NORC at the University of Chicago

How to Develop a Logic Model

AmeriCorps

Learning Objectives

By the end of this presentation, you will be able to:

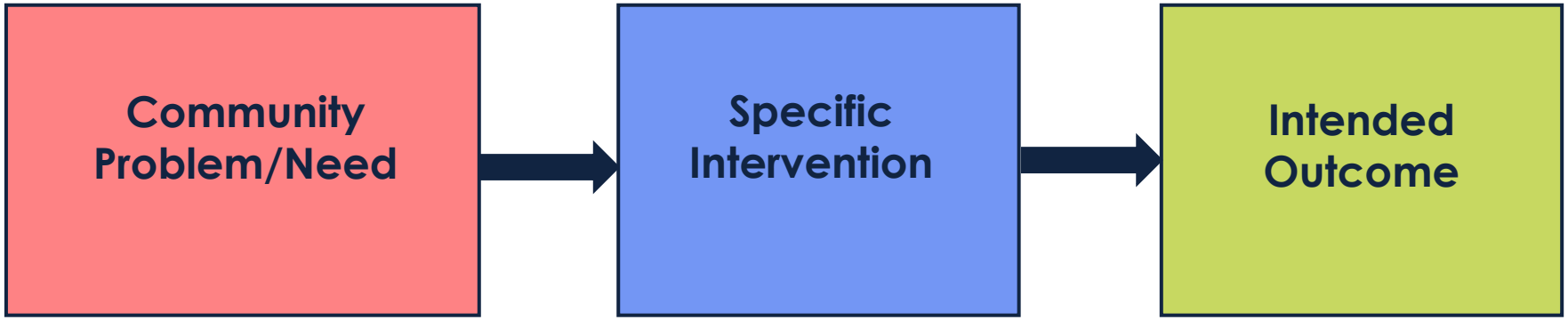
- Describe what a logic model is, and how it can be useful to your daily program operations
- Identify the key components of a logic model
- Develop a logic model for your program
- Use a logic model for evaluation planning

Overview of the Presentation

- A program's theory of change and logic model
- Uses of logic models
- Components of a logic model
- How to read a logic model
- How to develop a logic model
- How to apply logic models to evaluation

Theory of Change

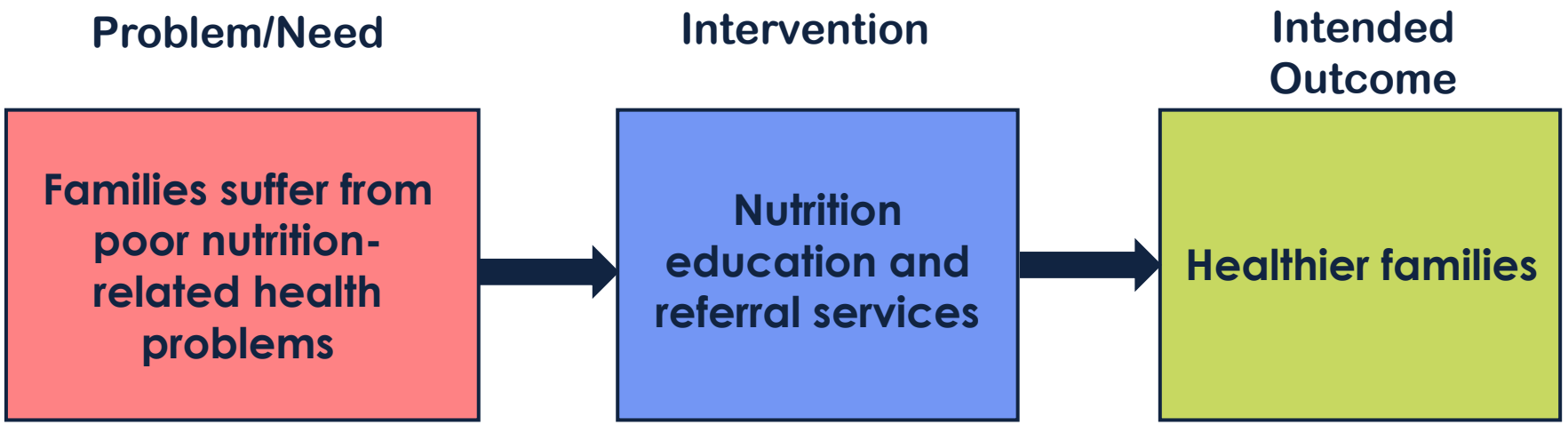
- The general underlying idea of how you believe your intervention will create change
- There are three main elements:



