

NCEI's Approach to Performance Measurement

June 4, 2004

Presented to:

SBO/SBAA Participants

Presented by:

Evaluation Support Division,
U.S. EPA's National Center for
Environmental Innovation

Presentation Overview

- ◆ Brief intro & history of performance measurement at NCEI
- ◆ Performance measurement terminology
- ◆ Logic model approach to performance measurement
- ◆ Logic model group exercise
- ◆ Developing performance measures

Why We Do Performance Measurement

- ◆ Ensure program goals and objectives are being met
- ◆ Identify what works well, what does not, and why
- ◆ Identify program areas that need improvement
- ◆ Inform management decisions regarding the program, and attract additional investment in successful programs
- ◆ Inform environmental guidance and develop future policy related to a specific project, program or issue
- ◆ Communicate a program's value to various stakeholders

Government Drivers of Performance Measurement

- ◆ GPRA requires EPA to report progress towards achieving our strategic & annual goals
- ◆ NCEI's Strategic Plan Objectives and Targets
- ◆ OMB's Program Rating Assessment Tool (PART) emphasizes the use of performance measures and program evaluation to determine if programs are effective and achieving results

Recent History of Performance Measurement at NCEI

- ◆ Developed Draft NCEI Performance Measurement Action Plan (Summer 2003)
 - PM efforts at various stages of development across NCEI
 - Identified several areas for improvement
- ◆ Convened NCEI PM Team (Fall 2003)
 - Purpose: Develop implementation plan to improve measurement across NCEI
 - Decided upon workshop approach to address needs across NCEI

Performance Measurement Workshop Approach

- ◆ Incorporates a logic modeling approach to performance measurement
- ◆ Workshop series will establish a common vocabulary and understanding of performance measurement at EPA, and provide NCEI with the tools to develop best practices
- ◆ Recognizes that an understanding & involvement in performance measurement is critical for all NCEI staff and management

Workshop Design

- ◆ Focus on step-by-step approach and tangible outputs
- ◆ Workshop series will help NCEI Divisions:
 - Develop Logic Models (LM) of NCEI programs
 - Identify feasible and priority Performance Measures for various activities and steps in the LMs (taking data availability and resources into account)
 - Outline strategic, yet realistic, Data Collection and Analysis Plans
 - Develop Performance Reporting and Communication Plans

Benefits of Workshop Approach

- ◆ Allows for flexibility in participation of appropriate programs, recognizing that different divisions are at different stages in PM development and implementation
- ◆ At the end of the series, all NCEI divisions and major programs will have developed PMs and PM action plans, bringing all the parts of NCEI closer to the same stage in the PM spectrum
- ◆ All divisions and major programs will be better positioned to evaluate their programs and respond to GPRA, OMB's Program Assessment Rating Tool (PART), and other PM related drivers

NCEI's Logic Modeling Approach to Performance Measurement

- ◆ Building a Common Understanding
 - *Definitions and perspectives*
- ◆ Describing the Program/Project
- ◆ Developing Performance Measures



Module 1:

Building a Common Understanding of Performance Measurement

Definitions

- ◆ Performance measure – metric used to gauge program/project performance.
- ◆ Performance measurement – “the ongoing monitoring and reporting of program accomplishments, particularly progress towards pre-established goals.”
- ◆ Indicator - measurements that track environmental conditions over time. Indicators help measure the state of our air, water and land resources, the pressures on them, and the resulting effects on ecological and human health.

Uses of Performance Information

- ◆ Provide an unbiased way to assess performance.
- ◆ Assess allocation of resources to support activities.
- ◆ Set program priorities.
- ◆ Assess whether program/project goals are being met.
- ◆ Provide information for policy/project decision-making.

Uses of Performance Information (Cont'd)

- ◆ Adopt new program/project approaches or changing work processes.
- ◆ Coordinate program/project efforts with other internal or external programs/organizations.
- ◆ Set new or revise existing performance goals/objectives.
- ◆ Provide information needed to conduct an evaluation.

