present PI work (internal & external)	# classes scheduled & accredited, # students registered/attend -Avg # Trained/Yr YB 274,GB 32, E2W 180, LT 49 -Avg # Certified/Yr YB 70, GB 82% -Class eval/feedback -Coaching hours: 82 - # Idea boards provisioned, education -Recognition for staff & consultants - # SES presentations - # SES attendees - # External presentations	**Short:** -Program improvement -Improvement initiatives & projects -Employee ideas for improvement -Employee engagement -Sharing of CI work -Internal & external recognition **Medium:** -Larger projects -Relationships between practitioners **Long:** -Meet strategic goals -Employee development -External PI expertise recognition

DRAFT MODEL

Learning Center's Theory of Change

We invest these Resources

and do these Activities

Trainings in CQI
LEAN Certifications
CQI Projects
Idea Board implem.
XXXX

yielding these Results

employees trained
Certifications rec'd
CQI projects; Types
[#/amt] Idea Board use
Depts with QI projects

Other results/outputs?

and achieving Outcomes & Impacts

What do you hope to achieve?

Staff: Trained staff participate in projects; Certified staff lead CQI

Depts: all units do at least 1 CQI project/year with >50% staff participating; All supervisors have Yellow Belt training; units achieve high quality, efficiency

Org/System: leaders talk up CQI projects & results; invest funds in CQI; culture changes; DH-H 5-star ratings

Target Outcomes & Impact → Measures

Staff: Trained staff participate in projects; Certified staff lead CQI → Ideas?

Depts: all units do at least 1 CQI project/year with >50% staff participating; All supervisors have Yellow Belt training; units achieve high quality, efficiency → Ideas?

Org/System: leaders talk up CQI projects & results; invest funds in CQI; culture changes; DH-H 5-star ratings → Ideas?

Questions & Discussion

Challenges and successes that anyone would like to share/discuss?

Photo by Dominik Van Opdenbosch on Unsplash.com

Center for Program Design & Evaluation
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Dartmouth Health

Project ECHO

Session 4:
Gathering Data and Information about Your Program

Laura Bernstein, Ph.D.

Erin Knight-Zhang, Ph.D.

Sidney May, Ph.D.

November 20, 2025

Today’s Plan

Developing your data collection strategy

Understanding different types of data

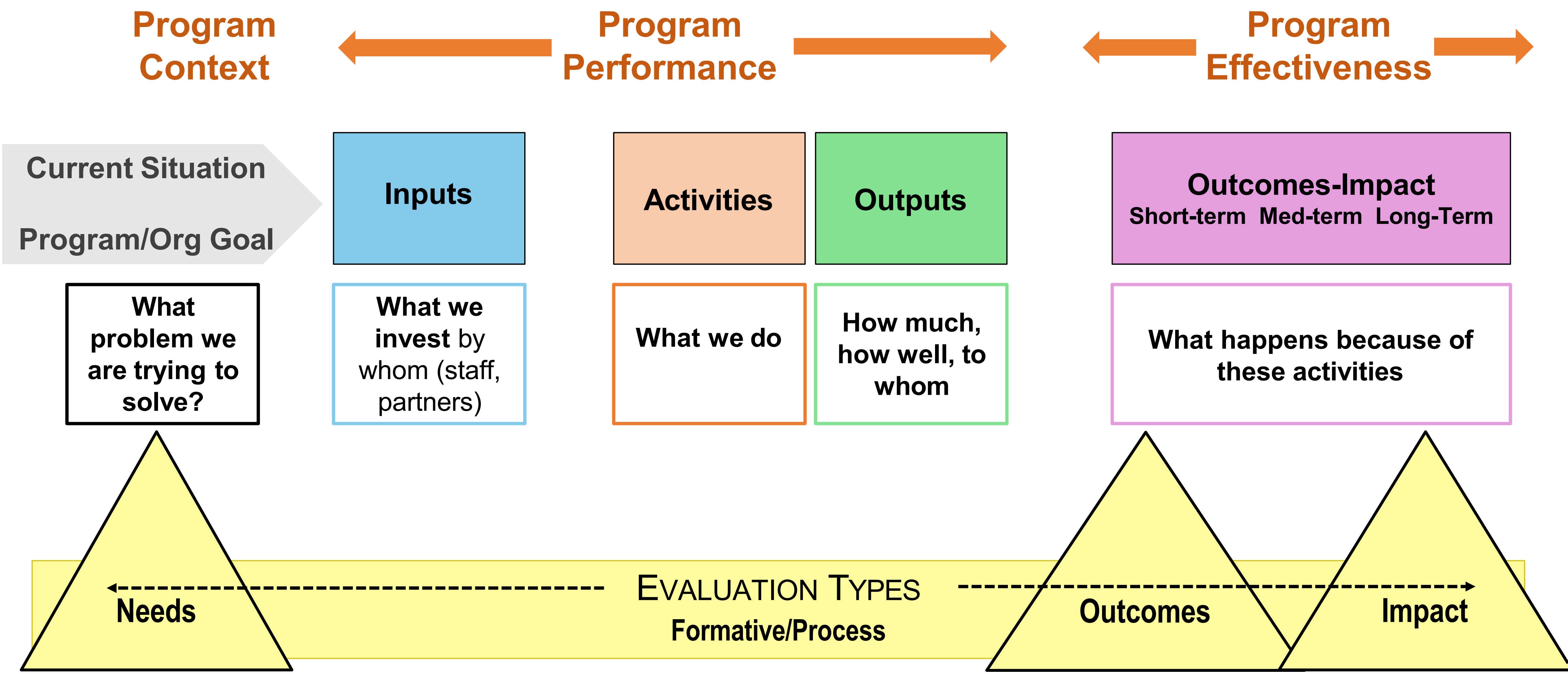
How to collect new data

Tips for using survey platforms

Survey best practices

Case study

Recap



Adapted from learningforsustainability.net/evaluation-questions

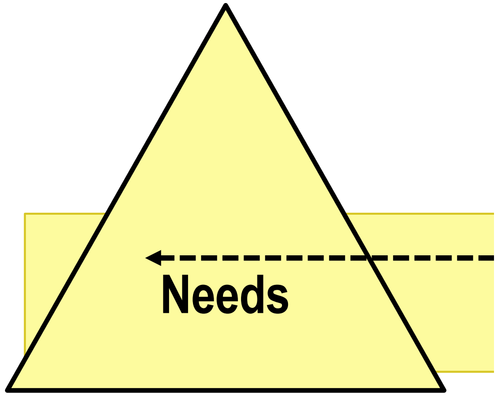
Needs Evaluation

Program Context

Current Situation

Program/Org Goal

What problem we are trying to solve?



“ What are the most pressing issues or challenges currently facing our community?

“ What services or resources are currently lacking or underprovided in the community?

“ Which groups of people are most affected by the discrepancy between what is and what should be?

Formative/Process Evaluation

Program Performance

Inputs	Activities	Outputs
What we invest by whom (staff, partners)	**What we do**	**How much, how well, to whom**

EVALUATION TYPES

Formative/Process

“ To what extent is the program being implemented as intended?

“ What aspects of the implementation process are facilitating success or acting as barriers?

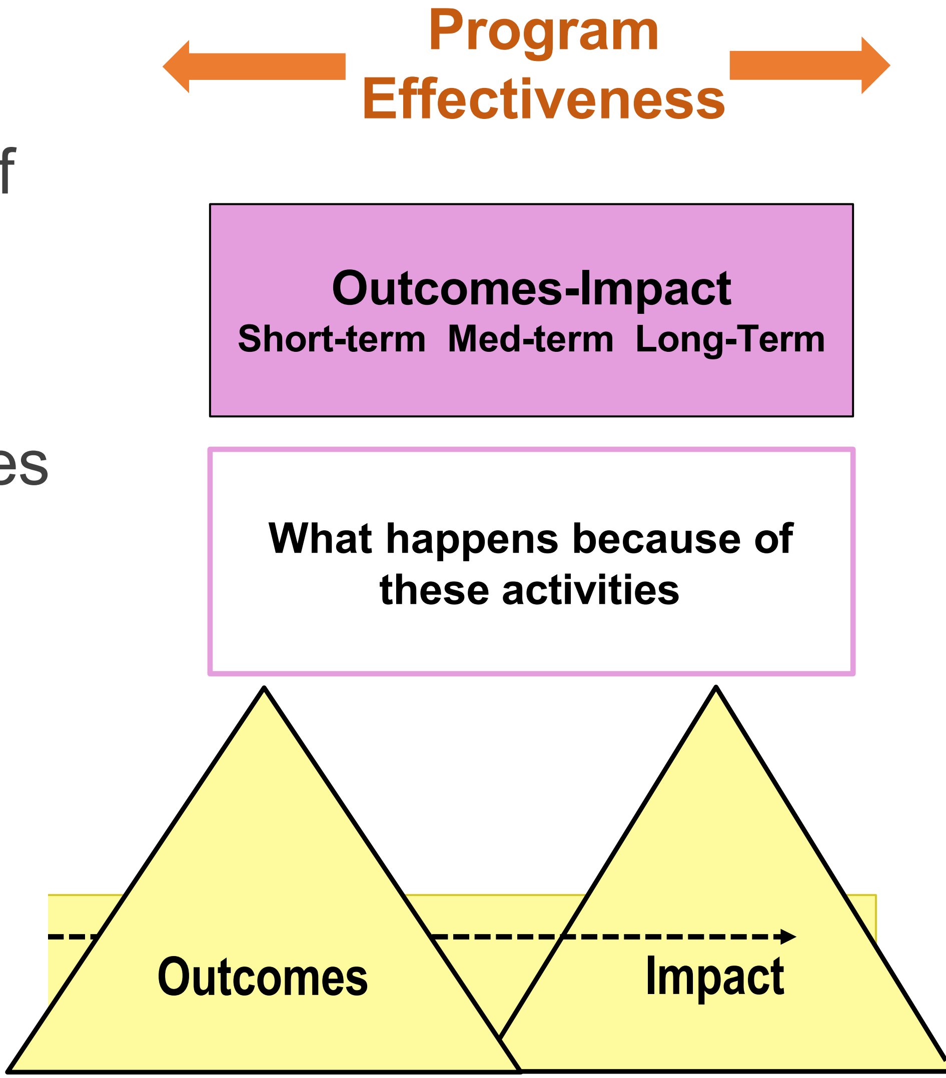
“ To what extent is the program serving the intended participants?

Outcomes & Impact (Summative) Evaluation

“ What difference did this program make in the lives of the individuals who participated in it?

“ What long-term changes occurred in participants’ lives (employment, education, housing stability, etc.)?

“ To what extent did the program meet its stated objectives?



Adapted from learningforsustainability.net/evaluation-questions

Aligning your evaluation goals with your data collection strategy

This is based on your logic model and evaluation questions

Developing your data collection strategy – BSW Continued

	Activity		Output	Short-Term Outcome	Medium-Term Outcome	Long-Term Outcome
Theory of Change	Conduct 8-week technology training course		150 low-income young adults aged 18-25 complete program annually	Increased tech skills & knowledge	Well-matched job placements upon completion of program	Job stability Career progression Financial stability
Eval Qs	Process: To what extent are trainings being implemented as planned? If not, why?	Process: What are participants' perceptions of their experience?	Process: What are facilitators & barriers to reaching the 150 annual target?	Outcome: How effective is the program at improving relevant skills & knowledge?	Outcome: How effective is the program at placing participants in jobs matched to skills?	Outcome: How effective is the program at improving career and financial stability?
Data Collection Strategy (Methods)	Fidelity monitoring using **quant data** (e.g., assessment) and/or **qual data** (e.g., observations)	**Quant data** (e.g., surveys) and/or **qual data** (e.g., interviews; focus groups)	**Quant data** (e.g., surveys) and/or **qual data** (e.g., interviews; focus groups)	**Quant data** (e.g., pre-post surveys) and/or **qual data** (e.g., interviews; focus groups)	**Quant data** (e.g., alumni survey; LinkedIn) and/or **qual data** (e.g., interviews with alum)	**Quant data** (e.g., retention metrics over time from; LinkedIn; salary metrics from Glassdoor or survey)

Another data collection strategy format

Logic Model Component	Metrics	KPIs	Targets	Data Sources
Short-term outcome: Increased tech skills & knowledge	Pre- and post-program assessment scores	Average percent increase in assessment scores	**90%** of participants demonstrate improved technical skills and knowledge	Pre- and post-skill/knowledge assessments
Medium-term outcome: Well-matched job placements upon completion of program	Employment rates	% of graduates employed in positions aligned with their training and skillsets within three months of completion	**At least 80%** of participants secure employment in positions aligned with their training and skillsets within three months of completion	LinkedIn

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Primary (Active) Data Collection