- For an overview of theory of change and evidence, ASN grantees can refer to the modules, "Designing Effective Action for Change".

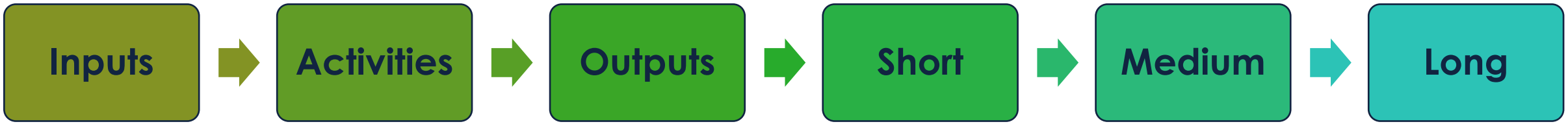
Example of a Program's Theory of Change

- Theory of change for a nutrition assistance program:



What is a Logic Model?

- A detailed visual representation of a program and its theory of change.
- Communicates how a program works by depicting the intended relationships among program components:
  - Inputs or resources
  - Activities
  - Outputs
  - Outcomes

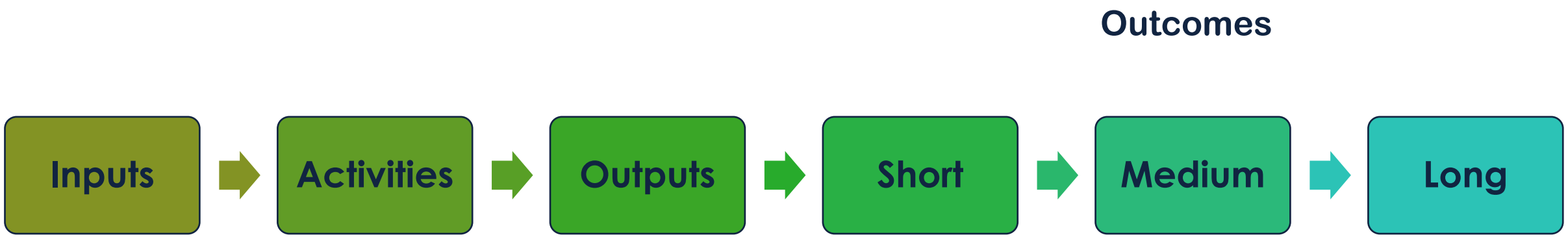


Why Develop a Logic Model?

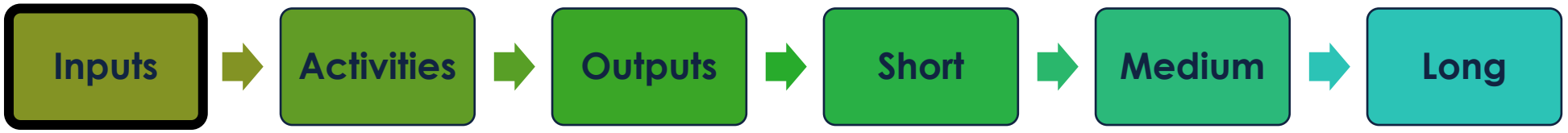
- Generate a clear and shared understanding of how a program works
- Support program planning and improvement
- **Serve as foundation for evaluation**

