This brief provides a definition of policy evaluation, including a description of the evaluation framework used and a definition of policy. It also presents information about the general value and potential challenges of conducting policy evaluation.

Defining Policy

The CDC definition of "Policy" is "a law, regulation, procedure, administrative action, incentive or voluntary practice of governments and other institutions."[1] Policies generally operate at the systems level and can influence complex systems in ways that can improve the health and safety of a population. A policy approach can be a cost-effective way to create positive changes in the health of large portions of the population. There are several types of policy, each of which can operate at different levels (national, state, local, or organizational)[2] *Legislative* policies are laws or ordinances created by elected representatives. *Regulatory* policies include rules, guidelines, principles, or methods created by government agencies with regulatory authority for products or services. *Organizational* policies include rules or practices established within an agency or organization.

> "Policy evaluation uses a range of research methods to systematically investigate the effectiveness of policy interventions, implementation and processes, and to determine their merit, worth, or value in terms of improving the social and economic conditions of different stakeholders."[3]

What Is Policy Evaluation?

Policy evaluation applies evaluation principles and methods to examine the content, implementation or impact of a policy. Evaluation is the activity through which we develop an understanding of the merit, worth, and utility of a policy.

Figure 1. Steps in the CDC Framework for Evaluation in Public Health[4]
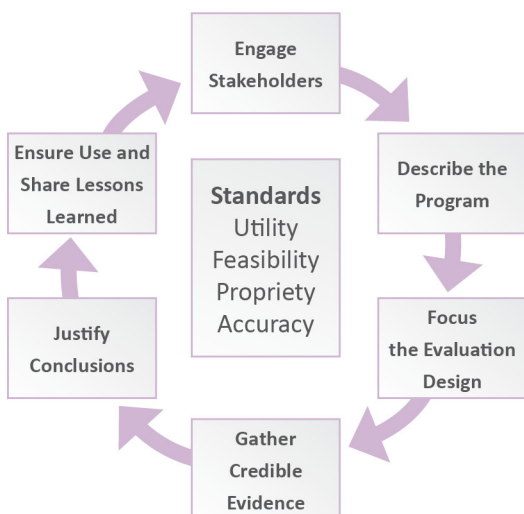
CDC Evaluation Framework

While there are a variety of different approaches to evaluation, this set of briefs utilize the six-step CDC Framework for Evaluation in Public Health, as shown in **Figure 1**.[4]

The Framework outlines an ongoing process comprising six steps of program evaluation.[2] These six steps are also applicable to policy evaluation and provide a guide for implementing a thorough evaluation. The remaining briefs each discuss the implementation of one or more of these steps. **Figure 2** illustrates which steps are discussed in each brief.

Briefs 2, 6, and 7 discuss the steps as they apply to all types of policy evaluation, whereas Briefs 3, 4, and 5 discuss Step 3 (focusing the evaluation design) as it applies to the specific types of policy evaluation.

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1 CDC, Office of the Associate Director for Policy. (2011). Definition of policy. PDF available upon request; please contact ADpolicy@cdc.gov

2 CDC, Office of the Associate Director for Policy. (2011). Definition of policy. PDF available upon request; please contact ADpolicy@cdc.gov

3 Her Majesty's Treasury. (2011). The magenta book: Guidance for evaluation. London, UK: Author. Retrieved from http://www.hm-treasury.gov.uk/data_magentabook_index.htm

4 CDC, Office of the Associate Director for Program. (2012, September). A framework for program evaluation. Retrieved from http://www.cdc.gov/eval/framework/index.htm

Figure 2. The Briefs in Relation to the Steps in the CDC Evaluation Framework

	(1) Engaging Stakeholders	(2) Describing the Program or Policy	(3) Focusing the Evaluation	(4) Gather Credible Evidence	(5) Justify Conclusions	(6) Ensure Use and Lessons Learned
Brief 2	•	•	•			
Brief 3	•	•	•			
Brief 4	•	•	•			
Brief 5	•	•	•			
Brief 6				•	•	
Brief 7						•

Standards for Conducting Evaluation

The Framework also includes the following four categories of standards for conducting evaluation to help guide choices along the process:

- **Utility:** Who wants the evaluation results and for what purpose?
- **Feasibility:** Are the evaluation procedures practical, given the time, resources, and expertise available?
- **Propriety:** Is the evaluation being conducted in a fair and ethical way?
- **Accuracy:** Are approaches at each step accurate, given stakeholder needs and evaluation purpose?

Policy Evaluation Versus Program Evaluation

Although policy evaluation and program evaluation have many similarities, there are some important differences as well. Some of these differences include:

- The level of analysis required (e.g., system or community level for policy evaluation; program level for program evaluation).
- The degree of control and clear "boundaries" may be more challenging with policy evaluation.
- The ability to identify an equivalent comparison community may be more challenging with policy evaluation.
- The scale and scope of data collection may be greater with policy evaluation.
- Policy evaluation may require increased emphasis on the use of surveillance and administrative data.
- The type and number of stakeholders involved may differ.

Why Is Policy Evaluation Important?

Developing and implementing policy strategies is important in addressing injury and violence prevention at the population level. Although policy has been used effectively in some areas of injury and violence prevention,

policy strategies in some areas lack a sufficient evidence base. Policy evaluation, like all evaluation, can serve important purposes along the entire chain of the policy process, including[1]:

- Documenting policy development.
- Documenting and informing implementation.
- Assessing support and compliance with existing policies.
- Demonstrating impacts and value of a policy.
- Informing an evidence base.
- Informing future policies.
- Providing accountability for resources invested.

Evaluation Within the Policy Process

It is important to understand how policy evaluation fits into the larger policy process. Understanding this context provides an increased understanding of why policy evaluation is critical to advancing the field of policy. Although there are many theories regarding the policy process and mechanisms of policy change, the policy change process is often conceptualized in several key stages as depicted on the top row of **Figure 3**.[2] Evaluation is an integral part of each step in the policy process. Although these steps are laid out in a row, in reality, the steps are circular in nature. The three main types of evaluation, shown in the bottom row of **Figure 3**, each focus on a different phase of the policy process[5]: policy content evaluation, policy implementation evaluation, and policy impact evaluation. **Figure 3** illustrates the relationship between the main stages of the policy process and the three types of evaluation.
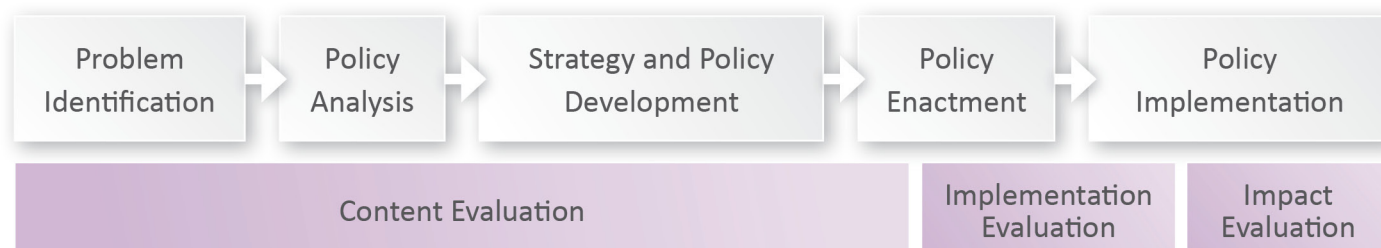
- **Evaluating Policy Content:** Does the content clearly articulate the goals of the policy, its implementation and the underlying logic for why the policy will produce intended change? Evaluating the development of a policy helps to understand the context, content, and implementation.

- **Evaluating Policy Implementation:** Was the policy implemented as intended? The implementation of a policy is a critical component in understanding its effectiveness. Evaluation of policy implementation can provide important information about the barriers to and facilitators of implementation and a comparison between different components or intensities of implementation.

- **Evaluating Policy Impact:** Did the policy produce the intended outcomes and impact? Within injury prevention, the intended impact may be a reduction in injuries or severity of injuries. However, it is important to evaluate short-term and intermediate outcomes as well.

The type of evaluation selected depends on many factors, and often more than one type of evaluation will be needed. Each type of evaluation can provide valuable information for the planning and interpretation of the other types of evaluation (content, implementation, and impact) in addition to uncovering unintentional consequences.[6] However, it is critical for each evaluation to be focused so the most appropriate design and methodology is selected.[1] The team can develop an overarching set of evaluation questions and then select specific evaluation questions and methods for each particular phase. **Appendix A** and **Appendix B** provide examples of the planning, implementation, and dissemination of a policy evaluation.

5   Brownson, R. C., Royer, C., Chriqui, J. F., & Stamatakis, K. A. (2009). Understanding evidence-based public health policy. American Journal of Public Health, 99, 1576–1583.

6   MacDonald, G., Starr, G., Schooley, M., Yee, S. L., Klimowksi, K., & Turner, K. (2001). Introduction to program evaluation for comprehensive tobacco control programs. Atlanta, GA: Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/tobacco/tobacco_control_programs/surveillance_evaluation/evaluation_manual/pdfs/evaluation.pdf

Figure 3. Policy Development Phases and Types of Evaluation

Problem Identification	Policy Analysis	Strategy and Policy Development	Policy Enactment	Policy Implementation

Content Evaluation			Implementation Evaluation	Impact Evaluation

Policy Evaluation Challenges

While all evaluations encounter challenges, some are particularly relevant to policy evaluation, and some of these are listed below. Many of these challenges can be easily addressed by using an appropriate design, indicators, and methods. Specific solutions to many of these challenges are provided in Briefs 2–7. In addition, **Appendix C** provides an overview of the challenges and potential solutions when conducting policy evaluation.

Potential Policy Evaluation Challenges	
▪ Lack of resources or clear responsibility for evaluation	▪ Lack of strong evidence base to support policy
▪ Fear of evaluation and lack of familiarity with policy evaluation methods	▪ External and contextual factors such as economic conditions or public awareness
▪ Lack of "control" over policy implementation	▪ Access to appropriate data
▪ Rapid pace of policy	▪ Lack of appropriate measures
▪ Political scrutiny and desire for quick production of results	▪ Difficulty in identifying appropriate comparison communities

Additional Resources

The Magenta Book: Guidance for Evaluation (Her Majesty's Treasury). Provides general and technical guidance on policy evaluation. Available at http://www.hm-treasury.gov.uk/data_magentabook_index.htm

CDC Evaluation Page: http://www.cdc.gov/eval/

Appendix A: Policy Impact Evaluation Example - Child Restraint Law Expansion

Appendix B: Restricting Hours of Alcohol Sales to Prevent Excessive Alcohol Consumption and Related Injuries

Appendix C: Challenges and Potential Solutions to Policy Evaluation

Appendix D: Glossary

This brief provides an overview of the first three steps in the program evaluation Framework as they apply to policy evaluation: engaging stakeholders, describing the policy, and focusing the evaluation design.

Step 1: Engage Stakeholders

Because multiple sectors participate in injury prevention policy efforts, it can be challenging to come up with a complete list of potential stakeholders. Consider the following types of stakeholders:

- Policy experts
- Subject matter experts
- Evaluation experts
- Implementers

For examples, see Appendix E. It can also be valuable to involve some of the stakeholders who were or are opposed to the policy.[1] They can provide valuable insight into initial or on-going resistance to the policy and implementation, and their involvement can lend credibility to evaluation findings.