Secondary (Passive) Data Collection

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Types of Data Collection

	Primary (Active) Data Collection	Secondary (Passive) Data Collection
Definition	New or “original” data collected directly by you for a specific purpose	Data collected by others for some different, initial purpose (e.g., as part of regular operations)
Resources	Can be time- and resource-intensive to collect data	Can be economical and fast to access previously-collected data
Validity & Reliability	Depending on questions, can be more accurate and reliable because the data are specific to you needs	Could be relatively less accurate and reliable because data may or may not be specific to your needs
Example Sources	Surveys, assessments, focus groups, interviews, observations, case studies, photo journals, journal entries	Document or record reviews, webpage traffic, meeting notes, LinkedIn, Glassdoor, Administrative data (e.g., GPAs; classroom attendance)

Types of Data Collection

Example Sources

Surveys, assessments, focus groups, interviews, observations, case studies, photo journals, journal entries

Document or record reviews, meeting notes, webpage traffic, LinkedIn, Glassdoor, Administrative data (e.g., GPAs; classroom attendance)

Types of Data Collection

Quantitative: Numeric (numbers-based; countable)

Answers "how much/many/often" and "to what extent" questions

Example Sources

Surveys, assessments, focus groups, interviews, observations, case studies, photo journals, journal entries

Document or record reviews, meeting notes, webpage traffic, LinkedIn, Glassdoor, Administrative data (e.g., GPAs; classroom attendance)

Types of Data Collection

Quantitative: Numeric (numbers-based; countable)

Answers “how much/many/often” and “to what extent” questions

Qualitative: Non-numerical (descriptive)

Answers “how” and “why” questions

Example Sources

Surveys, assessments, focus groups, interviews, observations, case studies, photo journals, journal entries

Document or record reviews, meeting notes, webpage traffic, LinkedIn, Glassdoor, Administrative data (e.g., GPAs; classroom attendance)

Types of Data Collection

Quantitative: Numeric (numbers-based; countable)

Answers “how much/many/often” and “to what extent” questions

Mixed Methods: The combination and integration of both quantitative and qualitative data

Qualitative: Non-numerical (descriptive)

Answers “how” and “why” questions

Example Sources

Surveys, assessments, focus groups, interviews, observations, case studies, photo journals, journal entries

Document or record reviews, meeting notes, webpage traffic, LinkedIn, Glassdoor, Administrative data (e.g., GPAs; classroom attendance)

Understanding what can’t be captured easily

Some long-term impact statements

Limitations due to staff/participant burden

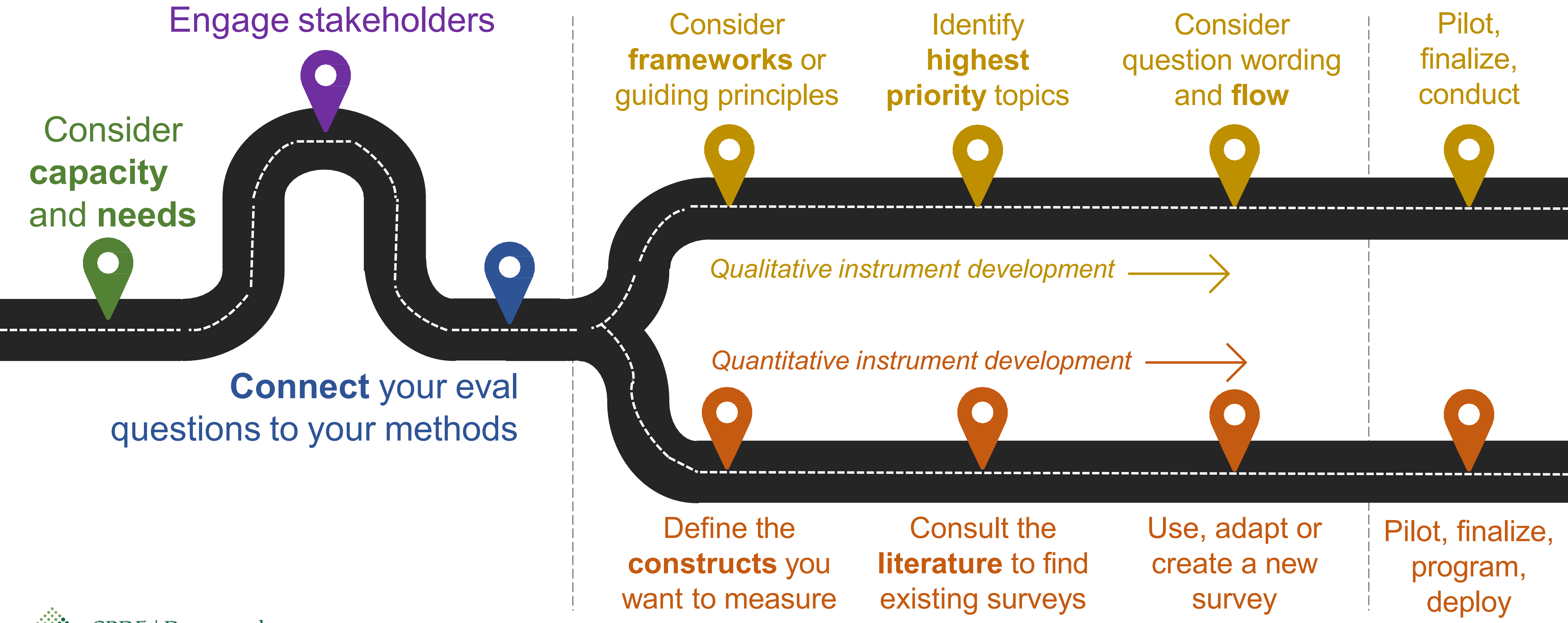
Limitations due to time/resources

Regularly ask yourself:

“How will this data be used?”

“What purpose does it serve?”

Collecting primary or new data



Collecting primary or new data

Consider **capacity** and **needs**

Is it necessary to collect new data, or can you answer questions with existing/secondary data? How will you use this data?

What are your time and budget constraints?

- **Multi-step process** can take days/months
- **Budget considerations**: personnel, tools required, incentives

Are participants readily available, or do you need to recruit them? What is your capacity to recruit participants?

- Tendency to **overestimate** ability to recruit
- Consider how you will get in touch, **response rates,** motivation for participants

constructs you want to measure

literature to find existing surveys

create a new survey

finalize, program, deploy

Collecting primary or new data

Engage stakeholders

Consider **capacity** and **needs**

Connect your eval questions to your methods

Consult on needs, determine approach, etc.

Pilot, finalize, conduct

constructs you want to measure

literature to find existing surveys

create a new survey

lot, finalize, program, deploy

Collecting primary or new data

Engage stakeholders

Consider **capacity** and **needs**

Connect your eval questions to your methods

Are your evaluation questions best answered through quantitative data, qualitative data, or a mix of both (time permitting)?

Quantitative	**Qualitative**
Purposes Quantifying, prediction, generalizability, identify patterns and relationships	**Purposes** Contextualization, interpretation, understanding perspectives
Uses Answer "how much/many/often" and "to what extent" questions	**Uses** "Answer "why" and "how" questions, providing "richer" and "deeper" data
Example Questions *How satisfied* are participants with the program? *To what extent* are X and Y related?	**Example Questions** What are barriers and facilitators to access and *how* do they impact X? *Why* are participants not satisfied?

want to measure existing surveys survey deploy

Collecting primary or new data

For **quantitative** instruments…

Look for something that is already developed using a **literature search**

Determine which instruments are "**good**"

Determine your **access** to the instrument

If nothing exists, consider **adapting** or **creating** an instrument

Identify **highest priority** topics

Consider question wording and **flow**

Pilot, finalize, conduct

constructs you want to measure

Consult the **literature** to find existing surveys

Use, adapt or create a new survey

Pilot, finalize, program, deploy

Brief notes on finding existing instruments

Consider search terms for literature search

- Words & phrases about topic
- Derived from your question

Consider access options

- Google Scholar, Research Gate, academic log ins
- Elicit AI
- Proprietary surveys vs. requesting permission

Peruse publicly available surveys

- e.g., PROMIS

Do any **surveys** exist to measure participant **satisfaction** with a **library program**?

Other Considerations

Data security

- Paper vs. electronic surveys
- Transcript deidentification
- File naming

Ethical data collection

- Obtaining consent
- Scientific integrity
- Ethical tenets (autonomy, justice, beneficence, non-malfeasance)

TABLE 1. Ethical Tenets of Informed Consent and Scientific Integrity in Surveys

Ethical Tenet	Informed Consent	Scientific Integrity
Autonomy	• Right to participate in a survey or decline • Right to not answer specific questions	• Participant should have decisional capacity to answer survey. • Survey questions should be appropriate for the audience (e.g., not contrary to participants' values, culture, beliefs).
Beneficence	• Understanding there may be no direct self-benefit from participating	• Ensuring instrument has been tested for psychometric properties • Findings should be disseminated, inform future research, and, ultimately, be applied to clinical practice.
Nonmalfeasance	• Information provided for fast access to psychosocial services in the event a survey elicits disturbing feelings for the participant	• Information solicited that may be detrimental to the participant (e.g., knowledge of disease status that could affect insurance coverage) should not be able to be linked to the individual or shared with third parties. • Confidentiality needs to be maintained.
Justice	• Disclosure of populations given access to survey	• Ideally, findings should be applicable to diverse populations. • Efforts should be made to eliminate or mitigate bias.

Hammer, 2017

Surveys: Choosing your platform

Many tools with free or add-on options

SurveyMonkey

Microsoft Forms

Google Forms

qualtrics XM

salesforce

Consider:

- Question limit
- Response limit
- Skip, display logic
- Data monitoring and exporting
- Survey distribution
  - Individual vs anonymous links

What have you found frustrating when taking surveys?

Survey Checklist

For formulating items: *Does your survey...*

	Yes (1 point)	No (0 points)
Avoid formatting items as statements with agree/disagree response options...		
...And use questions with construct-specific response options instead		
Ask one item at a time (thereby avoiding multibarreled items)		
Use positive language (i.e., avoid *un-*, *in-*, *anti-*, etc.) to ease cognitive processing		
Avoid "reverse-scored" items		
Use item formats that answer your research questions of interest		
Formulating items subscore =	**/ 6**	

For crafting response options: *Does your survey...*

	Yes (1 point)	No (0 points)
Use an appropriate number of response options		
Include labels for all response options		
Use only verbal labels		
Balance the visual, numeric, and conceptual midpoint of the response options		
Visually separate nonsubstantive choices from the other response options		
Provide response options in only one row or only one column		
Response options subscore =	**/ 6**	

For formatting and organizing the whole survey: *Does your survey...*

	Yes (1 point)	No (0 points)
Ask the more important items earlier		
Include only items that apply to every respondent (or employ branching items)		
Use scales—not single items—when possible (especially for complex topics)		
Use a consistent visual layout		
Place sensitive items, such as demographic questions, later		
Formatting/organizing subscore =	**/ 5**	

Total score[a] =	**/ 17**

[a]Although there is no absolute target score, a quick tally of the number of "yes" check marks should allow for the comparison of different survey instruments.

ACADEMIC MEDICINE

Gehlbach & Artino, 2018

Survey Best Practices

Manage the length

Progress indicators keep people engaged

How are you going to use your results?

Compensation

Does not have to be monetary

Explicitly state the value of their responses (especially if it will help them!)

Consider layout and visual appeal

Page breaks, transition between sections, matrix items, keep white space

Communication Best Practices

Pre-message

About a week before survey is distributed

Sent by leader or familiar person

Survey Intro

Confidentiality statement

Survey duration

Compensation (if any)

How responses will be used

Contact information

Thank You

Personalized message is best

Reminders

Thank those who have responded

Response rates can motivate

2-3 is best

Communicate timeline

How to ask a good question

1. Questions/Items
2. Response Options
3. Question Order
4. Pilot testing

1. Questions/Items

Avoid leading questions

How much did the career coaching you received through Blue Sky Works improve your confidence?

1. Questions/Items

Avoid leading questions

How much did the career coaching you received through Blue Sky Works improve your confidence?

What impact, if any, did Blue Sky Work's career coaching have on your confidence?

1. Questions/Items

Avoid leading questions

Ask one question at a time (no double-barreled questions)

Approximately how often does your career coach provide feedback and encouragement?

1. Questions/Items

Avoid leading questions

Ask one question at a time (no double-barreled questions)

Approximately how often does your career coach provide feedback and encouragement?

Approximately how often does your career coach provide feedback on your career goals?

1. Questions/Items

Avoid leading questions

Ask one question at a time (no double-barreled questions)

Aim for sixth-grade reading level

Be clear about time frames (e.g., past month, last seven days, currently)

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2. Response Options

Use context-specific response options

- Consider alternatives to Agree – Disagree

2. Response Options

How much do you agree with the following statement? "I am satisfied with the career coaching I received through Blue Sky Works."

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

2. Response Options

How much do you agree with the following statement? "I am satisfied with the career coaching I received through Blue Sky Works."

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

How satisfied are you with the career coaching you received through Blue Sky Works?

- Not at all satisfied
- Somewhat satisfied
- Moderately satisfied
- Very satisfied
- Extremely satisfied

2. Response Options

- Use context-specific response options
  - Consider alternatives to Agree – Disagree
- Number of options matters
  - Consider how you are analyzing data
  - 5 to 7 options is usually best
  - How helpful is having a neutral option?