Key Components of a Logic Model

- Inputs or resources
- Activities
- Outputs
- Outcomes (short-, medium- and long-term)

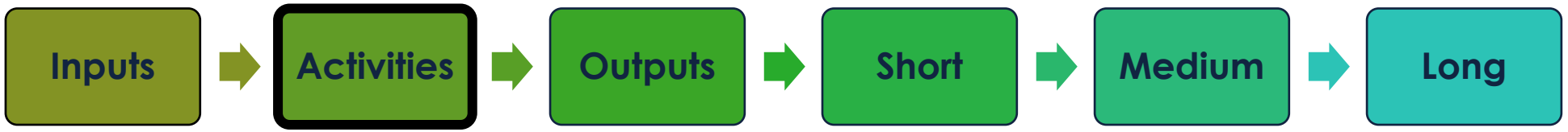


Key Components of a Logic Model



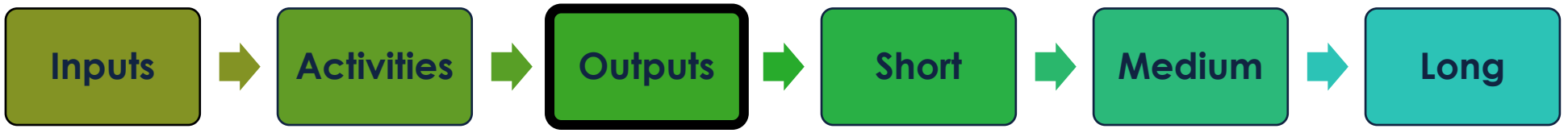
- **Inputs or resources** include the human, financial, organizational, and community resources available for carrying out a program's activities.
- Examples:
  - Funding
  - Program staff
  - AmeriCorps Seniors
  - Volunteers
  - Training
  - Research

Key Components of a Logic Model



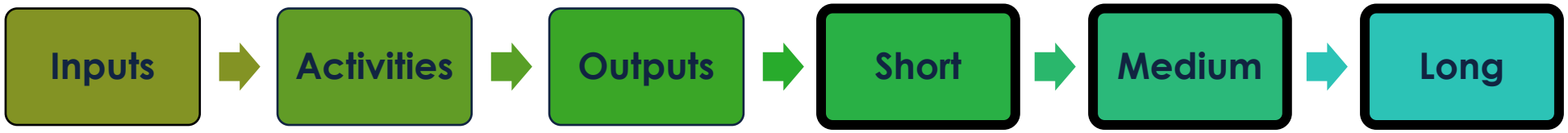
- **Activities** are the processes, tools, events, and actions that are used to bring about a program's intended changes or results.
- Examples:
  - Workshops on healthy food options
  - Food preparation counseling
  - Referrals to food programs and resources

Key Components of a Logic Model



- **Outputs** are the direct products of a program's activities and may include types, levels and targets of services to be delivered by the program.
- Examples:
  - # individuals attending workshops
  - # individuals receiving services
  - # individuals receiving referrals