Roles and Responsibilities

Team members need a clear understanding of their degree of involvement and specific responsibilities. Establish clear goals and expectations for each of the team members to keep the process on track and hold members accountable.[1] Consider which participating stakeholders are appropriate and available for the core team.[1,2] The core team should include stakeholders who are involved in the evaluation from beginning to end and will assist with design and implementation of the evaluation as well as analysis and dissemination of results. Other stakeholders may be more appropriate for specific steps of the evaluation process. Select one or more evaluators to lead on the core team to coordinate the evaluation efforts. The lead evaluator is often responsible for activities including planning, budgeting, developing the evaluation plan, guiding the team in selecting evaluation questions and design, addressing data collection issues, compiling results, facilitating discussion about interpretation of results, and preparing final evaluation results.[1] Key considerations for selecting an evaluator can be found in **Appendix F.**

Step 2: Describe the Policy Being Evaluated

When planning the policy evaluation, it's important to have clarity and consensus on the components of the policy being evaluated, what it is supposed to accomplish, and its underlying logic (i.e., why should this policy achieve the intended impact?). Describing the policy can also assist with selecting appropriate indicators and points of measurement. A logic model can be useful in describing the policy because it articulates the underlying logic, the assumed causal pathways between a policy or policies and behaviors, and the links between those behaviors and long-term impacts such as injury rates.[3] A logic model helps to identify:
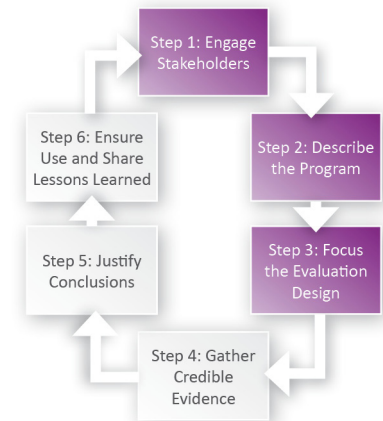
1 MacDonald, G., Starr, G., Schooley, M., Yee, S. L., Klimowksi, K., & Turner, K. (2001). *Introduction to program evaluation for comprehensive tobacco control programs*. Atlanta, GA: Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/tobacco/tobacco_control_programs/surveillance_evaluation/evaluation_manual/pdfs/evaluation.pdf

2 W. K. Kellogg Foundation (1998, rev. 2004). *Evaluation handbook*. Battle Creek, MI: Author. Retrieved from http://www.wkkf.org/knowledge-center/resources/2010/W-K-Kellogg-Foundation-Evaluation-Handbook.aspx

3 Milstein, B., & Chapel, T. (2012). Developing a logic model or theory of change. In *The Community Toolbox* (Part A, Chapter 2, Section 1; V. Renault & S. Fawcett, Eds.). Retrieved from http://ctb.ku.edu/en/tablecontents/sub_section_main_1877.aspx

- **Inputs** - the information or resources required for developing and implementing a policy.
- **Activities** - the actions that are carried out in order to implement the policy.
- **Outputs** - the direct results of these action steps.
- **Outcomes** are short-term and intermediate changes in target audience behaviors, awareness of risk factors, attitudes, and knowledge.
- **Impacts** are long-term changes in indicators.
- **Indicators** are specific, observable, measurable characteristics of changes that demonstrate progress toward outcome or impact.

The logic model process is an easy way to ensure that all stakeholders have the same understanding of the policy and its intended outcomes.[1] For an overview of logic model components as well as a template and examples, see **Appendices G, H, I, J,** and **K**. **Appendix I** provides an example of a logic model developed in a more traditional format, while **Appendix J** presents a logic model developed using an alternative format. Understanding the policy components and implementation requirements will ensure that you are planning a thorough evaluation.

Step 3: Focus the Evaluation Design

Once the core team is assembled and stakeholders have a clear understanding of the policy and roles, it is important to clarify the goals and expectations of the evaluation and identify the focus for the evaluation (content, implementation, or impact). This clarity guides the selection of evaluation questions and appropriate design, and it helps ensure efficient use of resources.[4] Suggestions for implementing Step 3 for each of the three main phases (content, implementation, and impact) are discussed in Briefs 3, 4, and 5.

Questions To Guide Selection Of Evaluation Focus

- What type of policy is being evaluated (legislative, regulatory, or organizational)?
- What level of policy is being evaluated (local, state, national)?
- What type of evidence base exists for this policy?
- How complex is the theory of change and the implementation of the policy?
- What phase is the policy in? Has it been fully implemented?
- How will the evaluation be used and who is the potential audience?

To ensure a thorough understanding of a policy, you will often need to conduct evaluations for all three of the phases discussed in Brief 1 (content, implementation, and impact).[5] It is important to follow the steps separately for each phase to ensure a clear match between the evaluation focus, questions, and design. Results from each of the evaluations can then inform interpretation of the other evaluations.[5] Brief 5 and **Appendix O** provide information about different types of evaluation designs.

4   Newcomer, K. E. (2009, May). *Enhancing the usefulness of evidence to inform practice* (National Collaborative on Childhood Obesity Research [NCCOR] Obesity-Related Policy Evaluation Webinar Series, Session 3). Retrieved from: http://www.nccor.org/downloads/Webinar_3.pdf

5   Her Majesty's Treasury (2011). *The magenta book: Guidance for evaluation.* London, UK: Author. Retrieved from http://www.hm-treasury.gov.uk/data_magentabook_index.htm

Selecting Evaluation Questions

Once the team has pinpointed the focus of the evaluation, the next step is to identify the specific evaluation questions. Having clear evaluation questions helps to establish the boundaries of an evaluation.[6] The logic model of the policy may be a helpful tool as you identify and select specific policy sections or components to evaluate.[2] In addition, the focus of the evaluation will influence the evaluation questions chosen. Examples of evaluation questions within each of the three types of policy evaluation are provided in Briefs 3, 4, and 5. When selecting evaluation questions (and designs), it can be useful to consider the evaluation standards of feasibility and utility. Feasibility considerations include available resources, data, and complexity.[7] Utility focuses on the extent to which an evaluation meets stakeholder needs.

Selecting an Evaluation Design

The evaluation design, which can have a huge impact on evaluation results, should balance utility and feasibility.[4] The design influences the types and amounts of data required, the analysis techniques used, and the conclusions that can be drawn. Keep in mind that there is no one "right" design. It is important to find the most appropriate design for answering the evaluation questions and meeting the needs of the stakeholders.[2] If resources allow, choose a mixed-methods approach to balance the pros and cons of the different methods. Suggested evaluation designs for each type of evaluation are found in Briefs 3, 4, and 5.

Selecting Meaningful Indicators

Once you have selected the focus, questions, and design, the next step is to define outcomes and measurable indicators. Your answers will depend on the type of policy, the phase of the policy, and what data is available. Monitoring short-term and intermediate outcomes of a policy is just as important as knowing its long-term impacts. If the policy is based on strong scientific evidence, measuring short-term and intermediate outcomes can provide further evidence that a policy will have an influence on injury-related behaviors (i.e,. long-term outcomes). Because seeing a change in impacts may take a long time, evaluation of short-term and intermediate outcomes can be useful in providing support for a particular policy approach in the meantime.[5]

The team should also identify the indicators that will be used to measure progress toward selected outcomes. These are specific, observable, measurable variables that show the progress a policy is making toward achieving a specified outcome.[1] Identify meaningful indicators along each step of the logic model that will allow an assessment of the planned work and the intended results.[3] Doing so will ensure the collection of relevant data and selection of the most appropriate design.[5] Select indicators that will realistically be affected by the policy within the evaluation time frame.[2,4,5] Research the field of interest to identify any well-established outcomes and indicators that are part of federal or large-scale initiatives. **Appendix L** provides examples of outcomes and impacts, indicators, and data sources.

6   CDC. (1999, September). *Framework for program evaluation in public health* (MMWR Recommendations & Reports vol. 48, No. RR-11). Retrieved from ftp://ftp.cdc.gov/pub/Publications/mmwr/rr/rr4811.pdf
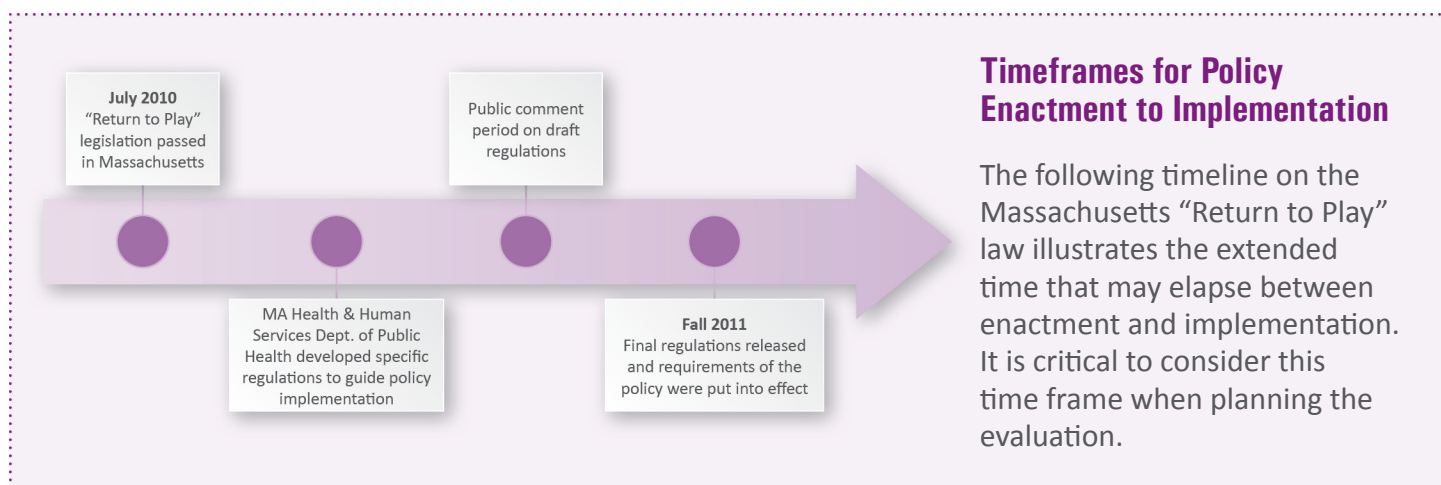
7   Chapel, T. J. (2008). *Evaluation 101: An overview for new evaluation practitioners*. Presented at the American Evaluation Association Summer Institute, Atlanta, GA. Retrieved from http://www.eval.org/summerinstitute/06SIHandouts/SI06.Chapel.TR1.Online.pdf

Tips for Developing an Evaluation Plan

Ideally, evaluation planning should begin during the development of the policy, prompting the inclusion of data collection, implementation, and resources in the policy content.[5] One way to document the important decisions is by creating an evaluation plan. The main components include the following:

- Evaluation team members.
- Evaluation goals and questions.
- Evaluation methodology, design, and timetable.

- Data collection and analysis plan.
- Dissemination plan.
- Resources.

Remember that evaluating impact prematurely—before implementation has begun—will result in erroneous or nonexistent findings.

July 2010
"Return to Play" legislation passed in Massachusetts

Public comment period on draft regulations

MA Health & Human Services Dept. of Public Health developed specific regulations to guide policy implementation

Fall 2011
Final regulations released and requirements of the policy were put into effect

Timeframes for Policy Enactment to Implementation

The following timeline on the Massachusetts "Return to Play" law illustrates the extended time that may elapse between enactment and implementation. It is critical to consider this time frame when planning the evaluation.

Consider the following when developing the evaluation timeline:

- Time required for evaluation planning
- Time for realistic change in indicators[5]
- Time required to fully implement the policy[4,5]
- Availability of data

It is also important to consider the resources available for conducting the evaluation:

- What funding is available for the evaluation?
- Who is responsible for conducting the evaluation?
- What resources are required for data collection?
- Do you need to consult internal or external experts?

Examples for maximizing and supplementing available resources are provided in **Appendix M**.

Action Steps

- Identify stakeholders involved in policy implementation and define key roles and responsibilities.
- Describe the policy by developing a preliminary logic model and identifying meaningful indicators.
- Identify the initial evaluation focus and evaluation questions.
- Identify resources available within and outside your agency to conduct policy evaluation.