2. Response Options

- Use context-specific response options
  - Consider alternatives to Agree – Disagree
- Number of options matters
  - Consider how you are analyzing data
  - 5 to 7 options is usually best
  - How helpful is having a neutral option?
- Order of options matters
  - Keep things consistent (e.g., least to most, worst to best)
  - Make it easy for respondents, reduce likelihood of mistakes

DARTMOUTH

2. Response Options

- Use context-specific response options
  - Consider alternatives to Agree – Disagree
- Number of options matters
  - Consider how you are analyzing data
  - 5 to 7 options is usually best
  - How helpful is having a neutral option?
- Order of options matters
  - Keep things consistent (e.g., least to most, worst to best)
  - Make it easy for respondents, reduce likelihood of mistakes
- Use open-ended questions sparingly
  - Tend to have low response rates
  - You may be faced with sensitive data

3. Question Order

First few questions

- Ease respondents into the survey
- Things like their role or position, experience with topic of interest

Important questions: Keep towards the beginning

- Response rates will be highest for earlier questions

Sensitive questions, demographics: Put towards the end

- Reduce stereotype activation

Test Your Survey

- Who are your stakeholders?
  - Patients, community members, students, etc.
  - Not someone involved in survey design
- A few options
  - Allow them to take the survey themselves and provide feedback (pilot testing)
  - Guide them through the survey and ask specific questions (cognitive interviewing)
- Feedback should include
  - Completion time
  - Interpretation and ease of questions
  - Are response options comprehensive?
  - Any missing questions?

Case Example

Sherri Billings, Program Manager

MCD Global Health

MCD Global Health

Brief description of MCD Global Health goals and activities

- Facilitate a clinical ECHO for Maine pediatric providers, their clinical teams, and non-clinical behavioral health professionals that has been ongoing for 3 years (46 sessions!)

Created and used a 5-question survey since the ECHO launched to gather consistent data over time for program feedback and refinements

Recently created a 3-year impact report using the data

Discussion Questions

What changes should (or could) be made to the survey going into the future?

How could interviews with participants and subject matter experts help us tell a powerful impact story?

- Would like to create a video → what is best deployment strategy?

Additional Questions to Consider

What changes should (or could) be made to the survey going into the future?

"How will this data be used?"

"What can/can't we speak to using the current survey results?"

"What would we gain/lose from editing the survey?"

Understanding Current Survey & Aligning Edits with Goals

What changes should (or could) be made to the survey going into the future?

Current Survey Question	Purpose/Construct it Taps (how the data is used)	Potential Edits
1. How well were the session objectives met?		
2. What part of this session was most helpful to your learning?		
3. As a result of this activity, list one or two things that you plan to change in your practice.		
4. Please rate your agreement with the following statement: The ECHO Learning session has my ability confidence to care for complex pediatric cases.		
5. How likely are you to recommend the ECHO Learning Series to a colleague?		

Additional Questions to Consider

How could interviews with participants and subject matter experts help us tell a powerful impact story?

"How will this data be used?"

"What are the most important questions to ask during interviews?"

"Do we have the time/resources to dedicate to this data collection and analysis?"

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Aligning Interview Questions with Goals

How could interviews with participants and subject matter experts help us tell a powerful impact story?

Interview Question	Purpose/Construct it Taps (how the data will be used)
1.	
2.	
3.	
4.	
5.	

Resources

- Gehlbach & Artino (2018) article with survey checklist: https://doi.org/10.1097/ACM.0000000000002083
- Flesch Kincaid Reading Level Calculator: https://serpninja.io/tools/flesch-kincaid-calculator/
- Institute of Education Sciences (IES) template for aligning data collection strategy with logic model components: https://ies.ed.gov/ncee/rel/regions/west/pdf/AligningData_and_Measures_to_Outputs_and_Outcomes_LogicModel.pdf
- Selecting and using keywords: https://www.youtube.com/watch?v=r6kjt2Mt_4w

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Appendix

Consulting the literature

Look for something that is already developed using a **literature search**

Determine which instruments are "**good**"

If nothing exists, consider **adapting** or **creating** an instrument

"satisfaction" "confidence"

Can document in table

Google Scholar, Research Gate, PubMed, Scopus, Web of Science, ERIC, etc.

Consulting the literature

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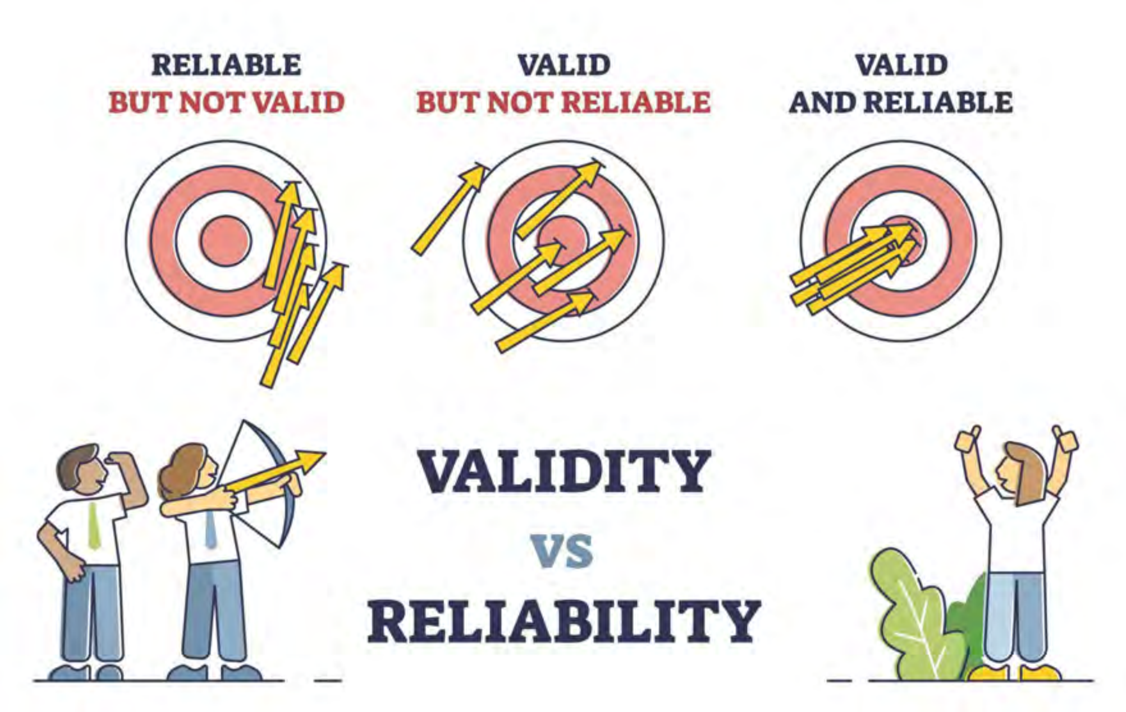

Image from simplypsychology.org

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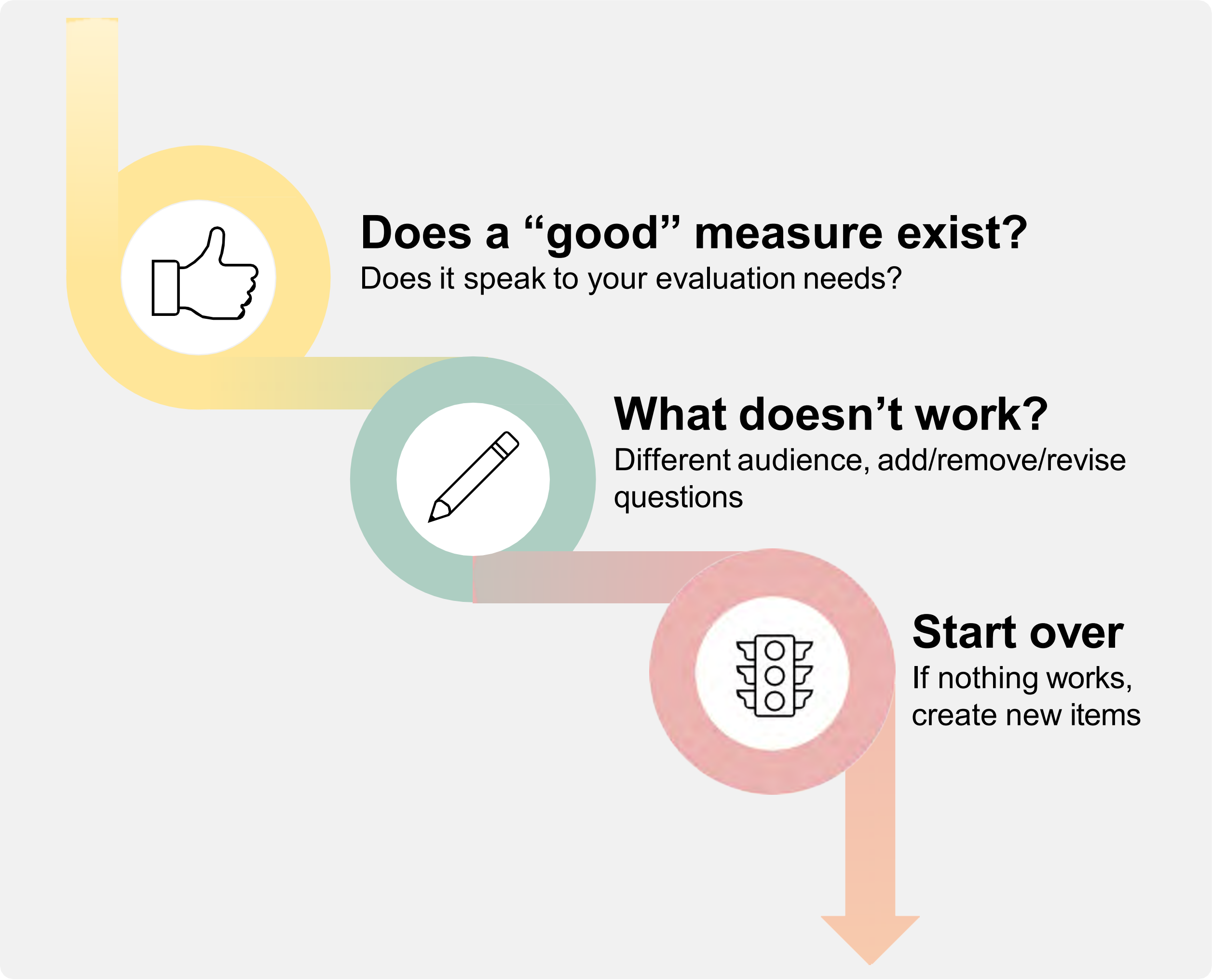

Some context-specific items

In the past six months, approximately how often have you…?	Never | Rarely | Sometimes | Often | Very Often
How familiar are you with….?	Not at all familiar | Somewhat familiar | Moderately familiar Very familiar | Extremely familiar
In your opinion, how much value does _____ program have for students?	None | Only a little | Some | A lot | Quite a bit

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Dartmouth Health

Project ECHO®

Session 5:
Making Sense of Data

Laura Bernstein, Ph.D.

Erin Knight-Zhang, Ph.D.

December 4, 2025

Today's Plan

Planning Data Analysis

- Systematic Data Tracking

Data Cleaning, Management, Analysis

Data Visualization

- The role of AI

Creating Reports & Data Summaries

Process of Data Collection, Analysis and Reporting

The Three Steps of Nonprofit Measurement, Evaluation, and Learning

Source: The Bridgespan Group

Define outcomes and metrics
Sessions 1-3

Measure metrics with data
Session 4

Session 5 (today)
Planning data analysis
Preparing data for analysis
Analyzing data
Reporting data

Learn and improve through data

Stakeholder Input

The Three Steps of Nonprofit Measurement, Evaluation, and Learning

How?

Stakeholders: individuals who are invested in or affected by the program

Potential Roles:

- Identify primary audience
- Develop report/dissemination plan
- Determine use of evaluation findings
- Verify results
- Develop recommendations

Source: The Bridgespan Group

Planning Data Analysis

Evaluation Question	Purpose	Data	Analysis/ Visualization	Audience
What are participants' perceptions of their experience?	Assess process	(Survey) To what extent were the session objectives met?	Descriptive statistics (% very much) Bar graph	Funder, program staff
		(Survey) How effective was the training format in meeting your needs?	Descriptive statistics (% very much) Bar graph	Funder, program staff
How effective is the program at improving relevant skills and knowledge?	Assess outcomes	(Survey) To what extent did the training change your knowledge of the topic?	Descriptive statistic (% knowledge increase) Dumbbell plot	Funder, program staff

Systematic Tracking

How will you use your data?

- Grant reporting, internal quality improvement, marketing, program impact/development

Track across data sources

- Administrative Data – program enrollment and completion numbers
- Surveys – number distributed, number complete, timing of completion
- Interviews – number of invitations, number of interviews complete

Consider spreadsheets to keep track of progress

- Map your data onto program goals, eval questions
- Note targets and progress
- What time periods make sense? (Monthly, quarterly, yearly)

How much experience do you have…

Using formula functions (e.g., sum, proportions) in Microsoft Excel?