Key Components of a Logic Model



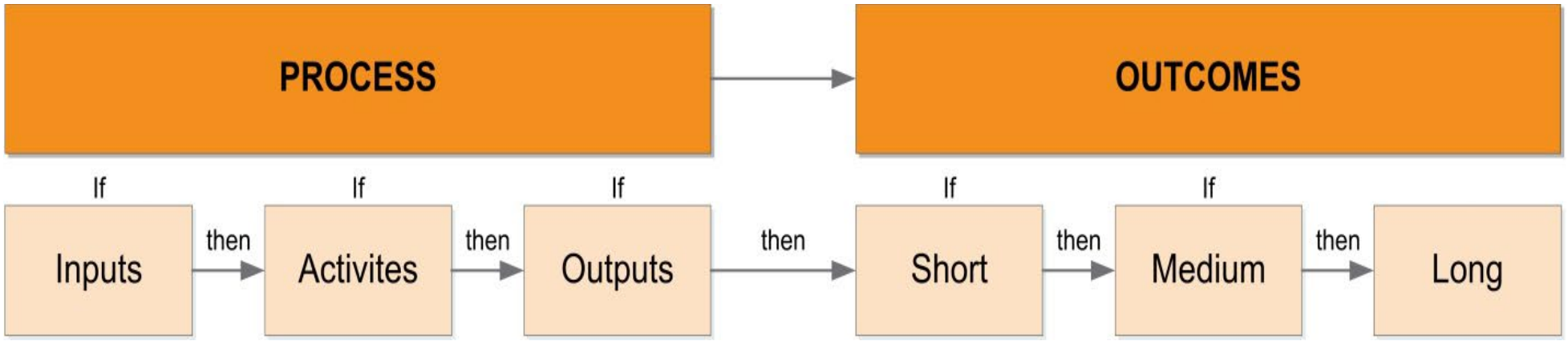
- **Outcomes** are the expected changes in the population served that result from a program's activities and fall along a continuum, ranging from short to long term results:
  - Short-term: changes in knowledge, skills, and/or attitudes (e.g., ↑ knowledge healthy choices)
  - Medium-term: changes in behavior or action (e.g., ↑ adoption of healthy food practices)
  - Long-term: changes in condition or status in life (e.g., ↑ food security)

Difference Between Outputs and Outcomes

Outputs	Outcomes
• Direct products of a program's activities/services • Often expressed numerically or quantified in some way • Examples: # attending workshops # receiving services # receiving referrals	• Changes resulting from a program's activities/services • Often expressed in terms of change in knowledge, attitude, behavior, or condition • Examples: ↑ knowledge healthy choices ↑ adoption healthy practices ↑ food security

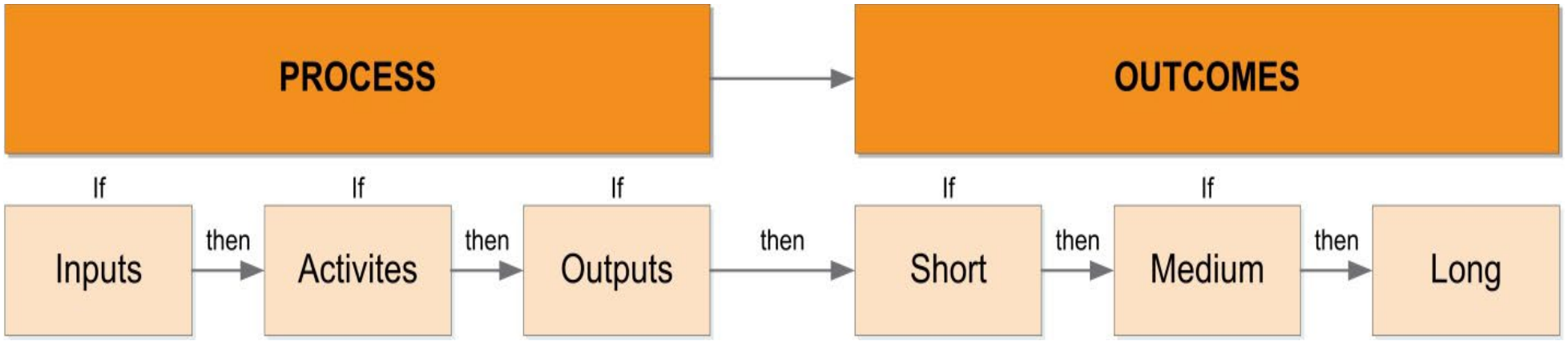
Two Major Sides to a Logic Model

- Read from left to right
- Two “sides” to a logic model - a process side and an outcomes side