Types of Performance Measures

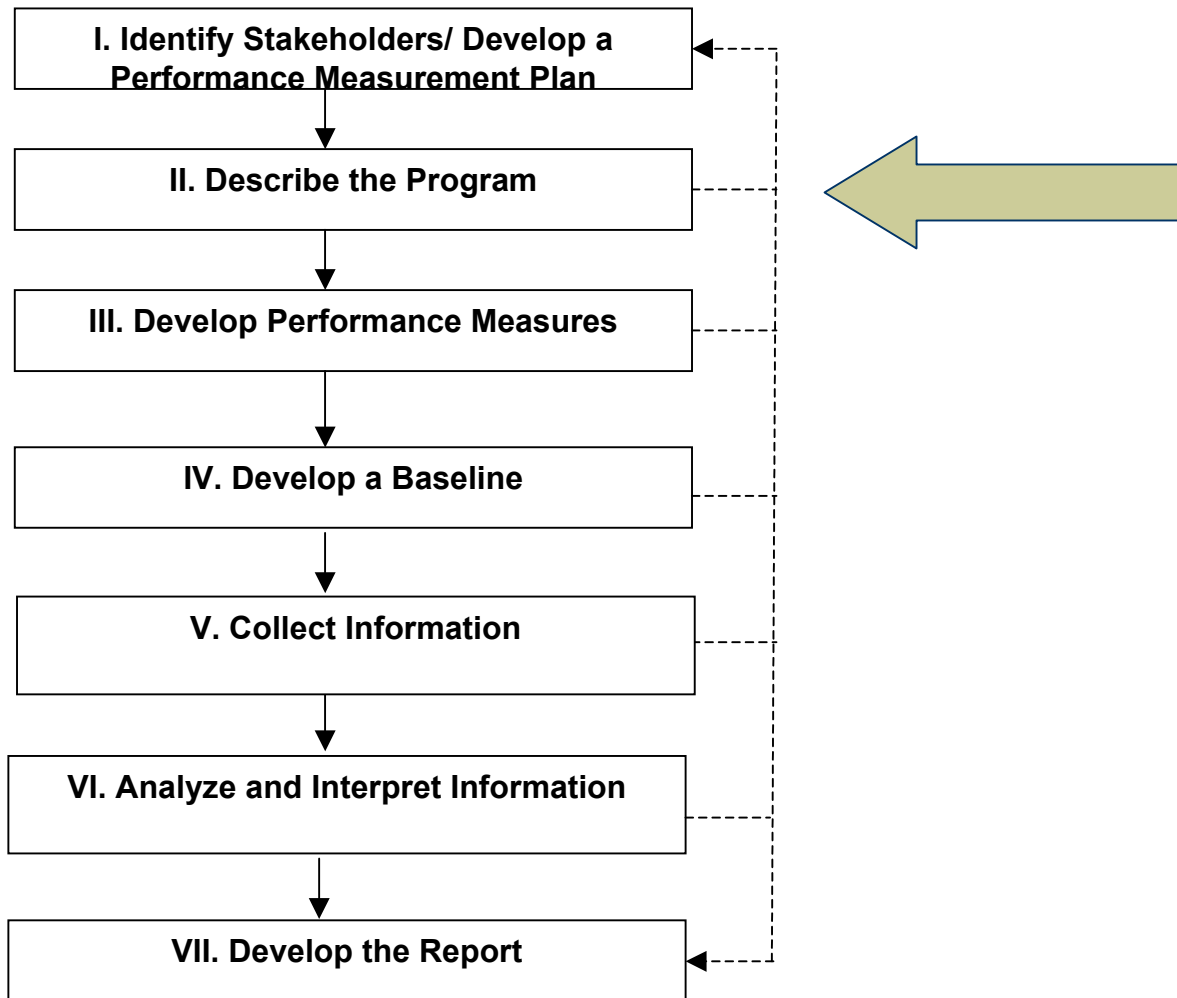
Category	Definition	Examples
Inputs	Resources consumed by the organization.	Funds, FTE, materials, equipment, supplies (etc.)
Activities	The work performed by the grantee that directly produces the core products and services.	Amount of training given, technical assistance provided, inspections conducted.
Outputs	Products and services provided as a direct result of program activities.	Number of compliance workbooks or materials developed.
Efficiency	The ratio of the amount of input to the amount of outcome (output).	Cost of the program per amount of pollutants reduced.
Outcomes	Accomplishment of program objectives; attributable to program outputs.	Improvement in watershed's chemical, physical and biological attributes. Improvement in community public health.
Impacts	The degree to which broad strategic objectives are achieved.	Safe and clean water.