1. None
2. A little
3. A lot

Consolidating your data from multiple sources in Excel (e.g., surveys, administrative data)

1. None
2. A little
3. A lot

Tracking Enrollment: 8 Week Technology Training

= sum()

	A	B	C	D	E	F	G	H	I	J	K	L
1				Number of Partcipant Drop Outs after each week							Total Drop Outs	
2	Year	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8		Total (first 4 weeks)	Total (full 8 weeks)
3	2023	0	3	1	2	1	0	2	0		6	9
4	2022	5	0	0	4	3	6	0	0		9	18
5	2021	4	1	4	0	2	3	1	0		9	15
6	2020	8	2	3	1	5	0	0	2		14	21

	A	B	C	D	E	F	G	H
1				Yearly Enrollment Rates				
2	Program Arm	Year	Number Enrolled	Number at Halfway	Number Complete	Completion Rate	First Half Drop Out Rate	Second Half Drop Out Rate
3	Technology training	2023	150	144	141	94.0%	4.0%	6.3%
4	Technology training	2022	150	141	132	88.0%	6.0%	12.8%
5	Technology training	2021	150	141	135	90.0%	6.0%	10.6%
6	Technology training	2020	150	136	129	86.0%	9.3%	15.4%

= E6/C6

Dashboards

- Allow you to monitor your data as it is collected
- Helpful if need to regularly report on program activities at different sites
- A few options:
  - Excel
  - Qualtrics reports
  - Tableau Public (free)
- Tableau Public
  - Steeper learning curve
  - Good if you have the time to learn and need to report regularly
    - Extensive online resources: community forum, YouTube and blog tutorials
  - Anyone can access and view your data visualizations

Data cleaning

Survey platform or collection system may already create graphs or charts, BUT

- Some basic data cleaning should be considered
  - Do all respondents meet your criteria for inclusion? (job role, geographic location, etc.)
  - How complete should responses be?
  - If available, check length of time to complete
  - Scale scoring and data checking

Data Management Best Practices

Keep a sheet of raw, unedited data

Store identifying information separately – use participant IDs

Data dictionary/codebook – what is available from your data collection platform?

Decision tracking

Annotate your work

Data Analysis

	Descriptive Statistics	Inferential Statistics
What does it do?	Summarizes and **describes** *your* data	Test hypotheses, make **inferences** about larger population

Data Analysis

	Descriptive Statistics	Inferential Statistics
What does it do?	Summarizes and **describes** *your* data	Test hypotheses, make **inferences** about larger population
Examples	Mean, Range, Frequencies, Percentages, Standard Deviation	Correlations, p-values, t-tests, regressions

Data Analysis

	Descriptive Statistics	Inferential Statistics
What does it do?	Summarizes and **describes** *your* data	Test hypotheses, make **inferences** about larger population
Examples	Mean, Range, Frequencies, Percentages, Standard Deviation	Correlations, p-values, t-tests, regressions
Pros	Good for small sample sizes Data does not need to meet certain assumptions	You can draw more conclusions and generalize beyond your data
Limitations	You are limited in generalizing beyond those in your sample	Requires at least ~30 responses Data must meet certain assumptions

Descriptive Statistics

What you **can** say:	What you **can't** say:
How do assessment scores change from before the program to after?	What effect does this program have on assessment scores?

Descriptive Statistics

What you **can** say:	What you **can't** say:
How do assessment scores change from before the program to after?	What effect does this program have on assessment scores?
How does group A compare to group B on post-program assessment scores?	Is being in group A correlated with higher post-program scores?

General language to avoid:

- Significant
- Cause/causation
- Effect
- Correlate/correlation

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Data Visualization

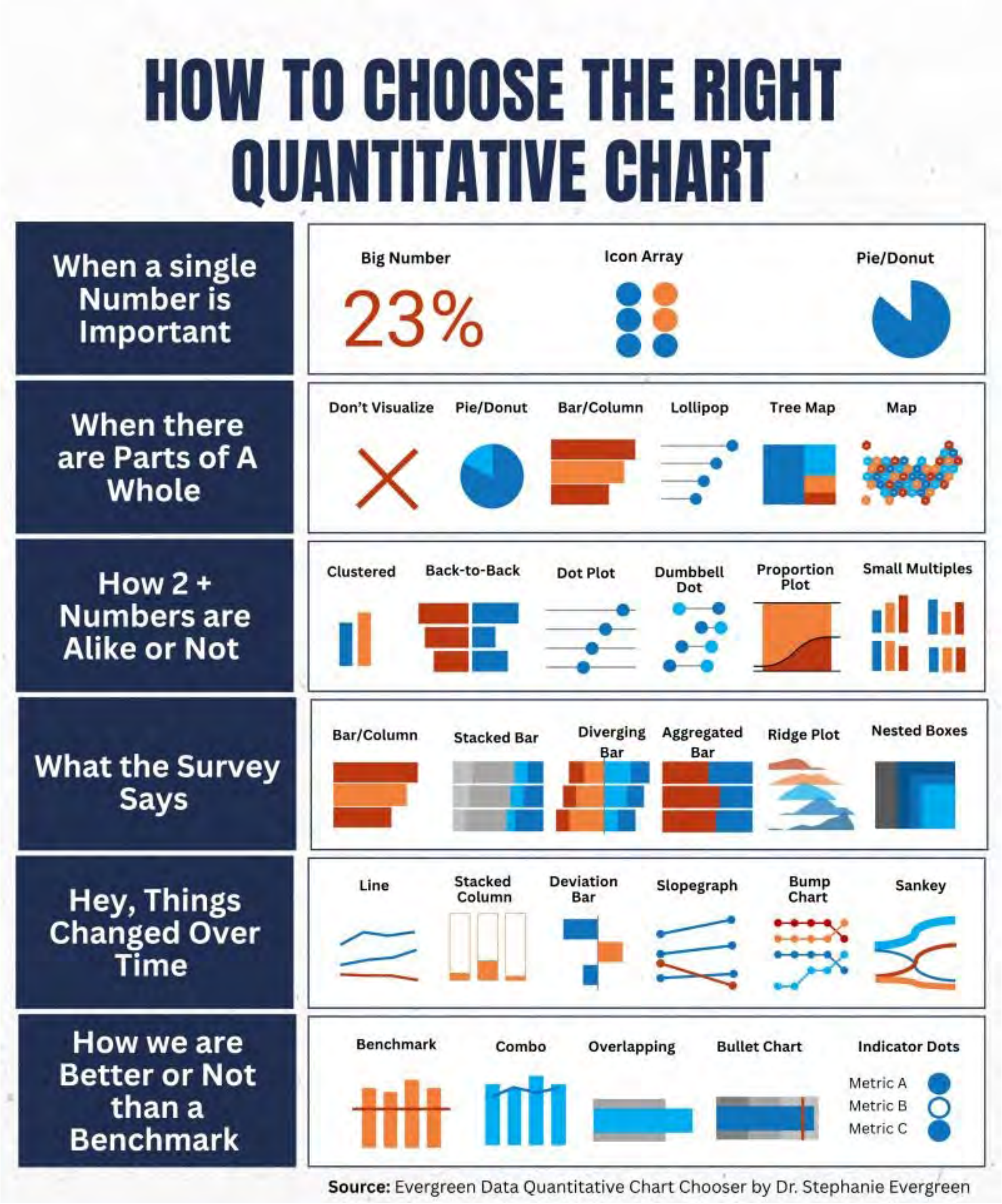
First, consider whether a graph or figure is necessary

- Single numbers or percentages may stand alone

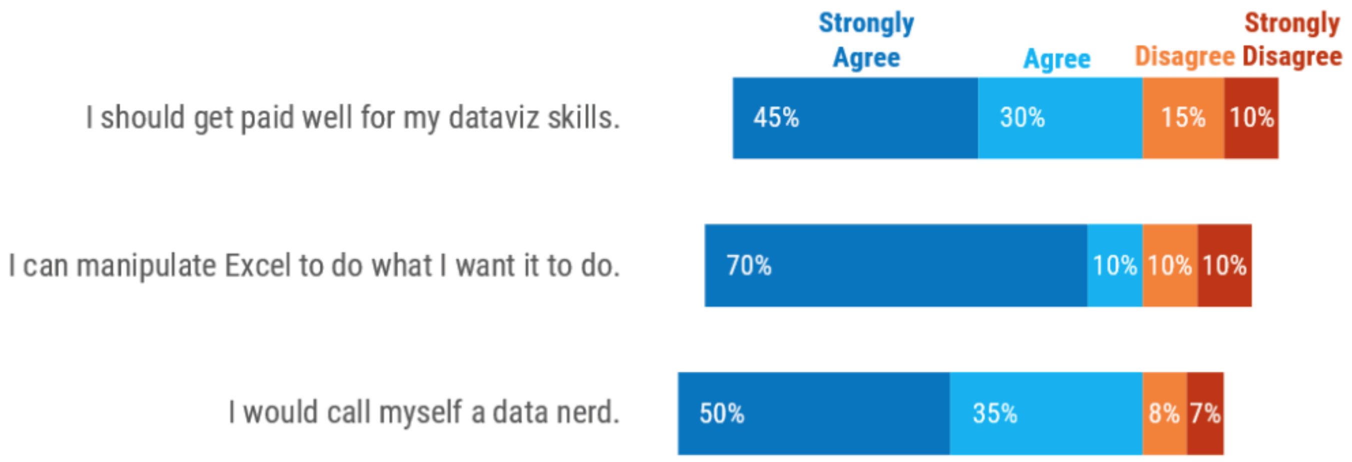
Next, think about what are you trying to communicate

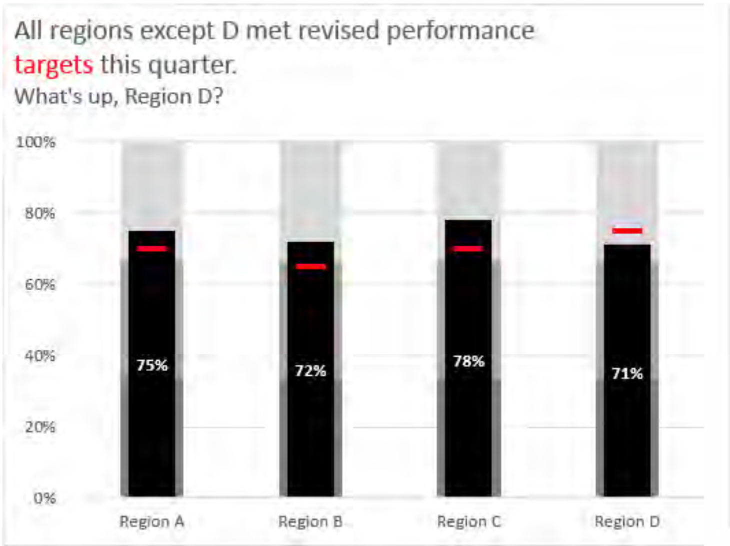
- Composition – parts of a whole
- Trend over time
- Comparison – between groups, response options
- Relationship – between variables

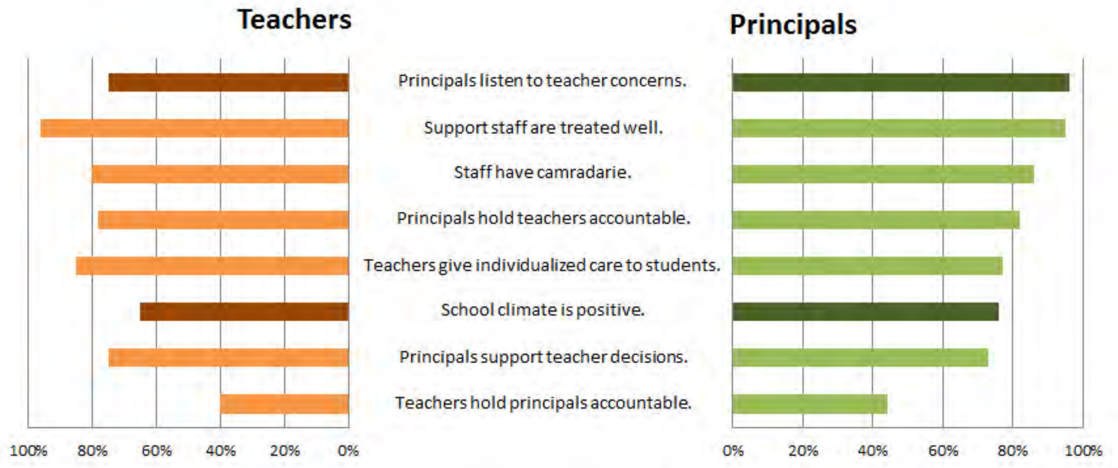
Chart Chooser



Excel can be a powerful tool







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Using AI Responsibly

- Do not share raw or identifiable data on an AI platform
- Specificity is key
  - Tool you are using, what you want to do, what exactly you are looking for (code, instructions, efficiency)
- Don't assume it is right
  - Analysis may have errors
  - Currently, no strong options to create data visualizations for you
- Use it as a tool for learning
  - How can you work toward independent data analysis?
  - Idea generation

Tips for Creating Reports & Summaries

- Think about your **audience**
- Identify your **main messages**
- Consider **approach** and **organization**
- **Connect** data & viz back to points
- Make it **digestible & actionable**

Institute of Education Sciences

Determining the Audience

Directions: Use the table below to begin determining your audience for dissemination.