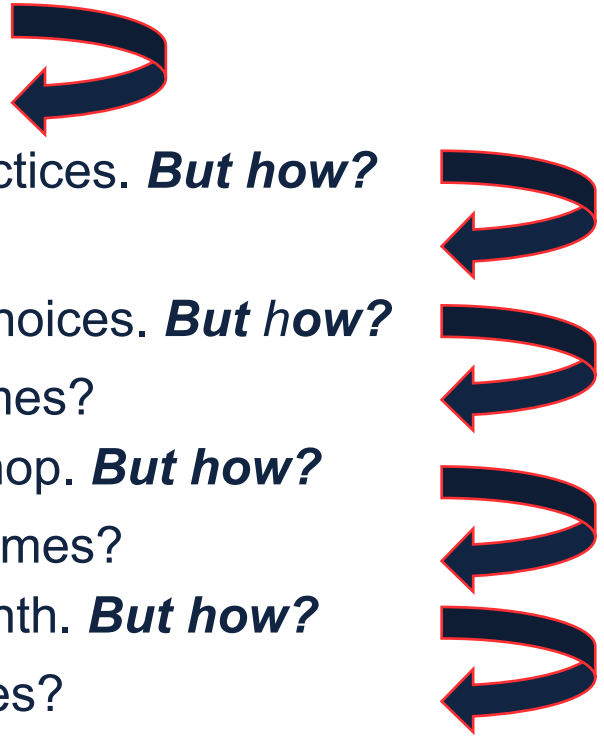
How to Develop a Logic Model

- Two main approaches are used to create a logic model:
  - Reverse logic (right to left) – asks "but how" questions
  - Forward logic (left to right) – uses "if…then" statements



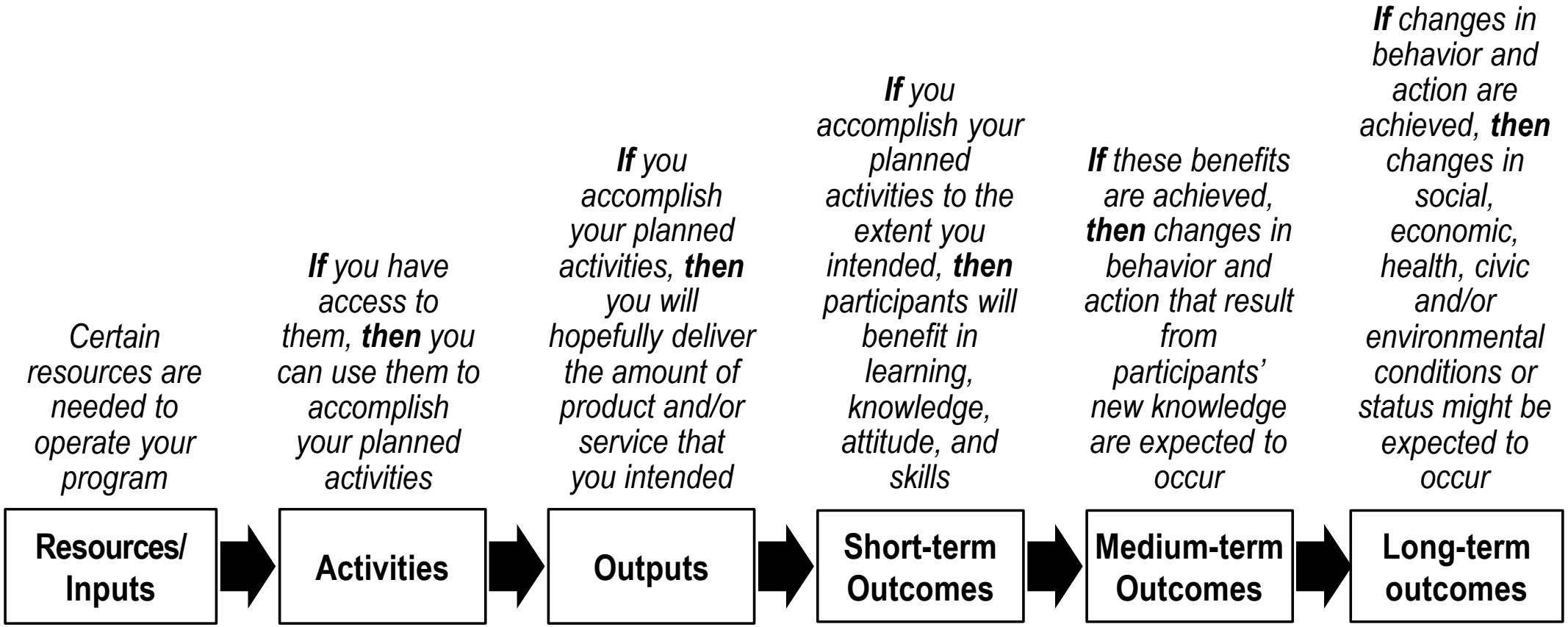
How to Create a Logic Model Using Reverse Logic – Sample Nutrition Program