ADDITIONAL RESOURCES

CDC Program Evaluation Page: Overview of Framework Steps 1, 2 and 3

http://www.cdc.gov/eval/steps/engagingstakeholders.PDF
http://www.cdc.gov/eval/steps/Describingtheprogram.PDF
http://www.cdc.gov/eval/steps/focusingtheevaluationdesign.pdf

Developing an Effective Evaluation Plan. From the National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, and the Division of Nutrition, Physical Activity, and Obesity (Both CDC, 2011). Available at http://www.cdc.gov/tobacco/tobacco_control_programs/surveillance_evaluation/evaluation_plan/index.htm

Brief 3: Evaluating Policy Content

This brief focuses on the implementation of Step 3 of the Framework (focusing the evaluation design) as it applies to the first of the three main phases of policy evaluation: policy content evaluation.
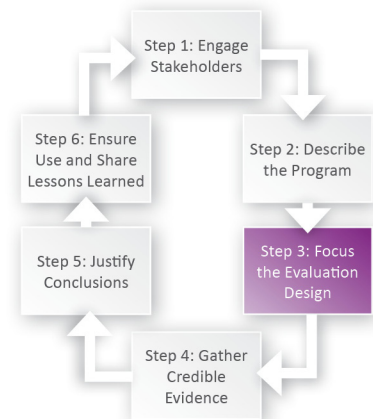
Purpose of Policy Content Evaluation

Policy content evaluation can have multiple aims or purposes, including:

- Identifying the extent to which the content of the policy clearly articulates requirements.
- Comparing policies across communities to identify key similarities and differences.
- Understanding the process by which a policy is selected and passed.
- Improving policy implementation and future policy development.
- Informing development and interpretation of implementation and impact evaluations.

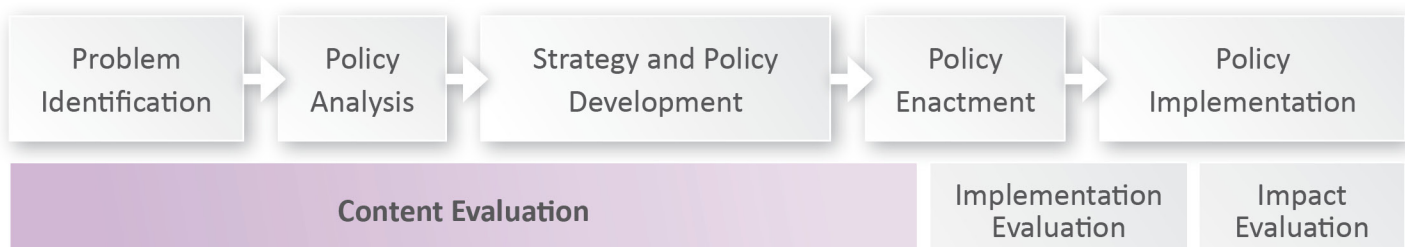Policy content evaluation may focus on a number of different aspects of policy content including:

- The core components and implementation requirements of the policy.
- The evidence base supporting the policy's strategy.
- The context of the policy's development and passage.
- The stakeholders' roles and responsibilities.
- The content of similar policies.

Step 1: Engage Stakeholders
Step 2: Describe the Program
Step 3: Focus the Evaluation Design
Step 4: Gather Credible Evidence
Step 5: Justify Conclusions
Step 6: Ensure Use and Share Lessons Learned

Policy Content Evaluation: What are the Core Components of the Policy?

Policy content evaluation examines the substantive information and material contained within a policy in relation to the policy's requirements, its similarity to other policies, the context in which it was developed, or some combination of these.

Figure 1. illustrates where in the policy process content evaluation is focused.

Problem Identification	Policy Analysis	Strategy and Policy Development	Policy Enactment	Policy Implementation

Content Evaluation	Implementation Evaluation	Impact Evaluation

Sample Content Evaluation Questions

Once the purpose and focus of the evaluation are determined, you should identify specific evaluation questions. Ideally policy evaluation is built into the entire policy process; however, achieving this ideal is not always feasible. It is important to assess the best point for beginning content evaluation on the basis of the circumstances of the particular policy. The following are some sample policy content evaluation questions. It is important to determine whether your evaluation questions examine the policy in isolation or in comparison to other policies. The evaluation questions you choose will guide the selection of an appropriate evaluation design.

- Does the policy clearly state the goals or objectives?
- Are the evidence-based components of the policy clearly articulated?
- Are the components of the policy consistent with those of model policies?
- Are the requirements for implementation clearly stated in the policy?
- Are the requirements feasible given available resources?

- Does the policy articulate the mechanism for monitoring implementation?
- Does the policy identify indicators for assessing program success?
- Which major stakeholders played a role in the policy's development?
- What type of resistance or opposition exists?
- Were any key changes originally proposed to the policy's content?
- How is the content of the policy similar to or different from that of other policies?

Evaluation Design Considerations

Evaluating Content

Articulating the relevant dimensions and components of the policy being evaluated is a critical step in content evaluation.[1] Many policy characteristics should be considered and included in the description of the policy. There are also a number of variables to consider when examining policy content. Assessment of the following can inform the implementation and influence your choice of evaluation designs.[1]

- Interpretation of policy language.
- Consistency or conflict with similar policies at other levels.
- Complexity of policy, including number of different components.
- Steps and timeline between policy enactment and implementation.
- Potential for influence of policy in surrounding communities.
- Adjudication, enforcement, and compliance requirements.
- Political and stakeholder influences.

When policies contain multiple components, you may need to evaluate each component separately, depending on its similarity to other components.

Sources of Policy Content Information

Ideally, relevant content information is clearly stated or available within the policy itself. However, this ideal is rarely the case. Additional sources of information include legal documents, regulations, amendments or court rulings, committee hearings, legislative databases, and stakeholder interviews.[1] Consider any changes to the policy over time by examining policy revisions, amendments, revised regulations, court rulings, or other formal changes to the policy. Legislative or policy databases are a vital tool in comparing policies across jurisdictions (including international, national, state, and local). A list of several such databases can be found in **Appendix N**.

The level of specificity or detail in a policy can have a strong influence on how a policy is implemented and on how much impact it has. For example, many sports concussion laws require that a "medical professional" must clear an athlete before the athlete is allowed to return to play. If the policy language is unclear as to what it is meant by a medical professional, the law will be implemented in varying ways. This lack of specificity can result in less-than-ideal implementation of a law or create the need for further education and direction for stakeholders and implementers.

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1   Tremper, C., Thomas, S., & Wagenaar, A. C. (2010). Measuring law for evaluation research. *Evaluation Review*, 34, 242–266

Evaluating the Policy Development

It can also be valuable to document and evaluate the process by which a policy was developed. For example, an evaluation could examine the impact of particular activities or variables in the development and enactment of a policy by using a design that can demonstrate changes in certain key variables over time. These designs measure target indicators before and after the particular activities occurred. If it is not possible to obtain pre and post data, a more appropriate design may be a non-experimental descriptive design, such as a case study. Understanding the process by which a policy was developed can be helpful in fully understanding the policy and interpreting the results of future evaluations.

A variety of measures can be used for evaluating the process of developing and enacting a policy. Ensure the types of measures and indicators used will tie back to the evaluation design and evaluation questions. A logic model specifically for the initial phases of the policy development process may assist in identifying the aspects of the policy that are of greatest interest (see Brief 2).

Comparing Policies on the basis of Key Components

To conduct a nationwide review of graduated drivers licensing (GDL) legislation, The Bloomberg School of Public Health at Johns Hopkins University obtained information on the components of GDL programs in each state in 1996 and again in 2005, enacted and effective dates, and any amendments or changes. Using specified criteria, researchers assessed whether seven GDL components were present or absent in each state. They also examined variations in when changes in the components occurred. This content analysis of GDL legislation allowed them to compare legislation between states as well as to look at the relationship between the components and subsequent crash data.[2]

Examples of Policy Development Measures and Data Collection Methods[3,4]	
Stakeholder interviews	Focus groups
Surveys assessing attitudes and priorities	Meeting observations
Self-assessment of capacity	Partnership integration assessment
Public involvement activity logs	Media tracking
Legislative process tracking	Policy tracking
Activity outputs	Case studies

A number of available resources provide suggestions for measuring the policy development process; several are listed in **Appendix V**. If your agency or organization has any restrictions related to involvement in the policy development process, it is important that you consider these restrictions early on to ensure that your evaluation does not violate any of them.

Evaluating Similarities and Differences Between Policies

Although it is tempting simply to explore differences between jurisdictions *with* or *without* the policy, doing so ignores many important variables within each policy. Even simple policies can be deceptively complicated. Unfortunately, evaluators often compare communities only on whether or not they have a particular policy

2   Baker, S. P., Chen, L.-H., & Li, G. (2007, February). *Nationwide review of graduated driver licensing*. Baltimore, MD: Johns Hopkins Bloomberg School of Public Health, Center for Injury Research and Policy. Retrieved from http://www.aaafoundation.org/pdf/NationwideReviewOfGDL.pdf

3   Reisman, J., Gienapp, A., & Stachowiak, S. (2008). *A handbook of data collection tools: Companion to A Guide to Measuring Advocacy and Policy*. Baltimore, MD: The Annie E. Casey Foundation.

4   Harvard Family Research Project, Harvard Graduate School of Education. (2007). Advocacy and policy change. *Evaluation Exchange, 13*. Retrieved from http://www.hfrp.org/evaluation/the-evaluation-exchange

in place.[1] However, it is important not to ignore the key differences between the policies in each community. This is where content evaluation can be useful. When comparing the content of different policies, you may find it helpful to use a subset of policies to construct a categorization schema.[4] This is done by evaluating the components of the policies (as discussed above) and then looking for different categories or components occurring across the different policies. Once the proposed schema is identified, it can be tested on the remaining policies. This process should be reiterative and involve ongoing discussion between legal and policy experts.[1]

Potential Policy Content Evaluation Challenges and Solutions	
Challenges	**Solutions**
Lack of access to appropriate data	▪ Identify available pre-existing data sources and explore the possibility of data linkage to increase analysis possibilities (see Brief 6).
Lack of appropriate measures	▪ Conduct a stakeholder discussion to assist with identifying or developing appropriate measures. ▪ Reach out to communities that have done similar types of evaluation.
Concern about allowable participation in the policy development process	▪ Request clarification of rules. ▪ Identify key nongovernmental partners to evaluate areas best suited to their capacities and expertise.

Action Steps

▪ Create a list of state injury prevention policies that have recently passed and prioritize the ones you are most interested in evaluating.
▪ Select one of the high-priority policies and identify evaluation questions related to the content or development of the policy.
▪ Do a brief search to see if other states have similar policies and compare the content of the policies to identify major similarities and differences between them.

Additional Resources

Methods Guides from Public Health Law Research, a program of the Robert Wood Johnson Foundation. Available from http://publichealthlawresearch.org/methods-guides

5   Srabstein, J. C., Berkman, B. E., & Pyntikova, E. (2008). Antibullying legislation: A public health perspective. *Journal of Adolescent Health*, 42, 11–20.

Brief 4: Evaluating Policy Implementation

This brief discusses the implementation of Step 3 of the CDC evaluation Framework as it applies to the second of the three main phases of policy evaluation: policy implementation evaluation.

Purposes of Policy Implementation Evaluation

Policy implementation evaluation can have multiple aims or purposes, including:

- Understanding how a policy was implemented.
- Identifying critical differences between planned and actual implementation.
- Identifying barriers to and facilitators of implementation.
- Documenting and comparing different intensities or variations of policy.
- Collecting information to support interpretation of future evaluations of policy impact.
- Documenting the relationships between logic model components and external influences.
- Improving the implementation process.
- Informing future policy development.