Module 2:

Describing the Program/Project

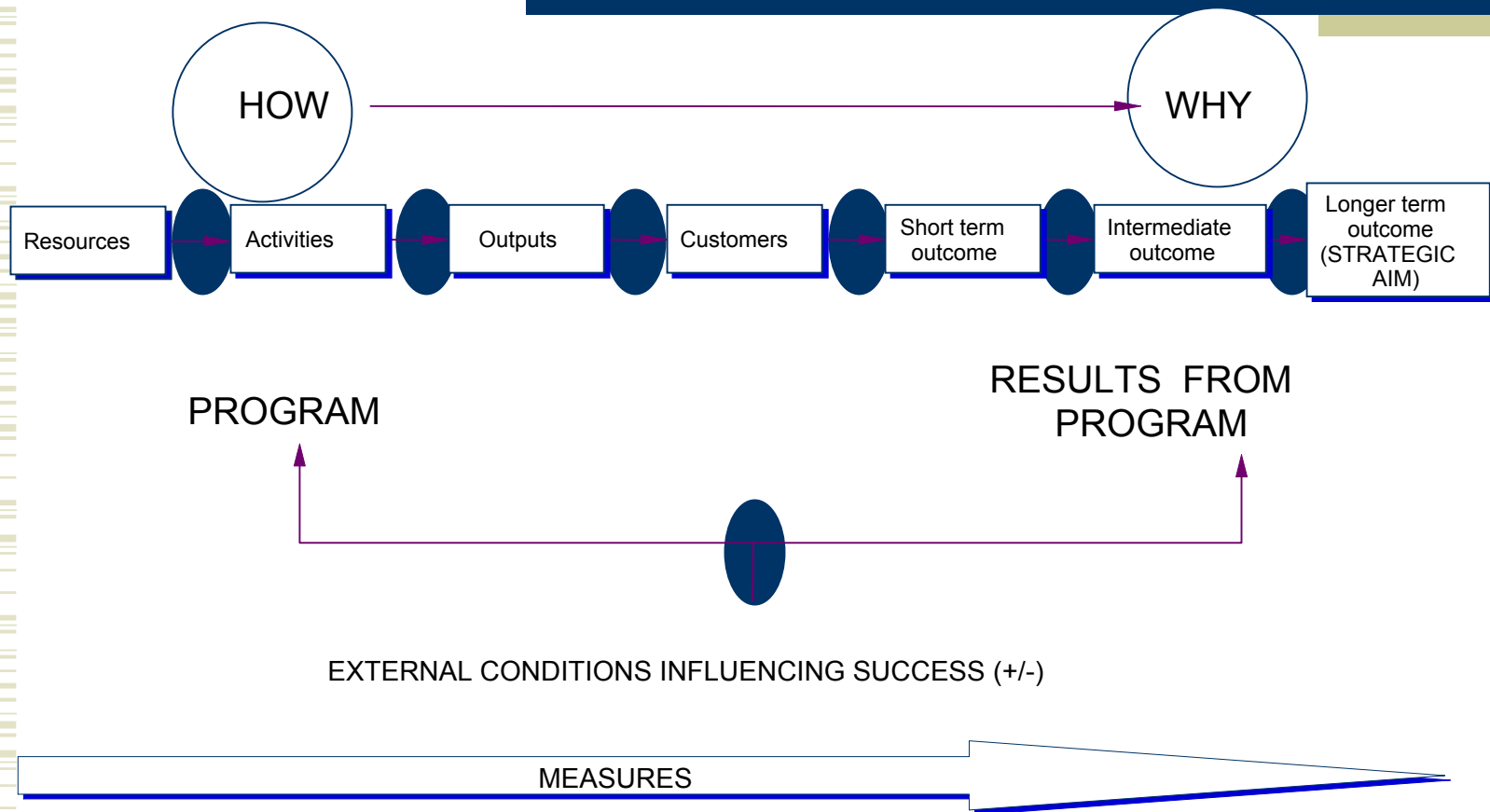
Performance Measurement Framework



Caution

- ◆ Why initiatives run into trouble –
 - Lack of well articulated, research-based, experience-based theory or road map.
 - Failure to follow the road map during the trip!

A logic model is a diagram and text that describes/illustrates the logical (causal) relationships among program elements and the problem to be solved, thus defining measurements of success.



Benefits of Logic Modeling

- ◆ Communicates the performance story of the program /project
- ◆ Focuses attention on the most important connections between actions and results
- ◆ Builds a common understanding among staff and with stakeholders
- ◆ Helps staff “manage for results” and informs program design
- ◆ Finds “gaps” in the logic of a program and work to resolve them

Steps in the Logic Model Process

1. Establish a stakeholder work group and collect documents.
2. Define the problem and context for the program/project.
3. Define elements of the Logic in a table.
4. Develop a diagram and text describing logical relationships.
5. Verify the Logic with stakeholders.

Then use the Logic Model to confirm performance measures, and in planning and evaluation.

Step 1. Establish a stakeholder work group and collect documents and information.

Convene/consult a stakeholder work group

- ◆ provides different perspectives and knowledge