- What is the desired long-term outcome?
  - Increase # of healthy families. ***But how?***
- What is the desired intermediate outcome?
  - Increase # of families using healthy food practices. ***But how?***
- What is the desired short-term outcome?
  - Individuals gain knowledge of healthy food choices. ***But how?***
- What outputs are needed to achieve the outcomes?
  - 200 families complete an educational workshop. ***But how?***
- What activities are needed to achieve the outcomes?
  - Conduct four educational workshops per month. ***But how?***
- What inputs are needed to achieve the outcomes?
  - Funding, program staff, AmeriCorps Seniors, volunteers, research.



How to Create a Logic Model Using Forward Logic – Sample Nutrition Program

- Forward logic uses **"if-then"** statements.



Source: W.K. Kellogg Foundation Evaluation Handbook (2004), Adapted

Questions to Consider as You Create a Logic Model

Component		Questions to consider
	Inputs/ Resources	What resources do you need to implement your program?
	Activities	What activities will be or are being carried out to achieve your program's desired outcomes?
	Outputs	What are the direct products of your program's activities?
Outcomes	Short-term	What changes in knowledge, skills, and/or attitudes do you expect from your program?
	Medium-term	What changes in behavior or actions do you expect from your program?
	Long-term	What changes in status or condition do you expect from your program?

Exercise: Develop a Logic Model for a Wildlife Conservation Program

Exercise #1

- **Theory of Change.** A wildlife conservation program is designed to create healthy, productive, and sustainable ecosystems for the benefit of wildlife in areas of need.

- **What might this program's logic model look like?**

Example Logic Model for a Wildlife Conservation Program

PROBLEM	INPUTS	ACTIVITIES	OUTPUTS	Outcomes		
				Short-Term	Medium-Term	Long-Term
Community problem or need	What we invest	What we do	Direct products from program activities	Changes in knowledge, skills, attitudes, opinions	Changes in behavior or action that result from participants' new knowledge	Meaningful changes, often in their condition or status in life
The presence of invasive species and waste (e.g., trash from hikers or visitors) has made it difficult for wildlife to prosper, thus resulting in the reduction of native species (plant and wildlife) and negatively affecting the area's ecosystem	Funding Staff 200 AmeriCorps State and National members 200 non-AmeriCorps volunteers Research	Conduct waste removal projects Conduct habitat development projects Conduct invasive species removal Develop habitat corridors	Plant native plant species on 30 sites Remove invasive plant species on 30 sites Remove toxic waste on 50 acres of wetlands Develop habitat corridors on 10 sites	Increase in food and clean water supply for native wildlife Increase in available shelter for native wildlife Increase in habitat connectivity Improve habitat space for native wildlife	Increase in native wildlife population sizes Increase in biodiversity	Conservation of healthy, productive, sustainable ecosystems for the benefit of wildlife