- **Audience groups**: What are the large groups of people who need to hear about your findings? (For example, parents, staff, funders, staff from outside organizations, community members, state education agency officials.)
- **Specific individuals or organizations**: Are there specific individuals or subgroups within the larger groups who you want to target? Are there organizations such as intermediaries that may be able to help you access the audience?
- **Purpose**: Why does the audience need to hear about your findings? What do you hope to gain by sharing the findings with them?
- **Use of findings**: How will the audience groups you identify use the findings? What will they learn from the findings?

Audience Group	Specific Individual or Organization	Purpose	Use of Findings
Example: *Parents*	*Jill Ramos (Parent-teacher organization president)*	*Support for the initiative*	*To understand how the program improved outcomes for their children*
Example: *Funder*	*Lin Yu (Program officer)*	*Continued funding*	*To understand if the program achieved its goals and if it should continue to be funded*

Institute of Education Sciences

Summary Template

What are the three most important findings from your evaluation?
Example: *Ninety percent of math tutors who received training from AMMP! indicated that they felt ready to use the effective techniques.*
1.
2.
3.

Explain the topic in plain language. (How would you explain it in basic terms to your next-door neighbor?)
Example: *The middle school implemented AMMP! after the district received a grant to improve middle school math instruction. AMMP! is an after-school program that provides tutoring, math extension activities, field trips, and other social activities. Training for tutors is critical to making sure that students receive high-quality math tutoring.*

Which of the following will be affected by the findings?
Example: *With 90 percent of the tutors ready to provide tutoring services for AMMP!, we anticipate changes in student outcomes.*

- Instructional practice
- Student outcomes
- Policy
- Other ______________

Where can the reader find more information?
Example: *You can find our full report and a link to details about AMMP! on the district website.*

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Report Title

Executive Summary

Here is a 1- or 2-page summary of the primary points of the report.

Background and Purpose

Here is a summary of context that is important for the report.

Statement of the purpose of the report.

Methods

How did you get the data? Who were the participants? What procedures did you follow?

Results

Here is a breakdown of findings, organized in a way you determine to be most effective (e.g., by evaluation question).

How effective was the program at improving skills?

Narrative and data displays.

How effective was the program at placing participants?

Narrative and data displays.

Recommendations and Lessons Learned

Interpretation of findings and recommendations rooted in the data.

Tips for Creating Reports & Summaries

Think about your **audience**

Identify y
main
messag

&

Who **needs** to hear about your

How can you **communicate w**

What is their technical expertis

What is **culturally appropriate**

What are their **perceptions** an

How might **their preferences** i

How might the results be **filter**

Institute of Education Sciences

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Project ECHO

Tips for Creating Reports & Summaries

Think about your **audience**

Identify your **main messages**

Cons **appr orga**

What is your program's **change story**? What s

What do you want people to **take away** from th

What **actions** do the data suggest they should

How might your **findings be useful** to your inte

What **questions** would your audience have ab

What are **your biases** that might influence how

IES Institute of Education Sciences

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Connect data & viz back to points

Make it **digestible** & **actionable**

Evaluation brief

Evaluation report

In-person meeting with slides

Data dashboard

Other options (e.g., infographics, videos)

Tips for Creating

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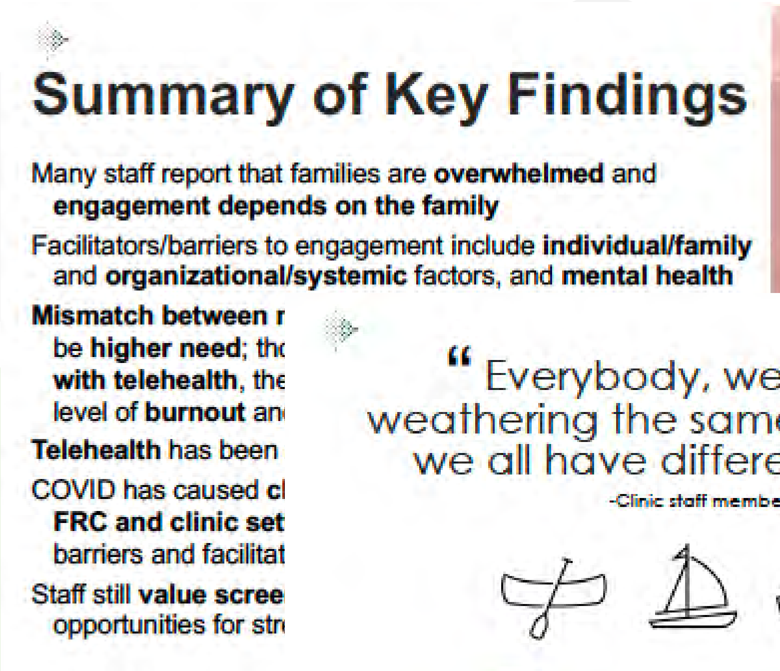
Summary of Key Findings

Many staff report that families are **overwhelmed** and **engagement depends on the family**

Facilitators/barriers to engagement include **individual/family** and **organizational/systemic** factors, and **mental health**

Mismatch between r

be **higher need**; th

with telehealth, the

level of **burnout** an

Telehealth has been

COVID has caused c

FRC and clinic set

barriers and facilitat

Staff still **value scree**

opportunities for str

CDC Evaluation Reporting Guide, IES Program Evaluation Toolkit

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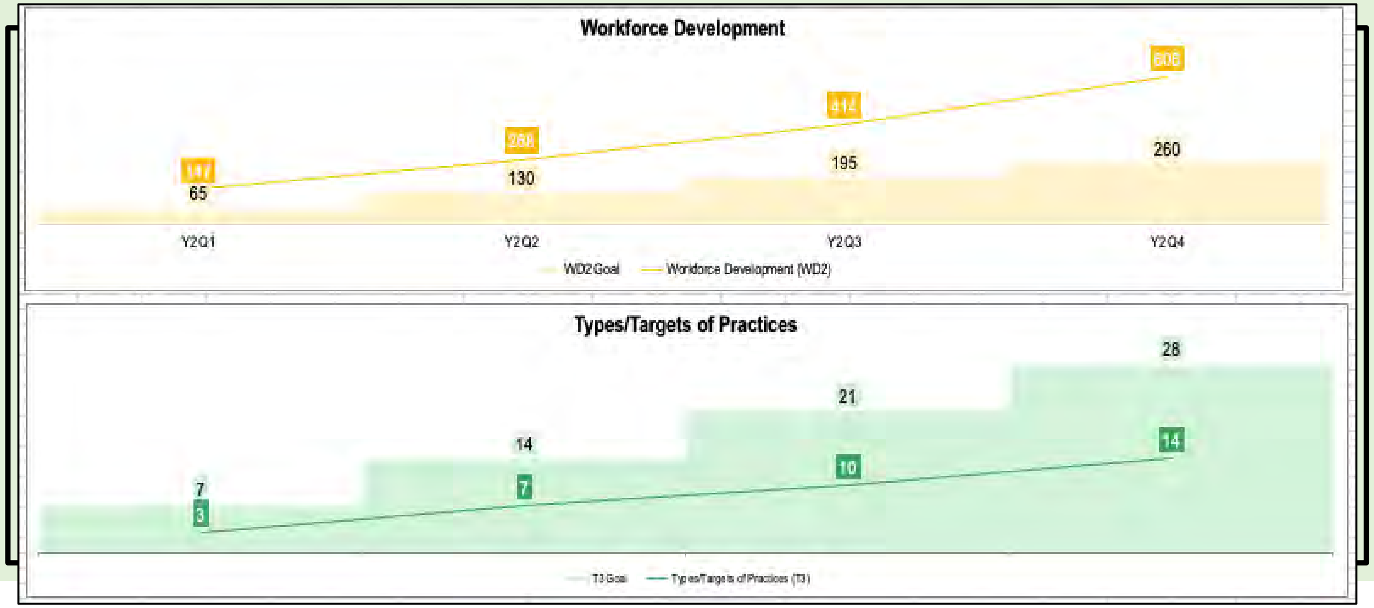
Data dashboard

Excel, Tableau Public, Qualtrics



What are the needs of your audience in receiving the report?

What are your needs?

What do you have time and budget for?

What are the needs of the message to get it across?

Think about your **audience**

Identify your **main messages**

Consider **approach** and **organization**

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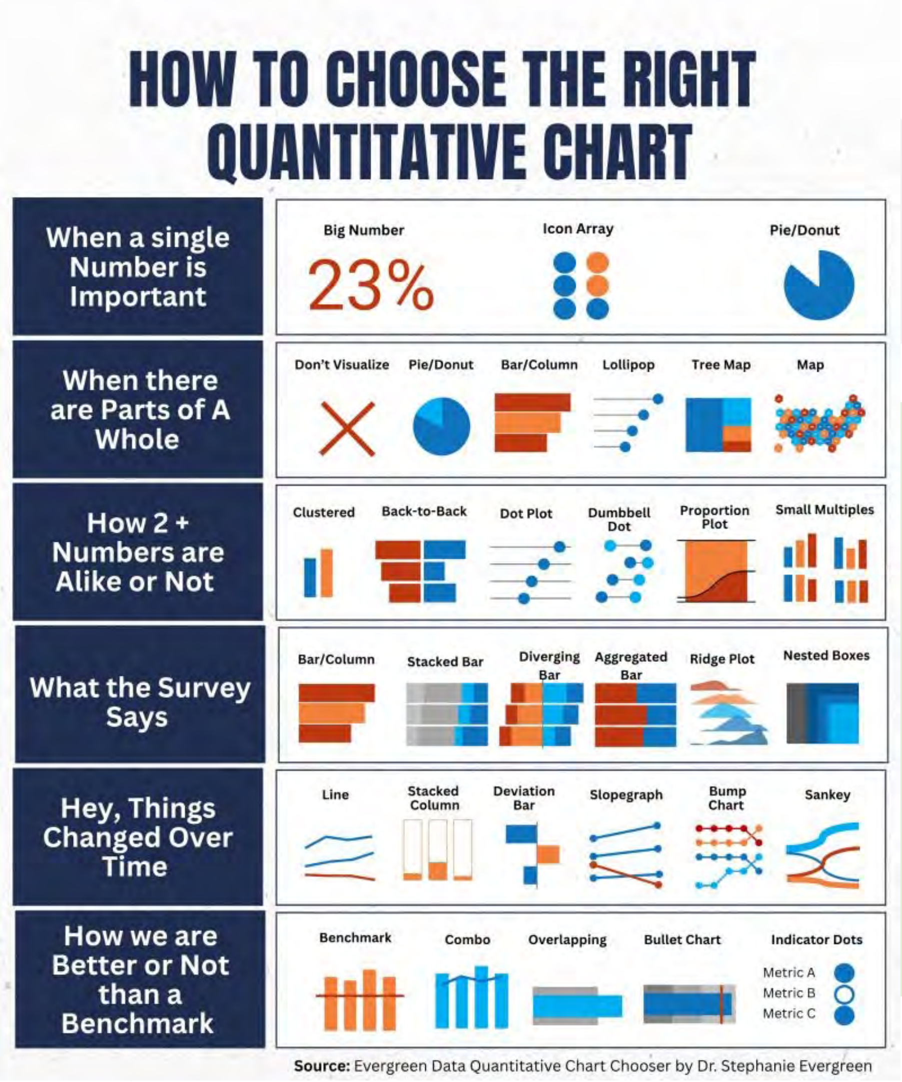
Tips for Creating Reports & Summaries