Policy implementation evaluation may focus on a number of different areas, including

- Components of the logic model, such as inputs, activities and outputs.
- Stakeholder attitudes, knowledge, and awareness.
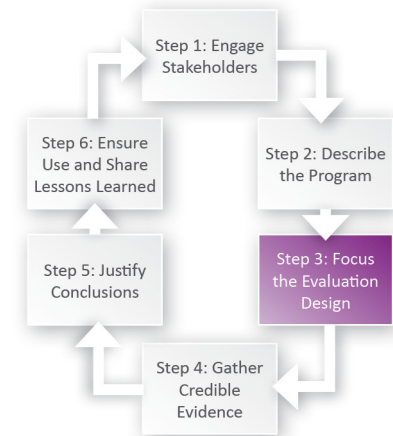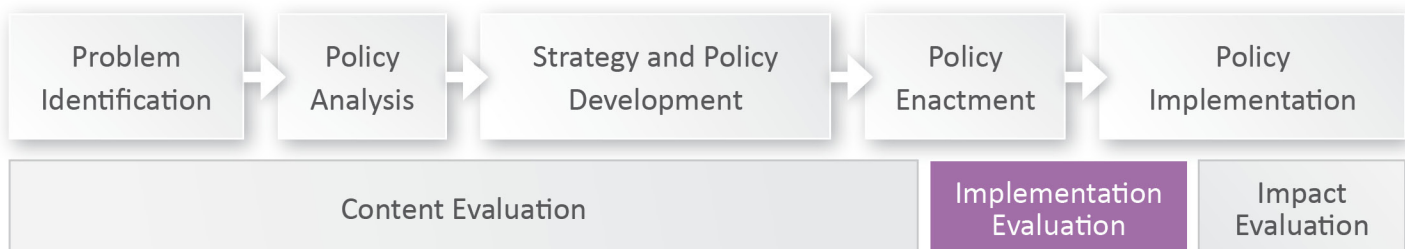- Facilitators of and barriers to implementation.

Figure 1. Illustrates where in the policy process implementation evaluation is focused.

Problem Identification	Policy Analysis	Strategy and Policy Development	Policy Enactment	Policy Implementation

Content Evaluation			Implementation Evaluation	Impact Evaluation

Sample Implementation Evaluation Questions

Once the purpose and focus of the evaluation are determined, specific evaluation questions should be identified. The following are some sample policy implementation evaluation questions. Identifying the core components of implementation can be challenging, but doing so can be essential to focusing the evaluation. The evaluation questions selected will guide the selection of an appropriate evaluation design.

- Did the policy clearly identify the critical implementation steps?
- Was the policy implemented according to the policy requirements?
- What inputs and resources were required to implement the policy? Were all of these inputs and resources available?
- What key activities were completed during policy implementation?

- Did the activities result in the anticipated outputs?
- Was the policy implemented consistently across communities or environments?
- Were there any unintended consequences?
- What external factors influenced the implementation?

Evaluation Design Considerations

Describing Implementation

Implementation evaluation often relies on non-experimental descriptive or exploratory designs such as case studies and cross-sectional designs.[2] The focus of the design is on accurately describing the implementation process rather than on "proving" any specific hypothesis or demonstrating relations between variables. The evaluation design may also include exploration of differences in implementation in different contexts or for different variations of the policy. Identifying the core components of implementation can be challenging, but this step is vital when developing the evaluation questions and measures. Components may be identified by describing the policy (Brief 2), conducting a policy content evaluation (Brief 3), or both.

Policy Implementation Evaluation: Was the Policy Implemented as Intended?

Policy implementation evaluation examines the inputs, activities, and outputs involved in the implementation of a policy. It can also provide important information about stakeholder perceptions and awareness, as well as barriers to and facilitators of implementation. The relation of policy implementation evaluation to policy development phases is illustrated in **Figure 1**.

The Effects of Implementation on Impact

To demonstrate the importance of measuring the influence of implementation on the impact of a policy, Blais and Gagne examined whether the number of traffic citations issued by police officers (enforcement of traffic laws) had an impact on the number of collisions. The evaluation used natural changes in enforcement over time (due to police union negotiations) and used neighboring communities as a comparison group. The evaluation found a 61% reduction in the monthly volume of traffic citations, which was associated with an increase in collisions involving injuries.[1] If the implementation of the policy (levels of enforcement) had not been included in the evaluation, assessing its overall impact would have been difficult.

Policy Implementation Data

Qualitative and process evaluation data are useful in evaluating policy implementation, because each can provide detailed information about how a policy was implemented or provide insight as to why certain things happened during implementation. Data for implementation evaluation is usually intentionally descriptive and uses a variety of measures and types of data to complete a thorough picture of the implementation.[3]

1 Blais E., & Gagne M. P. (2010). The effect on collisions with injuries of a reduction in traffic citations issued by police officers. *Injury Prevention,* *16*(6), 393-397.
2 CDC, Office of the Associate Director for Policy. (2012). *Draft working paper: Policy definition and development framework*.
3 Her Majesty's Treasury. (2011). *The magenta book: Guidance for evaluation*. London, UK: Author. Retrieved from http://www.hm-treasury.gov. uk/data_magentabook_index.htm

Evaluating Implementation

To evaluate the implementation of Return-to-Play laws, NCIPC used a case study design to examine implementation efforts in two states. The evaluation examined stakeholder perceptions, barriers to implementation, and successes. In-depth interviews were conducted with a variety of stakeholders at different levels, including state health departments and interscholastic athletic associations, regional athletic directors, and school coaches. The evaluation provides an understanding of key implementation factors within states and a comparison of barriers and facilitators across the states to inform the efforts of other states with similar laws.

Identifying Implementation Challenges

The Southern California Injury Prevention Research Center conducted an assessment of the implementation of the CDC-funded Urban Networks to Increase Thriving Youth (UNITY) through Violence Prevention in several U.S. cities. Using surveillance data and 5-year average annual rates of homicide, suicide, and firearm deaths, evaluators categorized each city as a low-, moderate-, or high-violence city.   They then selected 12 cities diverse in violence rates and geography and conducted key informant interviews with stakeholders in each community. These interviews identified barriers to and facilitators of the implementation of the UNITY strategies. The knowledge gained subsequently enabled the development of technical assistance to address barriers and improve implementation.

Policy Implementation Indicators

Policy implementation indicators often measure activities or accomplishments that are part of the policy implementation. Examples could include:

- Number of organizations with written policies.
- Adjudication.
- Number of citations issued.
- Effectiveness of training materials.
- Awareness of policy.
- Survey of compliance with core components.

Comparing Implementation in Different Settings

If the key components of the policy or levels of its implementation varies across settings, evaluators can make comparisons between implementing jurisdictions. In these cases, a cross-sectional design or multiple case studies may be indicated. Measuring key contextual differences between the jurisdictions is important to interpreting results accurately. This information can be valuable in comparing the relative effectiveness of the various components.

Measuring Degree of Implementation

Depending on previous research and evaluation results, specific criteria or standards may be established to assess implementation.[1] The standards should be established by the stakeholders and should cover required inputs, activities, and outputs. Each of the standards should have a corresponding indicator that will allow it to be measured. Comparing actual implementation to established standards can clarify discrepancies between planned and actual implementation, identify which components or features of implementation are barriers or catalysts for implementation, linked to policy impacts, or allow for comparisons between different levels and components of evaluation.

Potential Policy Implementation Evaluation Challenges and Solutions	
Challenges	**Solutions**
Rapid pace of policy	▪ Strive to develop the evaluation plan before implementation if at all possible; identify potential indicators up front to plan for their collection.
Challenges of finding an equivalent comparison group	▪ Identify variables within the implementing community (such as level or degree of implementation) that may allow for examination of how individual variables influence implementation and impact.
Lack of clear responsibility for evaluation	▪ Create a clearly written evaluation plan with specific roles and responsibilities. ▪ Identify and partner with the stakeholder who has responsibility for monitoring the implementation (if that is not your agency).

Action Steps

▪ Identify the core components and activities of implementation for a specific policy.

▪ Identify potential methods and indicators to assess whether or not each of the core components has been implemented.

▪ Identify key stakeholders involved in the implementation of the evaluation. What is the optimal method for obtaining information from each of the stakeholders?

▪ Identify the stakeholder responsible for monitoring implementation of the policy (if any) to find out if a process for tracking the implementation already exists or is under development.

Additional Resources

Introduction to Process Evaluation in Tobacco Use Prevention and Control (CDC Office of Smoking and Health). Available at http://www.cdc.gov/tobacco/tobacco_control_programs/surveillance_evaluation/process_evaluation/index.htm

A Guidebook to Strategy Evaluation: Evaluating Your City's Approach to Community Safety and Youth Violence Prevention. Available at http://www.ph.ucla.edu/sciprc/pdf/Evaluation_Guidebook_July08.pdf

Brief 5: Evaluating Policy Impact

This brief discusses how to implement Step 3 of the Framework for the third of the three main phases of policy evaluation: policy impact evaluation.
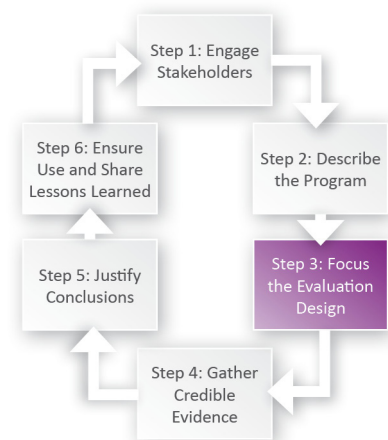
Purposes of Policy Impact Evaluation

Policy impact evaluation can have multiple aims or purposes, including:

- Demonstrating the impact of the policy, by measuring changes in short-term, intermediate and long-term outcomes.
- Determining whether changes in outcomes can be attributed to the policy.
- Comparing relative impacts of policies with different components.
- Identifying the relative cost-benefit or cost-effectiveness of a policy.

The focus of the evaluation may be a number of different areas, including the following:

- Short-term, intermediate, and long-term outcomes and impacts.
  - Outcomes are short-term and intermediate changes in target audience behavior, awareness, attitudes, or knowledge.
  - Impacts are long-term changes in indicators.
  - Indicators are specific, observable, measurable characteristics of changes that demonstrate progress toward outcome or impact.
- Outcomes and impacts in comparison communities.
- Costs of implementing the policy.
- Cost savings resulting from policy implementation.

Policy Impact Evaluation: Did the Policy Produce the Intended Outcomes and Impacts?

Policy impact evaluation examines changes in key indicators that have occurred since the implementation of a policy and the extent to which changes can be attributed to the policy. Policy impact evaluation's relation to policy development phases is illustrated in **Figure 1**.

Figure 1. Illustrates where in the policy process impact evaluation is focused.
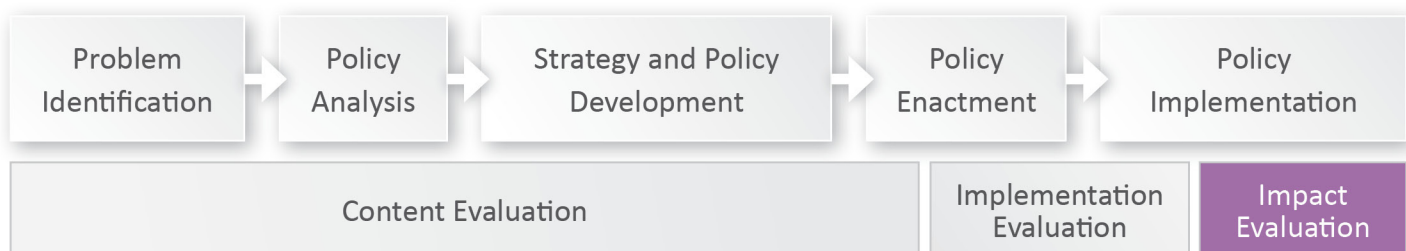
Examples of outcome and impact indicators are presented in **Figure 2**.

Sample Impact Evaluation Questions

Once the purpose and focus of the evaluation are determined, you should identify specific evaluation questions. The evaluation questions you choose will guide your selection of an appropriate evaluation design. The following are some sample policy impact evaluation questions.