Developing a Logic Model

Exercise #2

- In each column of the logic model template, identify the following key components for your program:
  - Inputs
  - Activities
  - Outputs
  - Outcomes (short-, medium- and long-term)

Verify Your Logic Model

- Consider asking the following questions:
  - **Level of detail:** Does your model contain an appropriate amount of detail for its intended use? Does it include all key program components?
  - **Plausible:** Does the logic of the model seem correct? Are there any gaps in the logic of the program?
  - **Realistic:** Is it reasonable to assume that the program can achieve the expected outcomes?
  - **Consensus**: Do program staff and external stakeholders agree that the model accurately depicts the program and its intended results?

Performance Measurement and Program Evaluation

Performance Measurement	Program Evaluation
• Ongoing monitoring and reporting of program accomplishments and progress • Explains what level of performance is achieved by the program	• In-depth research activity conducted periodically or on an ad-hoc basis • Answers questions or tests hypotheses about program processes and/or outcomes • Used to assess whether or not a program works as expected and why (e.g., did the program cause the observed changes?)

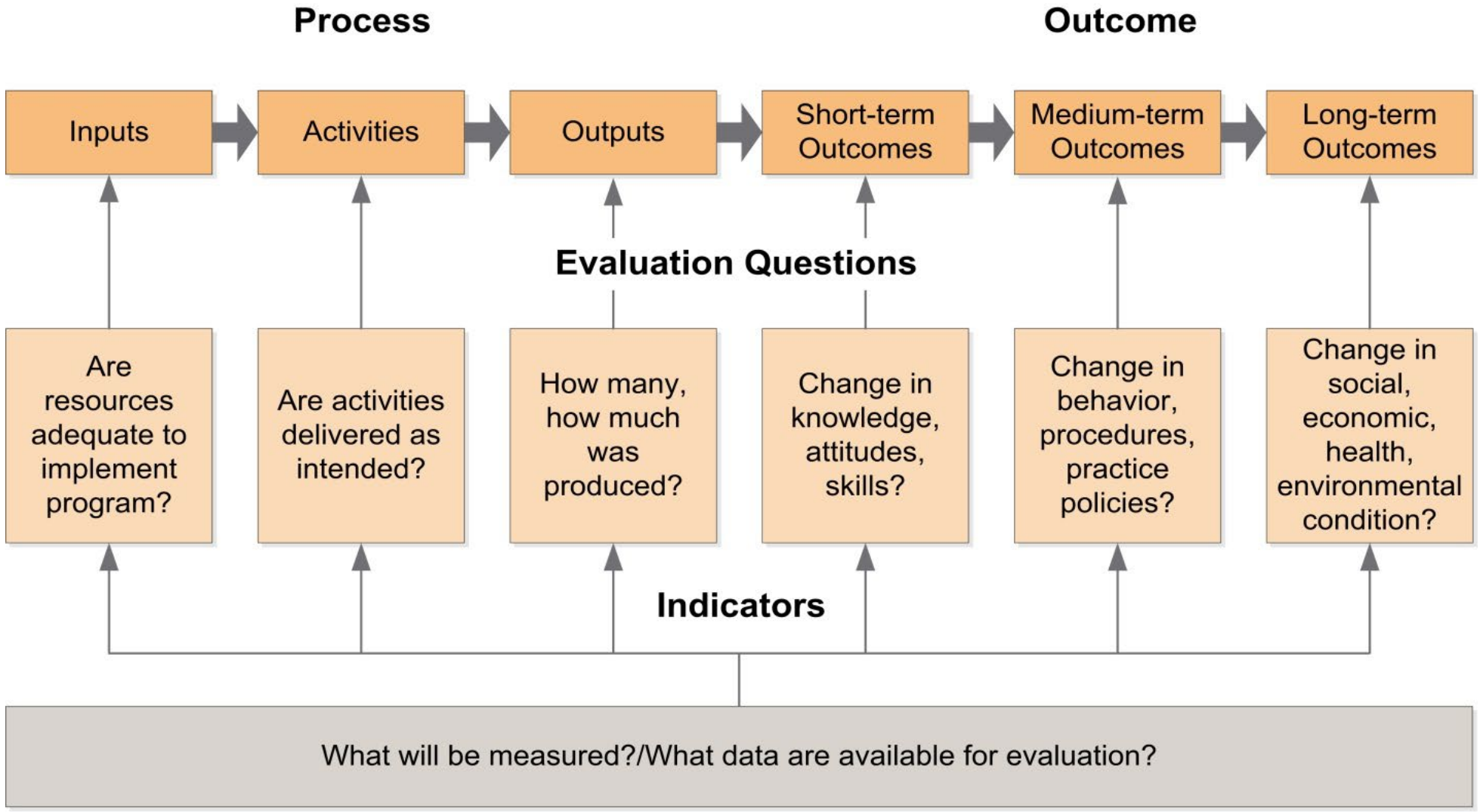
Logic Models as a Performance Measurement Tool