- ◆ attempts agreement on performance expectations

Review sources of program/project documentation

- ◆ Strategic and operational plans
- ◆ Budget requests
- ◆ Current metrics
- ◆ Past evaluations

Conduct interviews of appropriate staff

Step 2. Define the problem that the program/project addresses

Describe :

The
Program/
Project



Describe :

The
Problem
the
Program/
Project
Addresses

Step 3. Define the elements of the program/project in a table.

WHAT and WHY

- HOW -

WHO

Outcomes

Resources/ Inputs	Activities	Outputs	Customers Reached	Short-term <i>(Changes in Attitude)</i>	Intermediate <i>(Changes in Behavior)</i>	Long-term <i>(Changes in Condition)</i>

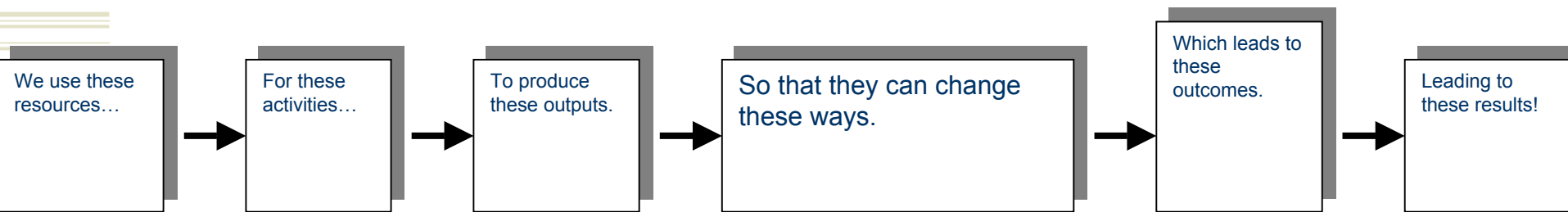
External Influences:

Elements of the Logic Model

1. **Resources/Inputs:** Programmatic investments available to support the program.
2. **Activities:** Things you do— activities you plan to conduct in your program.
3. **Outputs:** Product or service delivery/implementation targets you aim to produce.
4. **Customer:** User of the products/services. Target audience the program is designed to reach.
5. **Outcomes:** Changes or benefits resulting from activities and outputs.
 - Short-term – Changes in learning, knowledge, attitude, skills
 - Intermediate – Changes in behavior, practice or decisions
 - Long-term – Changes in condition
6. **External Influences:** Factors that will influence change in the affected community.