- Was there a change in the outcomes and impacts of interest?
- Did the policy contribute to a change in the outcomes and impacts of interest?
- Were there any unintended consequences of the policy?
- Did contextual factors influence the level of impact?
- What was the economic impact of the policy (cost-effectiveness or cost benefit)?

Evaluation Design Considerations

Evaluating a Change in Outcomes, and Impacts

When the evaluation question focuses on identifying changes in the indicators, regardless of whether or not the changes were necessarily a result of the policy itself, the team can use non-experimental or descriptive designs. However, be sure to represent accurately what the results of this analysis demonstrate. Non-experimental designs are unable to clearly link the impacts to the policy because they are unable to rule out alternative explanations for the impacts.[1] These types of designs are most appropriate when it is impossible or impractical to compare changes over time or to use a comparison group. Two potential non-experimental designs for impact evaluation are cross-sectional and case study.

Establishing a Link Between a Policy and Changes in Outcomes and Impacts

A randomized experimental design is sometimes considered the gold standard for conducting an impact evaluation because it produces the strongest evidence that a project, program, or policy contributed to changes in behavior or other outcomes.[3,4,5] However, when you are evaluating the impact of a policy on a population, randomization may be unethical or impossible, not to mention costly or time-consuming. Quasi-experimental designs can be used to evaluate changes in indicators over time or compared to a group not affected by the policy. Refer to **Appendix O** for further description of these methods.

Evaluating Impact of Product Design Changes

To evaluate a voluntary performance standard for infant walkers that suggested that walkers be designed to be too wide for a standard doorway or incorporate a braking mechanism, Shields and Smith found a 75% decrease in infant-walker–related injuries by conducting a retrospective pre-post design that examined injury rates before and after the standard was established. This decrease was demonstrated through a retrospective analysis of data from the National Electronic Injury Surveillance System maintained by the U.S. Consumer Product Safety Commission.[2]

1 Her Majesty's Treasury. (2011). *The magenta book: Guidance for evaluation*. London, UK: Author. Retrieved from http://www.hm-treasury.gov.uk/data_magentabook_index.htm

2 Shields, B. J., & Smith, G. A. (2006). Success in the prevention of infant walker-related injuries: An analysis of national data, 1990–2001. *Pediatrics, 117*, e452-e459.

3 W. K. Kellogg Foundation. (1998; rev. 2004). *Evaluation handbook*. Battle Creek, MI: Author. Retrieved from http://www.wkkf.org/knowledge-center/resources/2010/W-K-Kellogg-Foundation-Evaluation-Handbook.aspx

4 Patton, M. Q. (2011). *Essentials of utilization-focused evaluation*. Saint Paul, MN: Sage.

5 Brownson, R. C., Royer, C., Ewing, R., & McBride, T. D. (2006). Researchers and policy makers: Travelers in parallel universes. *American Journal of Preventive Medicine*, 30, 164–172.

6 Markowitz, S., Nesson, E., Poe-Yamagata, E., Florence, C., Roberts, T., & Link, S. B. (2011, June). *Estimating the relationship between alcohol policies and youth violence*. Retrieved from http://etnesson.iweb.bsu.edu/Papers/Youth%20Violence%20Paper%20October%202011.pdf

A number of factors can make it easier or harder to make the case for a causal relationship between the policy and the observed changes in outcomes. These factors include the following[2]:

- Nature of the relationship between the policy and the impacts.
- Expected magnitude of change in impact.
- Expected length of time to see evidence of the policy effects.
- Nature and extent of external influences on impact.
- Availability of data.
- Extent of implementation (availability of natural comparison groups).

Comparison Groups

In many cases, you may be able only to assert some contribution of the policy to the outcomes and impacts. Using comparison groups is one method that can increase your confidence that the policy is responsible for the change in indicators. A comparison between groups whose members have not been randomly assigned is known as non-equivalent comparison design. Although groups similar to the community or group being affected by the policy may be selected, the groups are not equivalent, regardless of how similar they may appear. Some additional steps may be required during analyses and interpretation to demonstrate the appropriateness of the comparison group.[7] If you are unable to compare a group affected by a policy with a group not affected by a policy, you may be able to make comparisons between the groups that have been affected by a policy. For example, an evaluation may compare the impact of a universal school-based violence prevention policy between different schools, different grade levels, or different levels of implementation.

Evaluation of Cost Versus Benefit

Economic evaluation methods compare the costs of the policy with the resulting benefits. These methods are used in conjunction with the designs described above because they are dependent upon understanding the amount and types of changes that occurred as a result of the program. Economic evaluations attempt to place a value on these changes and then compare this value with the cost of implementing the program. Two types of economic evaluations are cost-benefit and cost-effectiveness studies. Cost-benefit studies estimate and compare the cost of a policy with the value of the benefit of the policy. Cost-effectiveness studies examine the cost-\ of implementing policy in relation to the resulting positive outcomes or impacts, often in comparison

> **Modeling the Impact of Alcohol Control Policies on Youth Violence**
>
> Using data from the Youth Risk Behavioral Surveillance Survey as well as area-level alcohol policy information, Markowitz and colleagues used statistical modeling to examine the impact of various alcohol control policies on measures of youth violence and drinking. They obtained data on 18 different alcohol control policy variables from the Alcohol Policy Information System (available from the National Institute on Alcohol Abuse and Alcoholism) and also contacted state officials directly. Merging this information with violence data based on respondent residence and year of survey allowed for an analysis of the relationships between the different policies and youth violence. The analyses provided evidence of a negative relationship between alcohol prices and youth violence.[6]

7   CDC, Office of the Associate Director for Program. (2012, September). *A framework for program evaluation*. Retrieved from http://www.cdc.gov/eval/framework/index.htm

8   Faul, M., Wald, M. M., Rutland-Brown, W., Sullivent, E. E., & Sattin, R. W. (2007). Using a cost-benefit analysis to estimate outcomes of a clinical treatment guideline: Testing the Brain Trauma Foundation guidelines for the treatment of severe traumatic brain injury. *Journal of Trauma*, 63, 1271–1278.

to alternative policies or interventions. It is important to consider a wide range of potential costs and benefits related to the policy in order to account for ripple effects when evaluating cost and benefits. Economic analyses can be extremely complicated and should be thoroughly planned with input from an economist, econometrician, or quantitative policy research expert during the planning phase of the evaluation.[1]

General Measurement Considerations

Impact evaluations typically rely on quantitative data. Some evaluation designs require collection of population-level data at multiple times over a long period. Surveillance data is often a cost-effective source of data.

Figure 2: Examples of Outcome and Impact Indicators		
Short-Term Outcomes	**Intermediate Outcomes**	**Long-Term Impacts**
Awareness of seat belt law	Seat belt use	Injury rates
Attitudes toward violence	Violent behavior	Injuries from violence
Awareness of Brain Trauma Foundation guidelines	Adherence to treatment guidelines	Injury severity

In selecting data collection points, consider the planned and actual roll-out dates of the policy. Make sure data is being collected at time periods that match the evaluation design (before and after implementation). If you are using a comparison group, make sure you have access to data on both the groups.

Unintended Consequences

Consider potential unintended consequences that may occur as a result of the policy implementation. Rely on previous research and evaluations and the experience of stakeholders to brainstorm potential unintended consequences. Some unintended consequences may be uncovered during the course of policy implementation. Some examples of potential unintended consequences include:

- Increases in the arrest of intimate partner violence victims as a result of a new arrest policy.
- Increases in illegal firearm sales as a result of a firearm licensing policy.
- Increases in child injuries due to airbag deployment as a result of new regulatory requirements.
- Issues related to access to health care as the result of policies that increase reporting of injuries.

Potential Policy Impact Evaluation Challenges and Solutions	
Challenges	Solutions
External and contextual factors such as economic conditions or public awareness	▪ Measure contextual factors to the extent possible. ▪ Explore the use of difference in difference analyses which examine the difference in the target group while accounting for differences in comparison communities.
Length of time required to expect long-term impacts	▪ Use an evaluation plan that measures short-term and intermediate outcomes that logically link to long-term outcomes.
Lack of access to appropriate data	▪ Identify available pre-existing datasets and explore the possibility of data linkage to increase analysis possibilities (see Brief 6).

Action Steps

▪ Identify any resources for planning and implementing an impact evaluation.

▪ Identify evaluation questions and identify the most appropriate design given available resources and expertise.

▪ Articulate short-term and intermediate outcomes as well as long-term impacts for a particular policy.

▪ Identify data collected in an existing surveillance or administrative system to use for an evaluation.

Additional Resources

The Magenta Book: Guidance for Evaluation (Her Majesty's Treasury). Provides general and technical guidance on policy evaluation. Available at http://www.hm-treasury.gov.uk/data_magentabook_index.htm

Policy Evaluation Webinar Series (National Collaborative on Childhood Obesity Research). Available at http://www.nccor.org/resources/nccor/webinars.php#f

Brief 6: Policy Evaluation Data Considerations

This brief provides suggestions for implementing Steps 4 and 5 of the evaluation Framework as they relate to policy evaluation. This includes identifying and obtaining data for policy evaluation as well as analyzing data and justifying conclusions based on the results.

Identifying and Selecting Data

It is important to select the most appropriate data elements and measures. Use a logic model to establish clear connections between the data, indicators, and outcomes. The four evaluation standards in **Figure 1** can guide data collection.
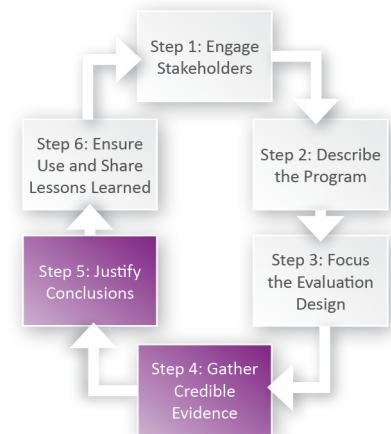
Figure 1. Evaluation Standards to Guide Data Collection	
Utility	What do you need to know to answer your evaluation questions?
Feasibility	For what time frame will you collect data, and at what intervals? What is the budget? Do you have funds to collect a sample of sufficient size for the selected design?
Propriety	Are there ethical considerations (e.g., anonymity, privacy) in collection of data?
Accuracy	Is the data objective or subjective? Is the data reliable? Is it internally and externally valid? How large should the sample be?

Types of Data

Quantitative data is numerical data that measures policy outcomes and impacts. Qualitative data is non-numerical information that describes attributes or properties of an object or activity. Data may come from a variety of sources, some of which are listed in **Figure 2**.

Figure 2. Selected Sources of Evidence for an Evaluation[1]		
Persons	**Documents**	**Observations**
Organizational staff	Newspaper articles/media	Meetings
General public	Administrative records	Special events/activities
Partner Organizations	Publications/evaluation reports	Enforcement
Policymakers	Surveillance data	

Utilizing Existing Data

When evaluating a policy implemented on a large scale, the most feasible option may be to use a surveillance system or administrative data. **Appendix P** provides examples of a number of national and state surveillance databases. State and local administrative databases may also provide valuable information for the evaluation. Examples include hospital or emergency room records, department of motor vehicles databases, and law enforcement records. One example, the National Violent Death Reporting System, is a state-based surveillance system linking data from death certificates, medical examiner files, police records, and crime laboratories. Engaging relevant stakeholders during evaluation planning can help identify administrative databases and

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1   CDC. (1999, September). *Framework for program evaluation in public health* (MMWR Recommendations & Reports vol. 48, No. RR-11). Retrieved from ftp://ftp.cdc.gov/pub/Publications/mmwr/rr/rr4811.pdf

facilitate access to data.