- A logic model can serve as a framework for planning performance measurement activities. It can help to:
  - Identify components of your program to include in performance measurement
  - Identify indicators and the measures of progress/performance that align with program components

Logic Models as an Evaluation Tool

- A logic model can serve as a framework for your evaluation plan. It can help you focus your evaluation by identifying:
  - Questions want/need answered
  - Aspects of program to evaluate
  - Type of evaluation design
  - Information to collect
  - Measures and data collection methods
  - Evaluation timeframe

Determining What to Evaluate



Determining What to Evaluate – Sample Nutrition Program

	Process			Outcomes		
PROBLEM	INPUTS	ACTIVITIES	OUTPUTS	Outcomes		
				Short-Term	Medium-Term	Long-Term
Families suffer from poor nutrition-related health problems and there is limited services available to better educate families and individuals on the importance of integrating healthy foods into their diets.	Funding Staff 200 AmeriCorps State and National members Research	Conduct educational workshops Provide nutrition and food prep counseling Provide referrals to food programs and resources	# individuals receiving education # individuals receiving services # individuals receiving referrals	Increased knowledge of healthy food choices Improved attitudes about healthy eating Improved skill in preparation of healthy foods Increased knowledge of food programs and community food resources	Increased adoption of healthy food practices Increased access to more food options	Families are healthier Increased household food security

Determining What to Evaluate – Sample Nutrition Program

Process

Outcomes

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Examples of Outcome Measures and Data Sources

	Outcomes		
	Short-Term	**Medium-Term**	**Long-Term**
Outcomes	Increased knowledge of healthy food choices	Increased access to more food options	Families are healthier
Measure	% ↑ individuals demonstrating greater understanding of benefits of good nutrition	% ↑ individuals enrolled in food assistance programs	% ↓risk factors for nutrition related problems and chronic diseases
Data Source	Pre/post surveys of beneficiaries and a matched comparison group of non-beneficiaries	Administrative data records	Pre/post health records of beneficiaries and a matched comparison group of non-beneficiaries

Final Thoughts on Logic Models

- Developing a logic model is not completed in one session or alone.
- There is no one best logic model or model development process.
- Logic models represent intention.
- A program logic model can change and be refined as the program changes and develops.
- Logic models play a critical role in building the evidence base for a program.

Resources for Logic Model Development

- **AmeriCorps Evaluation Resources page (Logic Model Course, and other evaluation topics)**
  - https://americorps.gov/grantees-sponsors/evaluation-resources

- **W.K. Kellogg Foundation Logic Model Development Guide**
  - http://www.wkkf.org/resource-directory/resource/2006/02/wk-kellogg-foundation-logic-model-development-guide

- **Innovation Network Logic Model Workbook**
  - https://innonet.org/media/logic_model_workbook_0.pdf

Thank you!

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