Step 4. Develop a diagram and text describing logical relationships

- ◆ Draw arrows to indicate/link the causal relationships between the logic model elements.



- Limit the number of arrows. Show only the most critical feedback loops.
- There are many different forms of logic model diagrams.

Step 5. Verify Logic with Stakeholders

- ◆ Seek review from the same, or an even broader, group of stakeholders.
- ◆ Check the logic - again
 - How-Why Questions. Start with Outcomes and ask “How?” Start at Activities, ask “Why?”
 - If-Then Questions. Start at Activities and move along to Outcomes asking “If this, then that?”
- ◆ Compare to what units in the organization do and define their contributions to the outcomes.
- ◆ Check the logic by checking it against reality.



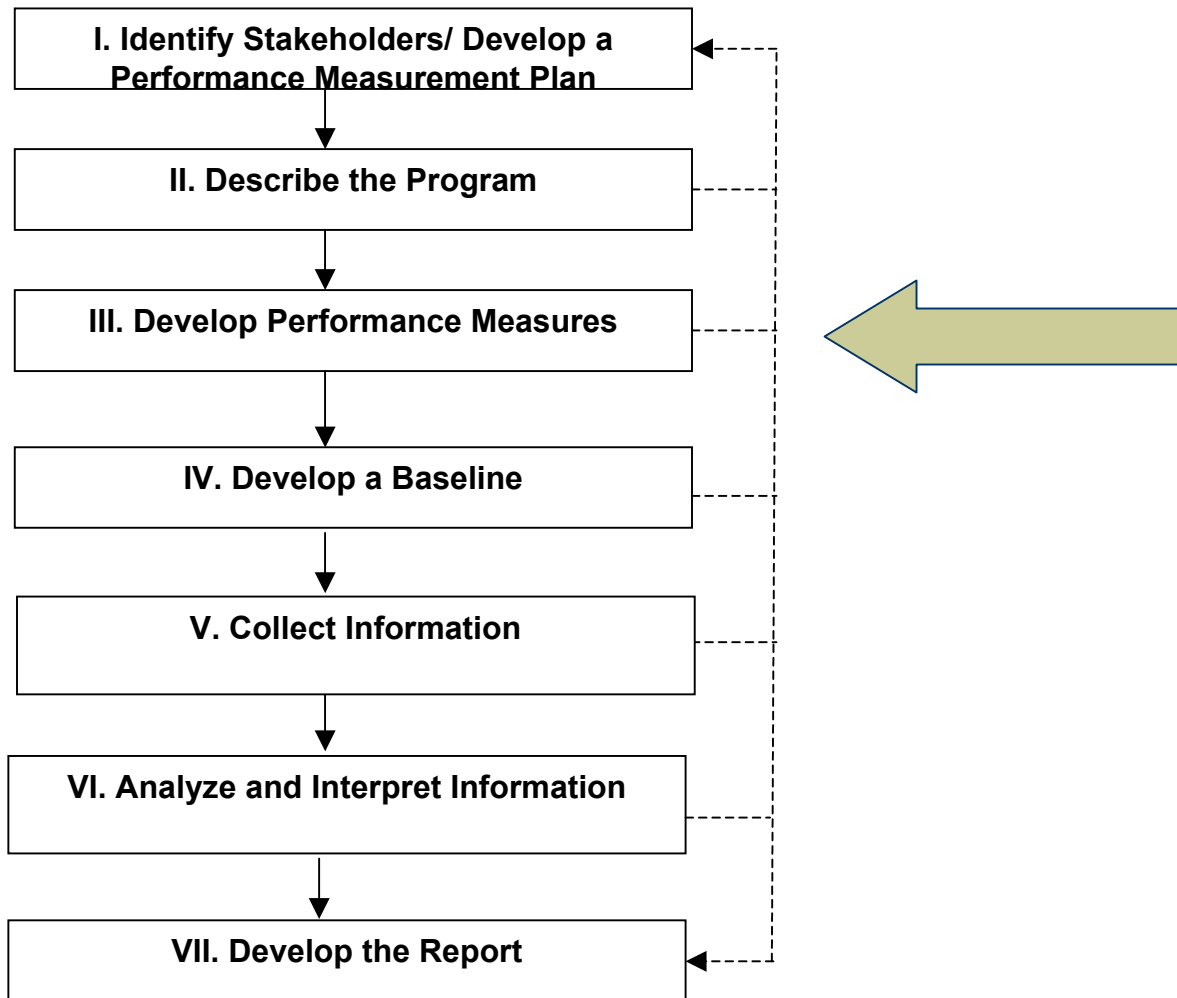
Logic Modeling Exercise

Brief application of logic modeling

Goals: Protect public health, safety, and the environment from the risks associated with using toxic chemicals and generating hazardous waste; improve regulatory compliance; and reduce management and disposal costs.

Activities	Outputs	Customer	Knowledge Outcomes	Behavioral Outcomes	Environmental Outcomes
<ul style="list-style-type: none"> Assist with preparation and implementation of Reduction Plans and meeting regulatory requirements through site visits and follow-up visits, training seminars and workshops, fielded phone calls, educational materials, etc. 	<ul style="list-style-type: none"> Site visits and follow-up visits Recommendations Training seminars and workshops Published information and outreach materials Type of fielded phone calls 	<ul style="list-style-type: none"> Large Quantity Generators of hazardous waste Small Quantity Generators of hazardous waste Conditionally-Exempts Generators of hazardous waste Reporters to the Toxic Release Inventory 	<ul style="list-style-type: none"> Regulated entities increase understanding of regulations and what it will take to achieve regulatory compliance Regulated entities increase understanding of “beyond compliance” options 	<ul style="list-style-type: none"> Regulated entities implement Reduction Plan recommendations Coordination