Working with existing datasets poses unique challenges. Data is not always easy to obtain, nor is it always complete or accurate enough for evaluation purposes. Understanding the strengths and weaknesses of the data in the system will help shape the analysis and determine any additional data that you may need to collect. Because evaluators do not have control over the data (what is collected, when, by whom, and how frequently), the dataset may not contain all of the desired variables.

Accessing Data

Access to data collected by the government is guided by rules, regulations, and legislative authorizations.[4] Therefore, to gain access to the data, you may need to negotiate a data-sharing agreement. The process for obtaining data sharing agreements and their content vary across federal or state agencies. A number of examples are available. **Appendix Q** provides several resources related to data sharing and data linkage.

Gaining access to datasets may be even more challenging if personally identifiable information is included.[4] Consider requesting variables that can be used to match datasets but cannot be used to identify the person associated with the record. If there are no pre-existing agreements for sharing data, consider creating standard processes or agreements to facilitate access to data for future evaluations.

Data Linkage

One technique for expanding the amount of pre-existing data available is data linkage. Linking data from two or more datasets, rather than relying on one dataset, provides a better picture of the various circumstances surrounding an injury event. **Appendix Q** provides resources about data linkage.[5,6] National systems that

2   Chen, L. H., Baker, S. P., & Li, G. (2006). Graduated driver licensing programs and fatal crashes of 16-year-old drivers: A national evaluation. *Pediatrics, 118*, 56–62.

3   Yip P., Pitt D., Wang Y., Wu X, Watson R., Huggins R., & Xu Y. (2010). Assessing the impact of suicide exclusion periods on life insurance. *Crisis*, 31(4), 217-223.

4   Bernstein, A. B., & Sweeney, M. H. (2012). Public health surveillance data: Legal, policy, ethical, regulatory and practical issues. *Morbidity & Mortality Weekly Report Supplements, 61* (Suppl. 3), 30–34. Retrieved from http://www.cdc.gov/mmwr/preview/mmwrhtml/su6103a7.htm?s_cid=su6103a7_w

5   Holder Y., Peden M., Krug E., Lund J., Gururaj G., & Kobusingye O. (2001). *Injury surveillance guidelines*. Geneva: World Health Organization. Retrieved from http://www.who.int/violence_injury_prevention/publications/surveillance/surveillance_guidelines/en/

6   Clark D. E. (2004). Practical introduction to record linkage for injury research. *Injury Prevention*, 10(3), 186-191

link state data can be extremely helpful in evaluating injury prevention programs and policies; however, data quality at every level can vary greatly, and incomplete or "unclean" data can make it challenging to generate valid results. In addition, data linkage can be difficult if the datasets have major differences in their coding, formatting, or definitions.[4] If key variables are missing from any part of the record, you may need to do some detective work and manual linking of local or state records to generate the data of interest. You can also consult an expert about statistical techniques to replace missing data.

Identifying New Data Sources

In some cases, data will not be available, so you will need to understand how to develop data measures and a data collection plan. When deciding what new data to collect, be selective and focus on the critical elements. Before developing a new measure, do a thorough search to see if there is an existing measure. There are a number of sources for injury prevention and control measures, many of which are available on the NCIPC website. For example, the NCIPC provides a summary of assessment tools for measuring violence-related attitudes, behaviors, and influences among youths. The process of measure development should be systematic and thorough. When developing a measure, consider reliability and validity, each of which is discussed in more detail in **Appendix R**.

Data Collection

Once you have identified the types and sources of data to be collected, you should develop a data collection plan. The data collection plan should identify what, when, and how data will be collected and who will do the collecting. Train interviewers and observers so they administer the measure as consistently as possible.[8] Consider whether internal stakeholders or external evaluators will collect data. In some circumstances, stakeholders will be able to collect the data as part of implementation; in others, additional data collection may need to occur. This extra effort can increase the cost of the evaluation, but it may create more consistency and objectivity in the data collected. The decision to collect data

Comparison of Motorcycle Crash Outcomes in Universal and Partial Helmet Law States

The Crash Outcome Data Evaluation System (CODES) collects data on motorcycle crashes from 18 states (7 with universal helmet laws and 11 with partial laws or no law). CODES links statewide records from crashes, emergency medical services, emergency departments, and hospital discharges. To evaluate the impact of helmet laws, the combined data was used to compare crash outcomes in states with a universal helmet law to states with a partial or no helmet law. Data linkage enabled analyses that demonstrated a relationship between universal helmet laws and helmet usage, medical costs, and types of injuries.[7]

Combining Existing and New Data

To evaluate the influence of written violence policies on work-related physical assault in educational settings, Feda and colleagues combined existing data from the Minnesota Educators' Survey with information collected about school violence policies. They compared data from participants who had experienced work-related physical assault with participants who had not. They then analyzed the relationship between certain written violence policies and occurrences of assault.[9]

7   Cook L. J., Kerns T., Burch C., Thomas A., & Bell E. (2009). *Motor¬cycle helmet use and head and facial injuries: Crash outcomes in CODES-linked data*. Washington, DC: NHTSA Technical Report. Retrieved from http://www-nrd.nhtsa.dot.gov/Pubs/811208.PDF

8   Newcomer, K.E. (2009). *Enhancing the usefulness of evidence: Addressing pitfalls to research in real world settings*. [NCCOR Obesity-Related Policy Evaluation Webinar Series]. Retrieved from http://www.nccor.org/downloads/Webinar_3.pdf

9   Feda, D., Gerberich, S., Ryan, A., Nachreiner, N., & McGovern, P. (2010). Written violence policies and risk of physical assault against Minnesota educators. *Journal of Public Health Policy*, 31, 461–477.

internally or externally should be based on the nature of the data being collected, the potential demand on the implementers, and the resources available to conduct the evaluation.

Analyzing Data

Once the data has been collected, you must follow certain critical steps before analyzing the data.[10] **Appendix S** provides detail about these steps. It is important to consult the appropriate staff to ensure each of these steps is done correctly. Early on in the analysis planning process, you should consult an internal or external policy researcher or evaluator with appropriate expertise to help you with data analysis. The analysis plan should be appropriate for the evaluation design and provide results that will ultimately answer the evaluation questions. The quality and appropriateness of data analysis techniques can have a significant impact on the acceptability and reliability of the evaluation results. The goal is not to conduct all possible analyses but to conduct the most appropriate data analyses to answer your evaluation questions. Information about analysis of quantitative, qualitative, and mixed-methods data can be found in **Appendix T**.

Justifying Conclusions

Once initial analysis results are available, the team should begin the process of justifying conclusions. In essence, the team is testing and interpreting findings, explanations, and conclusions with a diverse range of stakeholders to ensure that various explanations are considered. This step will also help to address any criticisms about the evaluation findings. Some of the steps and considerations involved are shown in **Figure 3**.[11,12]

Figure 3. Things to Think About When Justifying Conclusions	
- Present analysis results in a way that is meaningful and understandable. - Compare results from different data and methods and perform follow-up statistical analyses or conduct review of data as necessary. - Reconcile inconsistencies between the analyses of various components and methods. - Interpret results within the context of evaluation questions, policy goals, and the logic model.	- Consider findings relative to evaluations of other phases of the policy.[13] - Compare results with those of other evaluations or research studies. - Consider alternative explanations for the findings. - Consider the influence of external factors such as changes in other policies.

When considering evaluation findings of multiple methods and different policy phases, examine the consistency of results. Consistent results can strengthen confidence in the conclusion. If the results are contradictory, consider the reason for these inconsistencies and determine what conclusion should be drawn. Establish processes up front for reconciling inconsistencies to ensure impartiality.

10 Brownson R.C., Royer C., Chriqui J.F., & Stamatakis, K.A. (2009). Understanding evidence-based public health policy. American Journal of Public Health, 99(9), 1576-1583.

11 MacDonald G., Starr G., Schooley M., Yee S.L., Klimowski K., & Turner K. (2001). Introduction to program evaluation for comprehensive tobacco control programs. Atlanta, GA: Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/tobacco/tobacco_control_programs/surveillance_evaluation/evaluation_manual/pdfs/evaluation.pdf

12 HM Treasury. (2011). *The Magenta book: Guidance for Evaluation*. London, UK. Retrieved November 10, 2011, from http://www.hm-treasury.gov.uk/data_magentabook_index.htm

13 International Agency for Research on Cancer. (2008). *Handbooks of Cancer Prevention, Tobacco Control, Vol 12: Methods for evaluating tobacco control policies*. Lyon, France. Retrieved from http://www.iarc.fr/en/publications/pdfs-online/prev/handbook12/index.php

Brief 7 presents suggestions for summarizing and communicating data to a variety of audiences.

Potential Challenges and Solutions Concerning Policy Evaluation Data Collection and Analysis	
Challenges	**Solutions**
Lack of access to appropriate data	▪ Identify available pre-existing data sources and explore the possibility of data linkage to increase analysis possibilities.
Lack of appropriate measures	▪ Conduct a stakeholder discussion to assist with identifying or developing appropriate measures. ▪ Reach out to communities that have done similar types of evaluation.
Conflicting results	▪ When weighing the results, consider how accurately the methods were implemented, the extent to which data accurately represent the indicator or impact, your confidence level in the logic model and theory of change, the statistical significance and magnitude of findings, the assumptions made by statistical tests, and the match between evaluation methods and evaluation questions.
Lag in availability of data for evaluation	▪ Ensure that your evaluation plan factors in availability of data. ▪ Partner directly with the agency that collects the data rather than waiting for the data to become publicly available.

Action Steps

▪ Identify existing data sources or administrative data that might provide policy evaluation data in your state. How can you gain access to the data? Are data-sharing agreements already in place?

▪ Evaluate the statistical expertise within your agency. Would you need to use outside resources?

Additional Resources

Evaluation Briefs (CDC Division of Adolescent and School Health). http://www.cdc.gov/healthyyouth/evaluation/resources.htm

Inventory of National Injury Data Systems http://www.cdc.gov/Injury/wisqars/InventoryInjuryDataSys.html

Brief 7: Applying Policy Evaluation Results

This brief provides key suggestions for effectively using the results of your policy evaluation as well as ways to foster policy evaluation among state and local partners. The information provides resources for implementing Step 6 of the evaluation Framework as it applies to policy evaluation.

Using Evaluation Findings

To ensure that you use your policy evaluation results effectively, consider the objectives of your evaluation during the planning stages. Clear evaluation objectives will help to guide selection of strategies to use the evaluation results. Ideally, the results of the evaluation will provide feedback to all aspects of the policy process (problem identification, policy analysis, policy development, policy enactment, and policy implementation).

Internal applications of evaluation results include the following:

- Continuous feedback on policy implementation.
  - Gaps in implementation.
  - Areas for change, or improvement.
  - Barriers and facilitators.
  - Training and technical assistance needs.
  - Support for long-range planning.
- Insight into interpretation of other evaluation results.
- Insight into future evaluations.
- Internal support for policy implementation.
- Increased communication between stakeholders.

Although internal use of evaluation findings may not require a formal communication plan or report, it is important that you consider how the results can be translated into recommendations. The process of justifying conclusions (as described in Brief 6) can help to generate recommendations for internal use. This process should include the input of a variety of stakeholders and consideration of all of the available data to ensure that the recommendations are based on the best information available and consider a variety of different perspectives.

External applications of evaluation results include:

- Providing information about effective policy components.
- Ensuring that information on the effectiveness of a policy is accessible to decision makers.
- Increasing the evidence base.
- Increasing awareness about policy.

Effectively Communicating Evaluation Results

Because many factors may influence the level of use of evaluation findings, it is important to think strategically about reporting and dissemination.[1] Reporting on evaluation procedures and results starts with the fundamental principles of communication and understanding:

- Know your audience.
- Identify your objectives in communication.