Consider **approach** and **organization**

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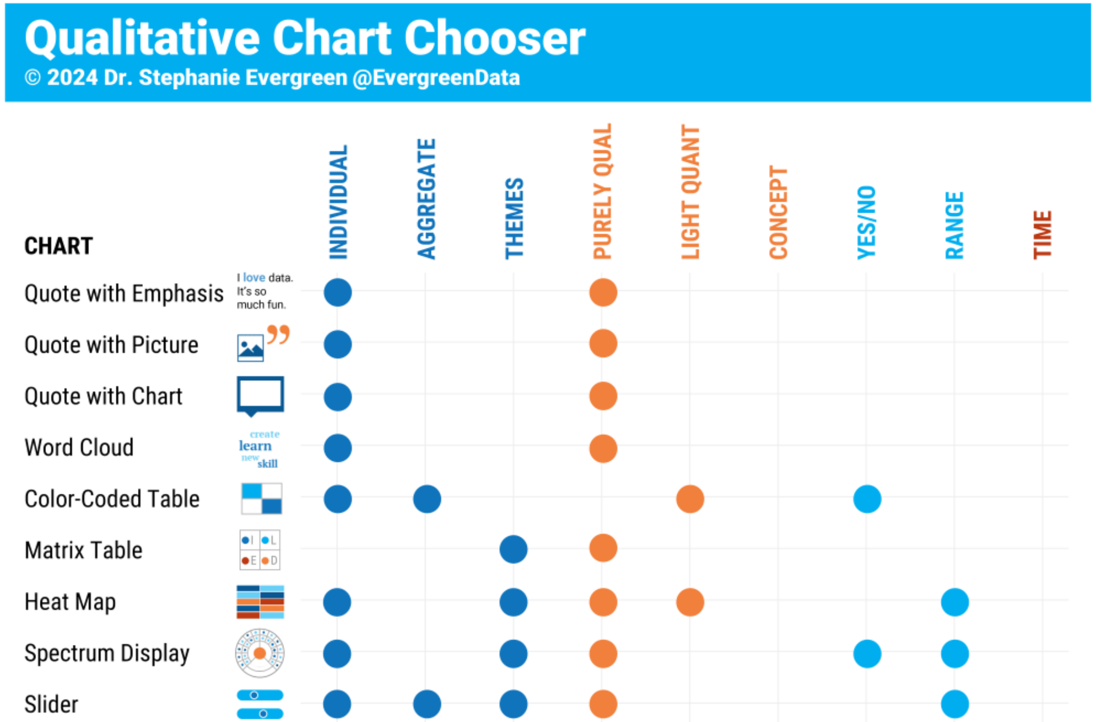

Tips for Creating Reports & Summaries

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Identify your **main messages**

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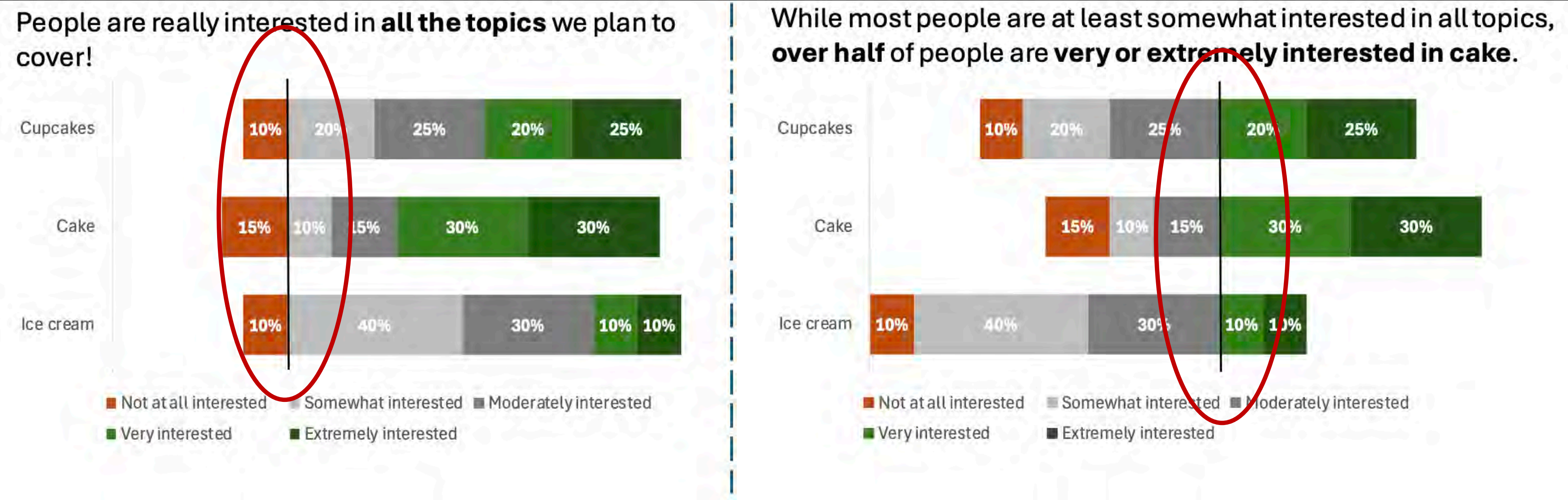
Make it **digestible & actionable**

Question: what topics do people want us to cover in a training on dessert?



Tips for Creating Reports & Summaries

Think about your audience

Identify your

Consider

Connect data

Make it digestible & actionable

How long sh

Prioritiz ... se/data

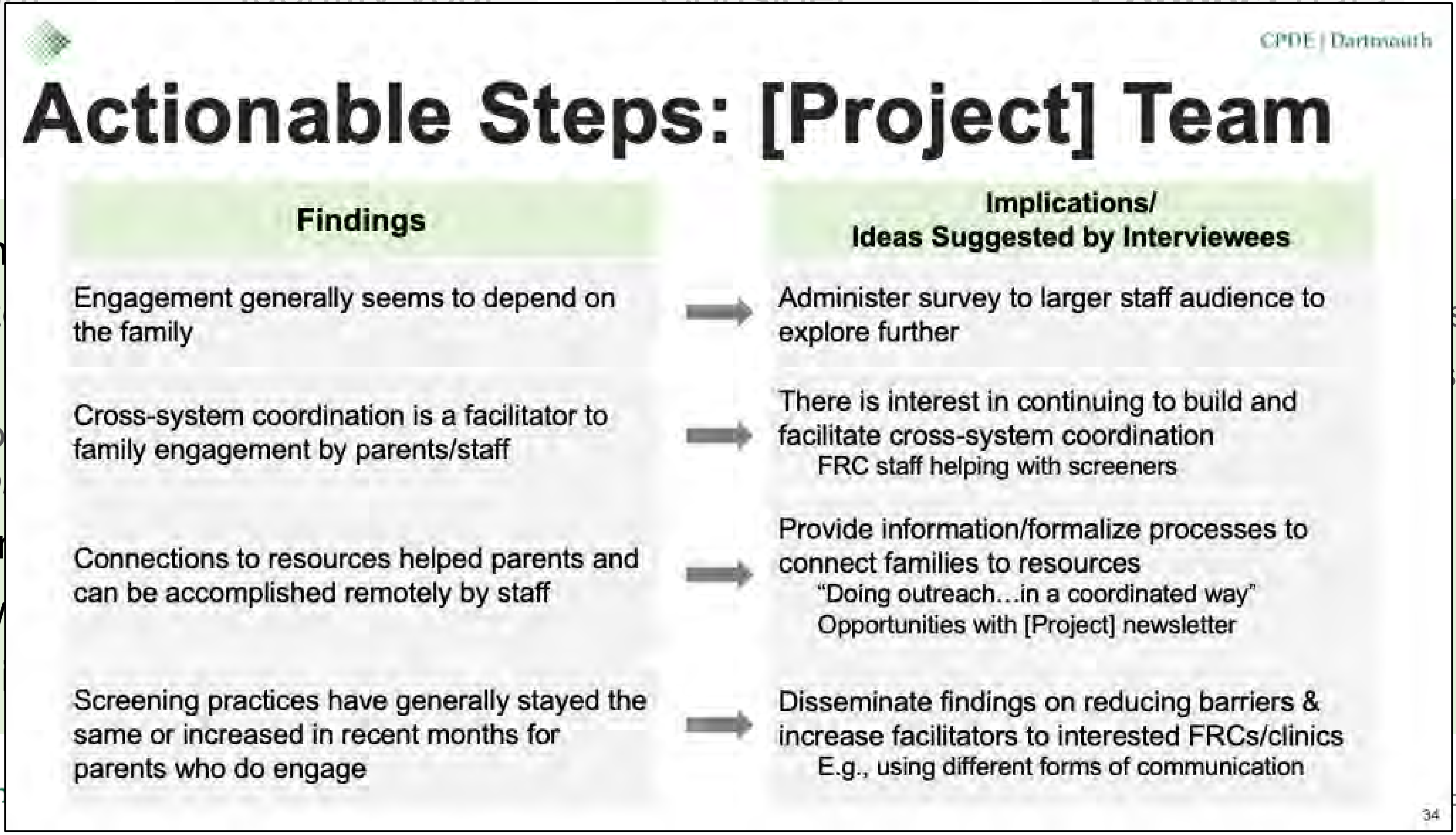
Longer

Some p ... particularly *if you do not app*

Use plain lar

Break it up w

Provide real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Actionable Steps: [Project] Team

Findings		Implications/ Ideas Suggested by Interviewees
Engagement generally seems to depend on the family	➡	Administer survey to larger staff audience to explore further
Cross-system coordination is a facilitator to family engagement by parents/staff	➡	There is interest in continuing to build and facilitate cross-system coordination FRC staff helping with screeners
Connections to resources helped parents and can be accomplished remotely by staff	➡	Provide information/formalize processes to connect families to resources "Doing outreach…in a coordinated way" Opportunities with [Project] newsletter
Screening practices have generally stayed the same or increased in recent months for parents who do engage	➡	Disseminate findings on reducing barriers & increase facilitators to interested FRCs/clinics E.g., using different forms of communication

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Case Study

Blue Sky Works

Aim: increase career stability of low-income young adults by providing them with **hands-on skill development in technology, career coaching, and job placement**.

Current data

Enrollment numbers since 2018

Post–program participant surveys

Reporting needs & audiences

Marketing to expand programs

Obtain more grant and foundation funding

Group Discussion

Any other data we could potentially collect / analyze to show program impact?

What types of reports or briefs would be best given the needs (marketing to expand programs; obtaining additional grant / foundation funding)?

Which program stakeholders would be important to engage in report creation?

Enrollment Data

Total Participants: 1400

AGE DISTRIBUTION

mean	21.48 (+/-2.3 years)
range	18-25

GENDER DISTRIBUTION:

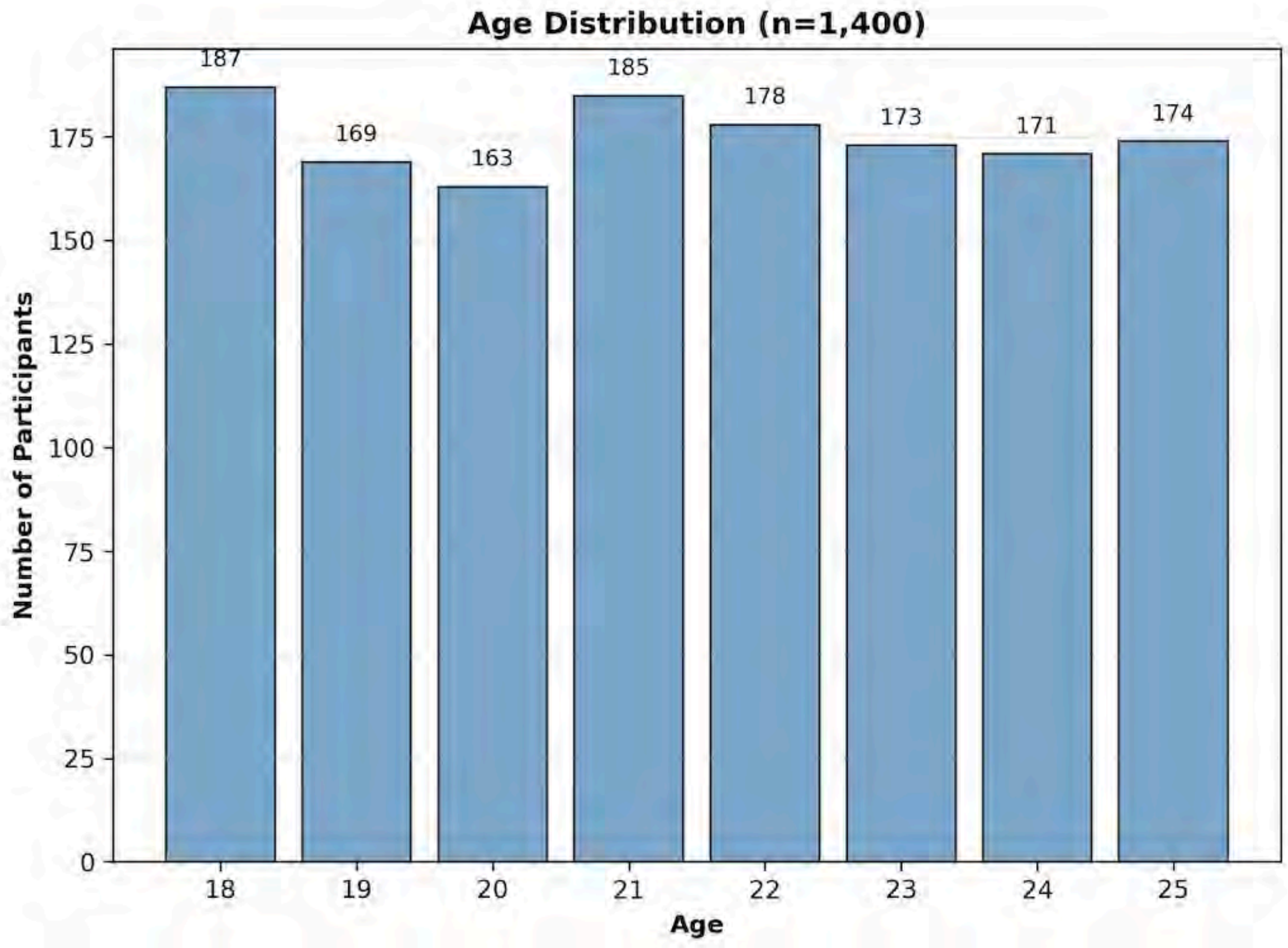
Female	684
Male	657
Non-binary	59

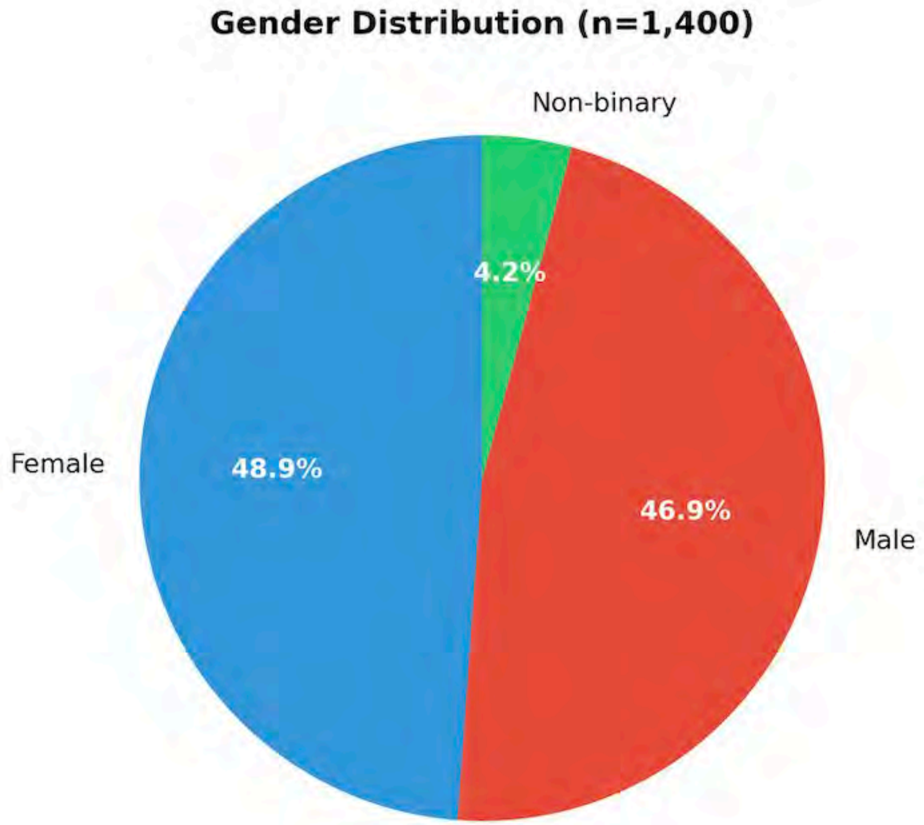
HOUSEHOLD INCOME DISTRIBUTION:

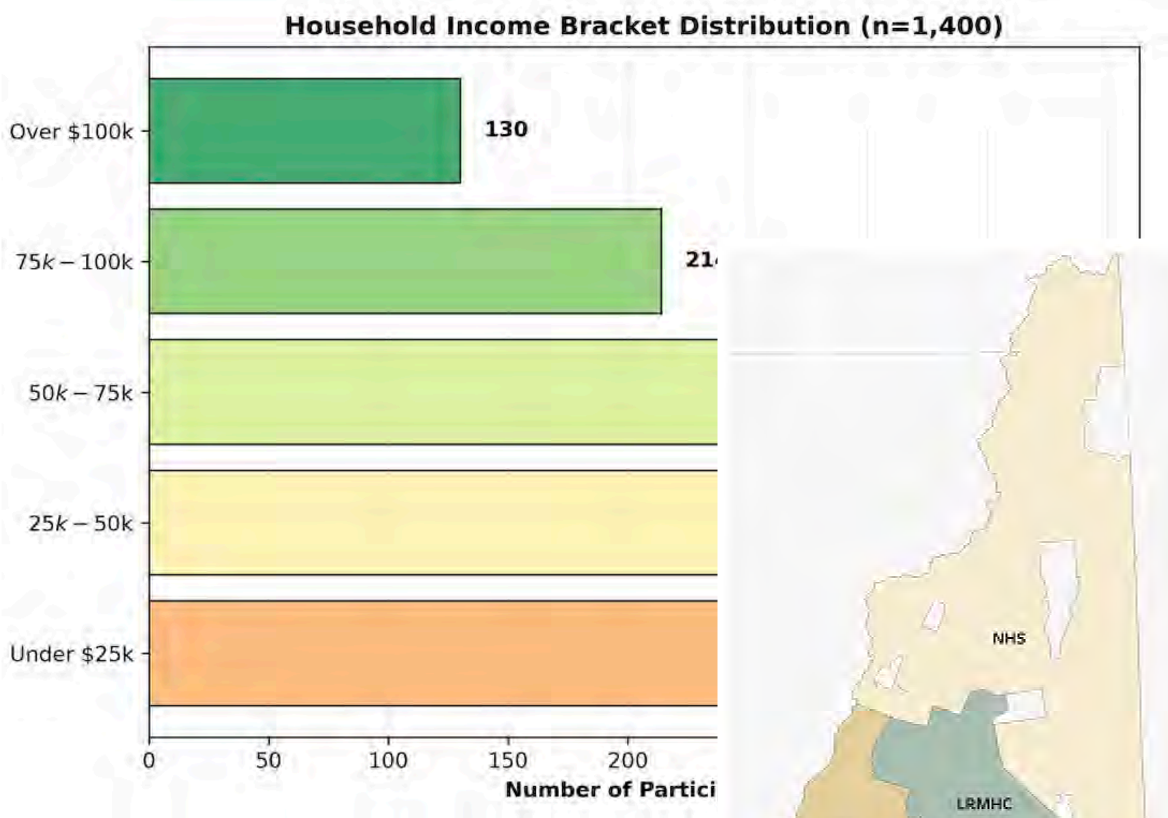
Under $25k	339
$25k-$50k	394
$50k-$75k	323
$75k-$100k	214
Over $100k	130

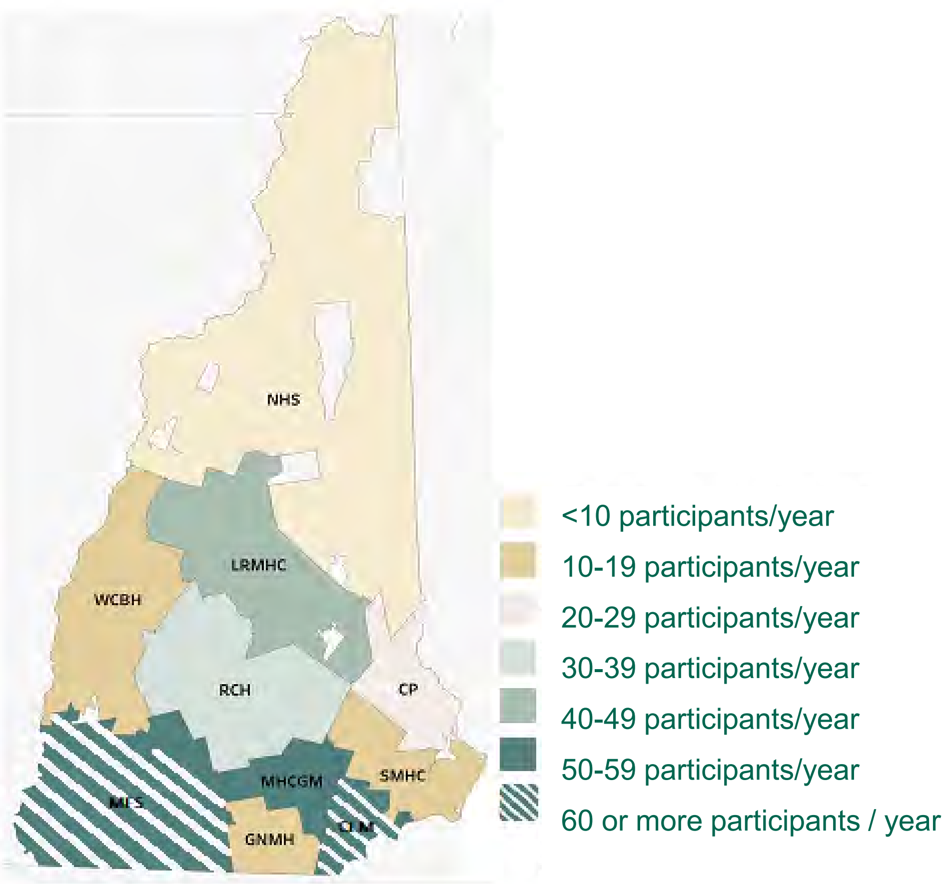
RACE/ETHNICITY DISTRIBUTION:

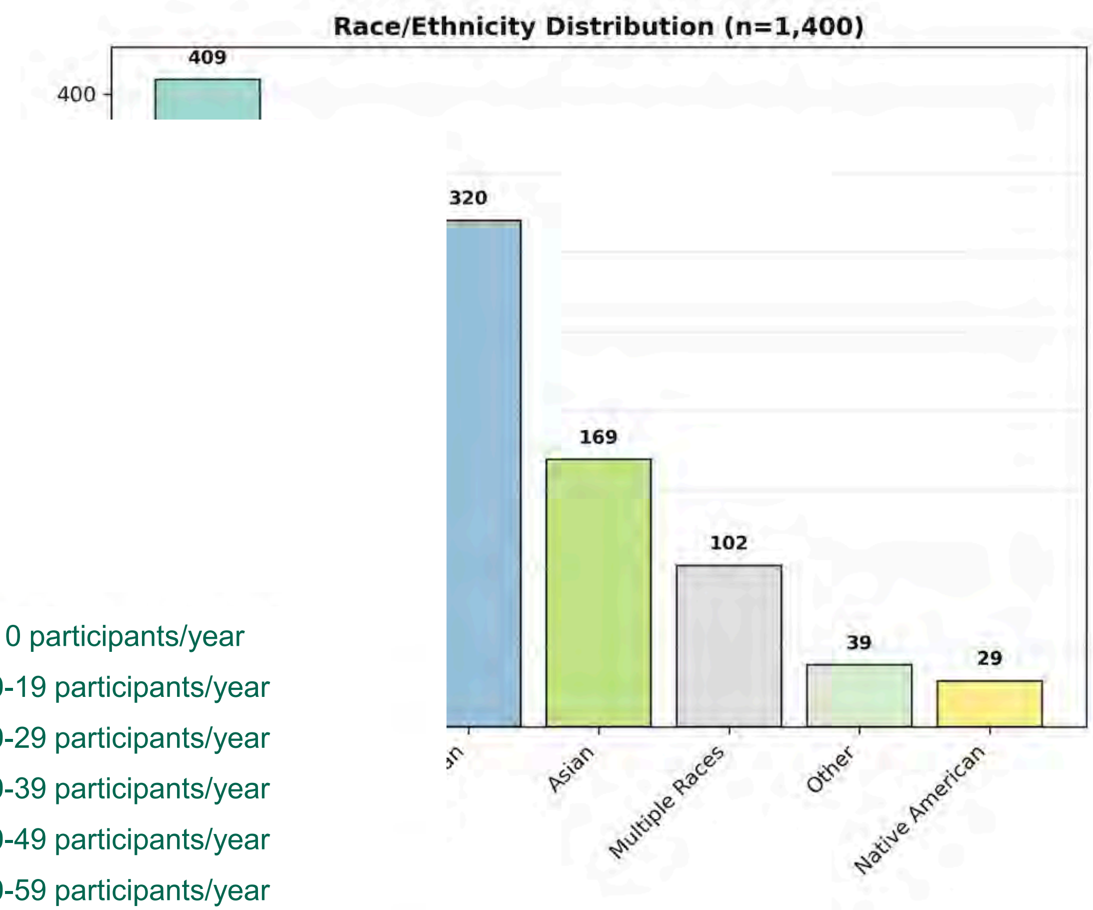
White	409
Hispanic/Latino	332
Black/African American	320
Asian	169
Multiple Races	102
Other	39
Native American	29