increases between trade associations, local colleges, regulated entities, and local governments Regulated entities more safely manage hazardous waste and toxic chemicals during storage and transportation 	<ul style="list-style-type: none"> Regulated entities use fewer toxic chemicals and generate less hazardous waste Regulated entities safely dispose of toxic chemicals and hazardous waste Regulated entities reduce the severity of toxic and hazardous spills
<p>Resources (FY 03)</p>	<ul style="list-style-type: none"> Public meetings 				
<ul style="list-style-type: none"> 6.6 FTE \$ 0.52 million 					

Performance Measurement Framework





Module 3:

Developing Performance Measures

Steps for Developing Performance Measures

1. Review the logic model -- activities, outputs, and outcomes from across the performance spectrum.
2. Review the goals and objectives of the project developed.
3. Consider/ask what information is needed to assess whether your program/project is meeting its goals and objectives.
4. Brainstorm/generate a list of potential measures.

Performance Measure Components

A Performance Measure has three components:

1. Baseline - current state
2. Target – desired level of performance
3. Timeline- date when performance will be achieved and measured

Example Performance Measure:

- Intermediate (Behavioral) Outcome:
Facilities implement compliance-related recommendations
- Performance measure:
80% of compliance-related recommendations are implemented by facilities within 6 months of site visit or consultation

Basic Steps Cont'd

5. Assess the value of the measures in relation to the goals and objectives.
6. Assess feasibility of the measure in terms of data collection, analysis and reporting.
7. Select final list of measures – you won't be able to collect data for all measures.
8. Final check-in with mgmt & stakeholders.
9. Identify the standard/baseline that will be used to assess the information (e.g., Target level of performance)?

More Information?

- ◆ EPA's Evaluation Support Division website:
 - Information and links to other resources on program evaluation, logic modeling, and performance measurement
 - <http://www.epa.gov/evaluate/>