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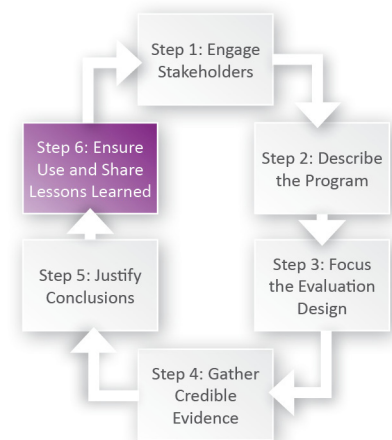
1 Newcomer, K. E. (2009, June). *Communicating results effectively* (National Collaborative on Childhood Obesity Research [NCCOR] Obesity-Related Policy Evaluation Webinar Series, Session 4). Retrieved from http://conference.novaresearch.com/ObesityPolicy/index.cfm

National Center for Injury Prevention and Control

- Consider the best frame for your message to meet the communication objectives.
- Consider the methods you will use to deliver your message.
- Consider any restrictions on involvement in the policy development process and ensure that you do not violate them when developing communication objectives and materials.

When presenting evaluation results, it is essential that you convey the information in an objective and unbiased manner. This approach can be especially helpful when presenting information that may contradict existing practice or popular opinion.

Figures 1 and **2** present information on the target audience, communication objectives, format and focus, and considerations for communicating with two common types of audiences: policymakers and evaluators.

Figure 1. Communicating With Policymakers	
Target audience	Policymakers
Communication objectives	Ensure that policymakers have the best available evidence on a topic available to them when they are making decisions.
Format and focus	Use a concise, relatable, and easy-to-understand format such as a one-page policy brief, fact sheet, or a short question-and-answer document.
Considerations	Policymakers are often inundated with reports leaving little time for analysis and interpretation. The following reporting suggestions can facilitate communication with this critical audience.[1,2] - Frame data in relation to local context. - Provide real-life illustrations to help policy makers relate to the findings. - Illustrate statistical data in clear, simple charts and graphs. - Present data from case studies or compelling stories. - Consider the use of Social Math (presenting data in a contextually relevant format) to make statistics and numbers meaningful.[3] - If results are mixed or complicated, present them accurately while striving for clear and succinct communication of the major findings. - Cost-benefit analyses can be a critical component for demonstrating the economic value of a policy. - Base information presented on evaluation findings rather than on value-based recommendations or suggestions. - Present information in an accessible format to assist in translating and transferring information.

2   CDC, Division of Adolescent and School Health. (2009). *Preparing an evaluation report* (Evaluation Briefs No. 11). Retrieved from http://www.cdc.gov/healthyyouth/evaluation/pdf/brief11.pdf

3   NCIPC. (2008; rev. 2010). *Adding power to our voices: A framing guide for communicating about injury.* Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/injury/framing/CDCFramingGuide-a.pdf

Figure 2. Communicating With Colleagues and Other Evaluators	
Target audience	Other researchers, evaluators, policy peers, academicians, and leading experts in the field.
Communication objectives	Ensure that evaluation work is credible, replicable, and informs the field of expertise. Garner support from the scientific community and inform future research and evaluation efforts.
Format and focus	Prepare a comprehensive and detailed report outlining evaluation processes, methodologies, and outcomes.
Considerations	When planning and drafting a formal evaluation report, it is important to do the following:[4,5] ■ Communicate all components in a clear, succinct format, without bias. ■ Provide background information, relevant historical data, and purpose of the evaluation. ■ Include a comprehensive description of the injury or violence prevention policy being evaluated. ■ Describe the context of the policy—demographics, timeline, and resources. ■ Outline data collection methods, type of data collected, and analysis process. ■ Summarize information about choices made and procedures used during design election and implementation. ■ Clarify how to use and interpret data, including limitations.

Communicating With Partners

Because policymakers rely on information and advice from many sources, it is important to include partners and other stakeholders in dissemination efforts.[4] Partners may use evaluation results to influence policy decisions through consistent, targeted messaging via print and electronic media, social marketing tools, the press, and various other communications methods that can attract the attention of policy makers and their constituents.[4] However, it is essential that evaluators communicate and disseminate information based on each

4   Nelson, S. R., Leffler, J.C., & Hansen, B. A. (2009). *Toward a research agenda for understanding and improving the use of research evidence*. Portland, OR: Northwest Regional Education Laboratory. Retrieved from http://educationnorthwest.org/webfm_send/311
5   Brownson R. C., Royer C., Ewing R., & McBride T. D. (2006). Researchers and policymakers: Travelers in parallel universes. *American Journal of Preventive Medicine*, 30(2), 164-172.

partners' specific needs and in easy-to-understand formats that can be replicated for other audiences. More information about communicating with partners is provided in **Appendix U**.

Communicating With the Public

Another potential audience for policy evaluation results is the general public. It is critical that you identify the purpose and objectives of communication with the public from the beginning. When developing materials for the general public, make the materials concise and easy to read. Simple graphics can also be effective in communicating with the general public.[6] Details and considerations for communicating with the general public can be found in **Appendix U**.

Fostering a Culture of Policy Evaluation

To increase the occurrence of policy evaluation among all of the partners in your state, consider the following suggestions that can encourage and support policy evaluation.

- **Raise awareness of policy evaluation as a key part of the policy process.** Educate partners and decision makers on the importance of policy evaluation and on the ways that policy evaluation findings can inform the policy process. Consider ways of implementing policies that will facilitate comparison groups, such as phased roll-outs or pilot projects.

- **Consider policy evaluation methods when creating surveillance and reporting requirements and recommendations.** When refining or developing state data collection systems, consider how the data elements could potentially support policy evaluations when designing surveillance requirements and recommendations. Consider implementing mechanisms that facilitate access to datasets across state and local agencies.

- **Provide training and technical assistance on basic evaluation and policy evaluation**. Conduct presentations about the basics of evaluation as well as the key concepts and techniques of policy evaluation. Share these briefs with your partners at the state and local levels.

- **Provide information on data sources and methods for accessing data.** Provide overviews of existing surveillance systems and other state and local sources of data.

- **Support peer learning mechanisms and regional networks.** Provide a mechanism for partners to share effective strategies, ask questions, and brainstorm solutions.

- **Create a repository for policy evaluation results and methodologies.** Consider creating a library or repository of policy evaluation reports in your state. Since many policy evaluations are never formally published, it is important to reach out to partners and experts in the field to collect these evaluations and raise awareness about the database.

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6   DuBay, W. H. (2004). *The principles of readability*. Retrieved from http://www.nald.ca/library/research/readab/readab.pdf

Action Steps

- Consider the goals and objectives of a potential policy evaluation. For each of the goals, identify how the results of the evaluation can be used to accomplish it.
- Identify the target audiences and the best mechanisms for reaching them.
- Assess the existing capacity for conducting policy evaluation at both the state and local levels.
- Use the resources and tools listed in this brief.

Additional Resources

Adding Power to Our Voices: Framing Guide for Communicating about Injury. Available at http://www.cdc.gov/injury/framing/CDCFramingGuide-a.pdf

Gateway to Health Communication & Social Marketing Practice (CDC). Available at http://www.cdc.gov/healthcommunication/.

The Pink Book—Making Health Communication Programs Work (National Cancer Institute). Available at http://www.cancer.gov/cancertopics/cancerlibrary/pinkbook.

Appendix A: Policy Evaluation Example: Child Restraint Law Expansion

Refer to Brief 1 for additional information similar in topic to **Appendix A**.

This example focuses on an evaluation of the impact of a policy expanding a child restraint law to apply to children up to the age of 8.

Stakeholders

To evaluate the impact of a new child restraint law, state staff met with a number of stakeholders, including staff evaluators, representatives from the office of injury, the department of motor vehicles, police departments and state troopers, the local hospital, and a nonprofit partner. Participants discussed the content of the law and how it had been implemented. At the end of the meeting, several of the participants agreed to serve on the core evaluation team and roles and responsibilities were assigned. Although no external funding for the evaluation was available, the team included a state employee with expertise in statistics, who was able to assist with the technical aspects of the evaluation.

Describing the Process

Over the course of several meetings, team members began describing the policy. They revisited the process that led to the enactment of the policy, the specific language of the policy, and how the policy was implemented. Because this law was an expansion of a previous law, they also conducted a comparison of the new and previous laws. A logic model was created that outlined the inputs, activities, and outputs of the policy, as well as the short-term, intermediate, and long-term outcomes. The team also identified the potential indicators for these outcomes, including child restraint seat use and frequency and severity of motor vehicle crash injuries.

Focusing the Evaluation

Because the implementation of the restraint law had already been monitored and enforced by the state troopers and local police, and because of the office of injury had access to state surveillance data, the team chose to focus their evaluation on the impact of the law. They selected the following evaluation questions:

- Did the law increase the use of child restraint seats among children ages 4–8?
- Did the law have an impact on the injury rate, severity of injuries, or both among all children under the age of 8 who were involved in crashes?
- Was this impact different for children under 4 (who were covered by the previous law) than for children ages 4–8 (who were covered by the new law)?

Selecting Evaluation Design

The team selected a time series design with a comparison group of children under 4. This was chosen as a comparison group because the previous child restraint law covered them. The team selected child restraint seat use as the short-term outcome and rates of injury and severity of injury as the long-term impacts.

Data Collection

The team accessed a database on motor vehicle crashes that resulted in injury or death. Maintained by the state department of motor vehicles, the database provides data on injury severity, crash date, and individual safety equipment use. The team also used demographic data from the National Center for Health Statistics to estimate population-based injury rates. To allow for examination of the outcomes before and after the enactment of the law, the team pulled data from 2 years before and 2 years after the law went into effect. Because there was a great deal of awareness about the law, the team believed that 2 years was adequate to see some change, but they planned to re-evaluate in another year.

Data Analysis

To examine the difference in the indicators between the two age groups, the statistician performed a chi-square test. Additional statistical tests were conducted to examine the impact of the law on injury rates, controlling for the use of child restraint seats. The analyses found a 72% increase (from 29% to 50%) in child restraint use among 4- to 8-year-olds. In addition, injuries among 4- to 8-year-olds were reduced by 18%, but no change was seen in traffic injury rates for 0- to 3-year-olds.

Justifying Conclusions

When the team members discussed the results, they articulated several limitations of the evaluation, including the fact that these were early effects of the law and that no data were available on the misuse of child restraint systems. However, the team concluded that the evaluation demonstrated that the law did have an impact on injury rates among 4- to 8-year-olds that could be explained by increased use of child restraint seats.

Communicating Results

To ensure that the results of the evaluation were shared, the team decided to take a two-pronged approach to dissemination. First, the team prepared an evaluation report, which included details about the evaluation methodology, to disseminate to partners and post on their website. Second, the core team invited all of the stakeholders from the original meeting to a discussion of the evaluation results. Partner stakeholders who were part of nonprofit partners used the evaluation results to create a press release, which generated a number of follow-up articles, and additional requests for information. The team also created a one-page overview of the evaluation results to provide to any policymakers that requested information.

Loosely based on Sun, K., Bauer, M., & Hardman, S. (2010). Effects of upgraded child restraint law designed to increase booster seat use in New York. Pediatrics, 126, 484–489.

Appendix B: Policy Evaluation Example: Restricting Hours of Alcohol Sales to Prevent Excessive Alcohol Consumption and Related Injuries

Refer to Brief 1 for additional information similar in topic to **Appendix B**

This example focuses on an impact evaluation of a policy restricting hours of alcohol sales in an effort to reduce harm related to excessive alcohol consumption.

Stakeholders
To evaluate the impact of policies that restrict the hours of alcohol sales to reduce excessive alcohol consumption and related injuries, a lead evaluator at the state pulled together a number of stakeholders, including representatives from the office of injury at the state health department, the department of motor vehicles, police departments and state troopers, local hospitals, and a nonprofit partner. Local alcohol retailers, who had expressed opposition to the laws, were also invited to the meeting. Participants discussed issues about the development, content, and implementation of the law.