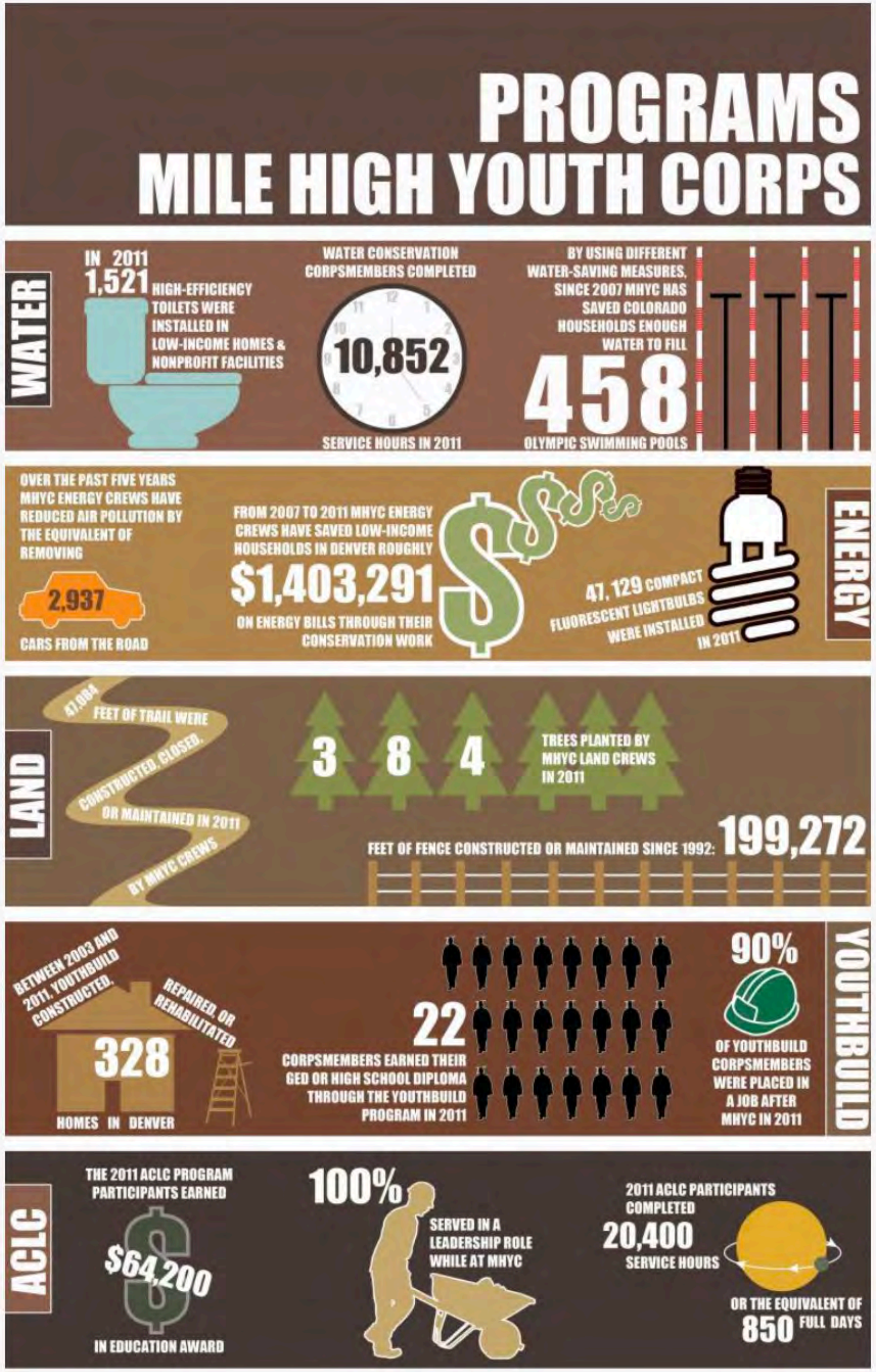

Age Distribution (n=1,400)
Number of Participants
Age
187
169
163
185
178
173
171
174
0
25
50
75
100
125
150
175
18
19
20
21
22
23
24
25

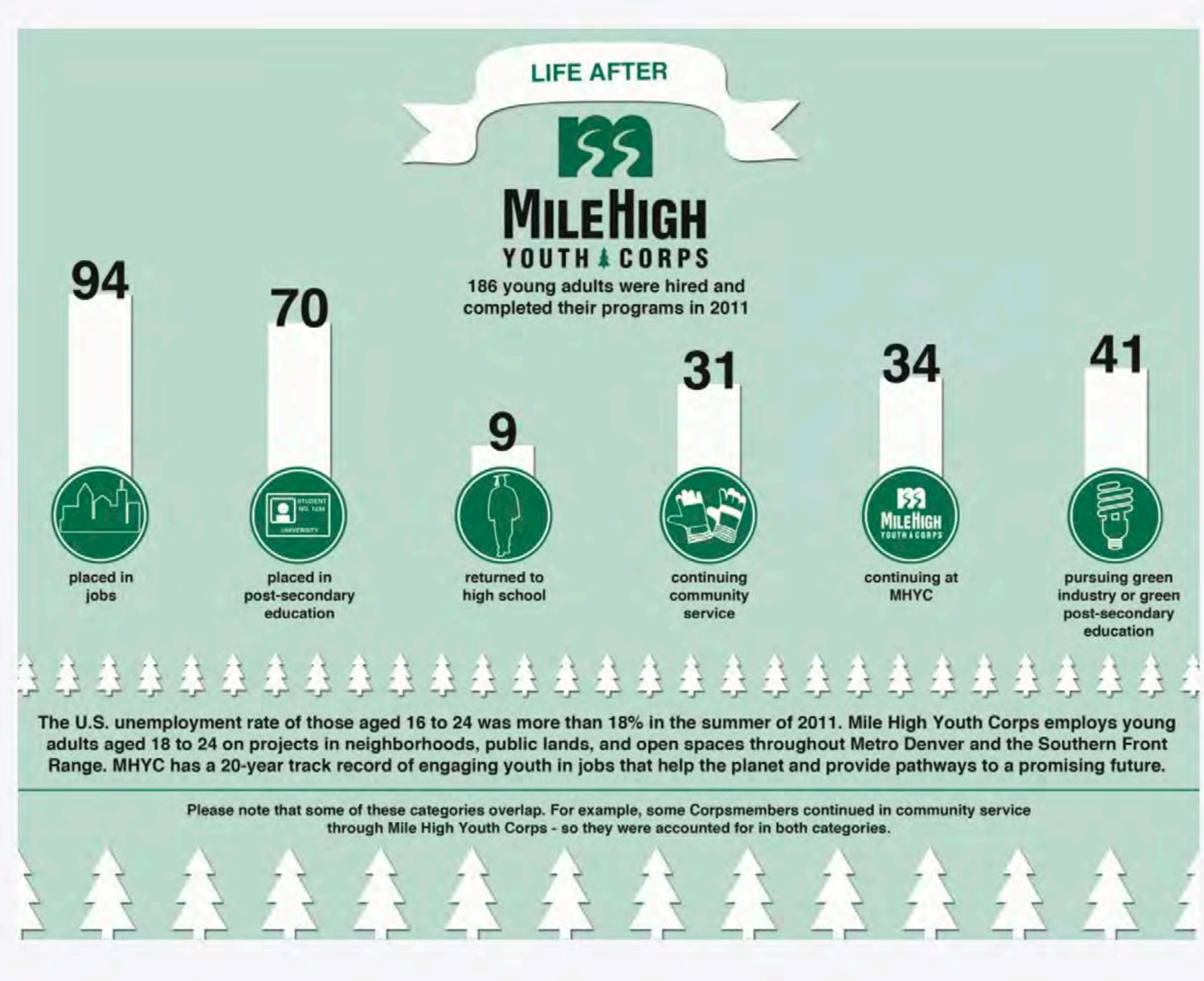

Gender Distribution (n=1,400)
Non-binary
Female
Male
4.2%
48.9%
46.9%


Household Income Bracket Distribution (n=1,400)
Over $100k
75k - 100k
50k - 75k
25k - 50k
Under $25k
130
21
0
50
100
150
200
Number of Partici


NHS
LRMHC
WCBH
RCH
CP
SMHC
MHCGM
GNMH
<10 participants/year
10-19 participants/year
20-29 participants/year
30-39 participants/year
40-49 participants/year
50-59 participants/year
60 or more participants / year


Race/Ethnicity Distribution (n=1,400)
400
409
320
169
102
39
29
Asian
Multiple Races
Other
Native American

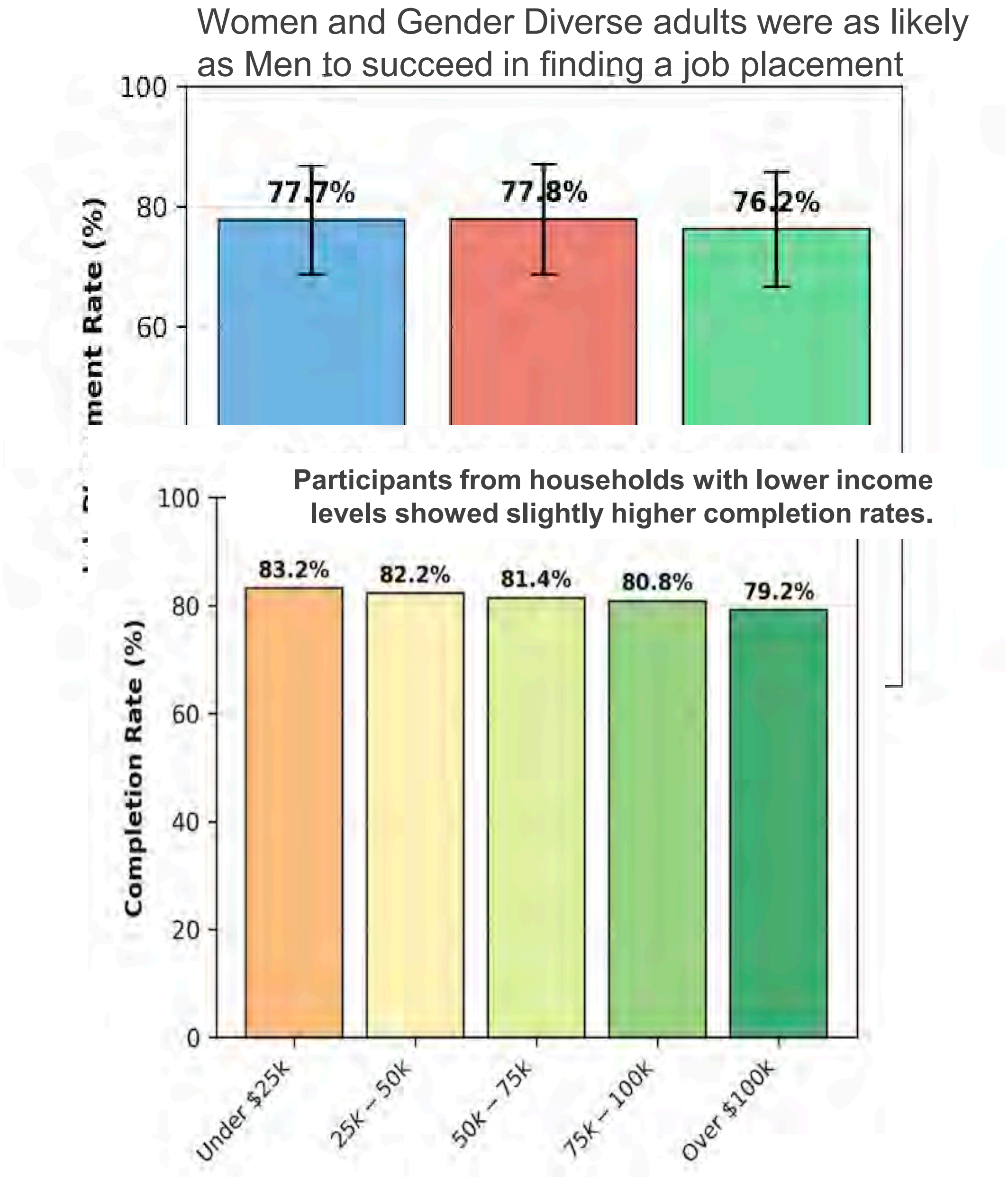




Kate Prestine, Americorps VISTA

Outcomes Data for a Grant Application

- Job placement rates
  - Region of the state (or out of state)
  - Type of job setting
- Starting Salary
- Program Completion rates
- Satisfaction ratings; Interview narratives
- If enough data, could compare outcomes by subgroup



Resources

How to build Excel dashboard: https://support.microsoft.com/en-us/office/create-and-share-a-dashboard-with-excel-and-microsoft-groups-ad92a34d-38d0-4fdd-b8b1-58379aae746e

Report layout checklist (Stephanie Evergreen): https://stephanieevergreen.com/wp-content/uploads/2011/05/ERLC.pdf

Writing executive summaries: https://stephanieevergreen.com/evaluation-executive-summaries-reports/

IES Program Evaluation Toolkit: https://ies.ed.gov/use-work/resource-library/resource/tooltoolkit/program-evaluation-toolkit

- Determining the audience
- Example summary template
- Report checklist
- Dissemination approaches

CDC guide: https://www.cdc.gov/training-development/media/pdfs/2024/04/Evaluation-Reporting-Guide.pdf

Chart choosers: https://stephanieevergreen.com/wp-content/uploads/2024/01/Qualitative-Chart-Chooser-2024.pdf

https://infoguides.gmu.edu/data-visualization/types

Data Visualization Checklist: https://stephanieevergreen.com/updated-data-visualization-checklist/

Data Visualization Tutorials: https://stephanieevergreen.com/how-to/

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Up Next

- Next session: December 18th, From Theory to Practice: Building your Evaluation Tools and Strategy
- Please submit your cases/questions and view course resources at the: DH iECHO site
- Recordings will be posted on the D-H ECHO website https://www.dartmouth-hitchcock.org/project-echo/enduring-echo-materials