Describing the Process
The team created a logic model for the policy and outlined the inputs, activities, and outputs, as well as the short-term, intermediate, and long-term outcomes. The team also discussed potential indicators for these outcomes, including decreased sales of alcohol during restricted hours (short-term), reductions in excessive alcohol consumption (intermediate), and reductions in injuries and deaths related to excessive alcohol consumption (long-term). This process assisted in identifying potential variables and data collection points to include in the evaluation.

Focusing the Evaluation
The team chose to focus their evaluation on both the implementation and impact of the law. They knew they would have access to surveillance and administrative data because of the involvement of key stakeholders, including state and local health department staff. The team selected the following evaluation questions:

- Does restricting the hours of alcohol sales alter alcohol-purchasing habits?
- Does restricting the hours of alcohol sales reduce injuries related to excessive alcohol consumption?
- Are there any unintended consequences of restricting the hours of alcohol sales (related to alcohol consumption or related injury)?
- Does the level of restriction (number of hours) influence the impact of the policy?

Selecting Evaluation Design
The team chose to use a quasi-experimental evaluation design using non-equivalent comparison groups and time series. As comparison groups they selected a number of cities enacting various restrictions on hours of alcohol sales. The team also used time series designs to examine trends in the various injury indicators within each city. This design allowed them to compare cities with similar and different restrictions as well as to compare changes in indicators within and across cities over time.

Data Collection
The team used a combination of existing datasets. These included national databases, such as the Fatality Analysis Reporting System and nonfatal injury reports from the Web-based Injury Statistics Query and Reporting System (WISQARS™), as well as statewide databases, such as the database of motor vehicle crashes maintained by the state department of motor vehicles. The team also obtained data from local administrative datasets on alcohol-related emergency admissions, arrests for violent crimes related to alcohol, and monthly assault rates. To examine purchasing behavior, the team obtained data through the U.S. Alcohol Epidemiologic Data System, which collects data on sales, tax receipts, and alcohol shipments. To allow for examination of the

outcomes before and after the enactment of the restrictions, the team pulled data from before and after the restrictions went into effect. The team examined percentage change in indicators over time as well as between different jurisdictions and different levels of restrictions.

Justifying Conclusions

The results of the analysis were shared with team members, who discussed potential explanations as well as limitations. The team also compared the results with information from the CDC Guide to Community Preventive Services to see if the results were consistent. Some of the limitations of the evaluation included the fact that there were multiple sources of data across the jurisdictions, differences in time periods of restriction implementation between jurisdictions, lack of data on actual alcohol consumption rates, and varying degrees of enforcement of restrictions between jurisdictions. In addition, team members acknowledged that the evaluation did not factor in the impact of other confounding contextual factors, such as changes in alcohol taxes. However, the team concluded that the evaluation demonstrated that restricting the hours of alcohol sales by more than 2 hours was related to a decrease in alcohol-related injury. The evaluation also found, however, that the relation was not present when the restriction resulted in less than 2 hours of change, indicating that the degree of restriction was an important factor.

Communicating Results

The team prepared an evaluation report to disseminate to partners, which contained a number of details about the methodology and statistical analyses used. The team also wrote an article about the evaluation methodology and results and published it in a major journal. Additionally, one of the partner organizations used some of the evaluation results when developing a policy brief about the topic of restricting hours of alcohol sales.

Loosely based on Hahn, R. A., Kuzara, J. L., Elder, R., Brewer, R., Chattopadhyay, S., Fielding, J., Nalml, T.S., Toomey, T., Middleton, J.C. & Lawrence, B. (2010). Effectiveness of policies restricting hours of alcohol sales in preventing excessive alcohol consumption and related harms. American Journal of Preventive Medicine, 39, 590–604.

Appendix C: Challenges and Potential Solutions to Policy Evaluation

Refer to Brief 1 for additional information similar in topic to **Appendix C.**

Policy Evaluation Challenges	Potential Solutions
Lack of resources or clear responsibility for evaluation	▪ Create a clearly written evaluation plan with specific roles and responsibilities. ▪ Identify and partner with the stakeholder who has responsibility for monitoring the implementation (if that is not your agency).
Fear of evaluation and lack of familiarity with policy evaluation methods	▪ Start small by evaluating the content or implementation of a policy with few components. ▪ Reach out to partners within and outside your agency.
Lack of control over policy implementation	▪ Conduct a policy implementation evaluation or closely monitor implementation so that you clearly understand how the policy was implemented.
Rapid pace of policy	▪ Strive to develop the evaluation plan before implementation if at all possible. ▪ Identify potential indicators up front to plan for their collection.
Political scrutiny and desire for quick production of results	▪ Identify short-term and intermediate outcomes in addition to long-term impacts.
Lack of strong evidence base to support policy	▪ Reach out to partners to identify any unpublished evaluations. ▪ Conduct evaluation on multiple phases of the policy (content, implementation, and impact) to inform interpretation of results.
External and contextual factors such as economic conditions or public awareness	▪ Measure contextual factors to the extent possible. ▪ Use an evaluation plan that measures short-term and intermediate outcomes that logically link to long-term outcomes.
Lack of access to appropriate data	▪ Identify available pre-existing data sources and explore the possibility of data linkage to increase analysis possibilities (see Brief 6).
Lack of appropriate measures	▪ Conduct a stakeholder discussion to assist with identifying or developing appropriate measures. ▪ Reach out to communities that have done similar evaluations.
Concern about allowable participation in policy development process	▪ Request clarification of rules. ▪ Identify key nongovernmental partners to evaluate areas best suited to their capacities and expertise.
Challenges of finding an equivalent comparison group	▪ Identify variables within the implementing community (such as degree of implementation) that may allow for comparisons. ▪ Consider alternative designs. ▪ Look for opportunities to use within-group comparisons.
Conflicting results	▪ When weighing the results, consider how accurately the methods were implemented, the extent to which data accurately represent the indicator or impact, your confidence level in the logic model and theory of change, the statistical significance and magnitude of findings, the assumptions made by statistical tests, and the match between evaluation methods and evaluation questions.
Lag in availability of data for evaluation	▪ Ensure that your evaluation plan factors in availability of data ▪ Partner directly with the agency that collects the data rather than waiting for the data to become publicly available

The terms below are defined within the context of their use in the associated briefs.

Accuracy standards: A set of evaluation standards that ensure that an evaluation will provide technically adequate information about the program or policy being evaluated.

Barrier: An obstacle that limits or prevents the implementation of a policy.

Categorization schema: A model that can be developed to compare the content of different policies by describing the components of a subset of policies and then looking for different categories or components that occur across those policies.

Content evaluation: A type of formative evaluation that focuses on the content or design of a policy.

Cost-benefit analysis: An examination of the overall costs of the policy in relation to any cost savings that occurred because of the policy.

Cost-effectiveness analysis: An examination of the costs of the policy in relation to the cost per outcome (injury avoided).

Data linkage: A technique for expanding the amount of pre-existing data available by linking data from two or more data sets to provide a better picture of the circumstances surrounding an injury event.

Facilitator: A factor or characteristic that assists or supports the implementation of a policy.

Feasibility standards: A set of evaluation standards that ensure that an evaluation will be realistic, prudent, diplomatic, and frugal.

Formative evaluation: A type of policy evaluation intended to guide improvement of the current policy intervention. Development or content evaluation and process/implementation evaluation are both types of formative evaluation.

Impact evaluation: A type of summative evaluation that focuses on the effects of the policy. An impact evaluation can focus on immediate and intermediate effects of a policy such as changes in behaviors, attitudes, or knowledge or on long-range results of a policy such as health indicators.

Impact: A component of a policy evaluation logic model, an impact is a long-term change in indicators, such as a decrease in injury rates or severity.

Indicator: A specific, observable, and measurable characteristic of change. It demonstrates progress toward outcome or impact.

Input: A component of a policy evaluation logic model, an input is a resource required to implement a policy, such as stakeholders, time, or funding.

Logic model: A helpful tool used to depict graphically how a policy is expected to operate. It typically includes inputs, activities, outputs, outcomes, impacts, and context.

Mixed-methods approach: A type of evaluation design that combines multiple designs or methods to provide multiple perspectives. The value of using mixed methods is the possibility of reinforcing findings by using multiple designs and analyses that may demonstrate similar results.

Outcome: A component of a policy evaluation logic model, an outcome is a short- or intermediate-term change in the target audience's behaviors, attitudes, and knowledge—such as use of seat belts or attitudes toward domestic violence— as a result of a policy.

Output: A component of a policy evaluation logic model, an output is a direct product of policy implementation activities. Changes made to a product to improve its safety are one example.

Policy evaluation: The process of applying evaluation principles and methods to examine the development, content, implementation, or impact of a policy. Policy evaluation may be used to document success in policy development; assess support for and compliance with existing policies; or demonstrate the effectiveness of existing policies.

Process or implementation evaluation: A type of formative evaluation that focuses on implementation of a policy.

Propriety standards: A set of evaluation standards that ensure that an evaluation will be conducted legally, ethically, and with due regard for the welfare of those involved in the evaluation as well as those affected by its results.

Reliability: The extent to which a measure can be expected to produce similar results on repeated observations of the same condition or event.

Summative evaluation: A type of policy evaluation that looks at the performance of the policy intervention once it has been implemented. Impact evaluation and economic evaluation are two types of summative evaluation.

Theory of change: A theory explaining the connection between policy activities and their outcomes. Not all theories of change are supported by research or evidence. Establishing whether a theory of change is evidence based can assist in interpreting evaluation results.

Utility standards: A set of evaluation standards that ensure that an evaluation will serve the information needs of intended users.

Validity: The accuracy of a measure and its ability to measure what it is intended to measure.

Appendix E: Types of Stakeholders

Refer to Brief 2 for additional information similar in topic to **Appendix E.**

Types of Stakeholders		
Type of Stakeholder	**Key Skills/Expertise**	**Key Roles**
Policy expert	Expertise in policy process Understanding of critical policy content and implementation factors	Describing the policy Focusing the evaluation design Justifying results Ensuring use and lessons learned
Evaluation expert	Evaluation design and methodology Statistical expertise	Focusing the evaluation Gathering credible evidence Justifying conclusions
Subject matter expert	Subject matter expertise Contextual knowledge	Engaging stakeholders Describing the policy Justifying conclusions Ensuring use and lessons learned
Implementer or other stakeholders impacted by the policy	Contextual knowledge Knowledge of barriers to and facilitators of implementation and evaluation Familiarity with data sources Alternative perspective on results	Engaging stakeholders Describing the policy Gathering credible evidence Justifying conclusions Ensuring use and lessons learned

Examples of Stakeholders in Various Injury Domains		
Policy Example	**Stakeholder Categories**	**Examples of Stakeholders**
Regulation requiring prescribing physicians to use serialized, tamper-proof prescription forms	Policy experts	National Association of State Controlled Substances Authorities
	Evaluation experts	Quantitative policy researcher or evaluator
	Subject matter experts	State program staff Researchers
	Implementers	Pharmacists Drug enforcement officials
State law requiring all schools to establish a written anti-violence policy	Policy experts	State injury program director Safe States Alliance members
	Evaluation experts	Quantitative policy researcher or evaluator
	Subject matter experts	State program staff National Academic Centers for Excellence (ACEs) in Youth Violence Prevention
	Implementers	Superintendents of schools Principals
Guidelines for treatment of traumatic brain injury (TBI)	Policy experts	Brain Trauma Foundation representatives
	Evaluation experts	Quantitative policy researcher or evaluator
	Subject matter experts	State program staff
	Implementers	Hospital managers Emergency room physicians

Appendix F: Key Steps in Selecting or Hiring an Evaluator

Refer to Brief 2 for additional information similar in topic to **Appendix F**.

- Ensure that the team is in agreement as to what the evaluator will need to accomplish.

- Identify potential candidates through recommendations, referrals or formal solicitation methods.

- Evaluate candidates on the following key competencies[2]:

  - **Professional Practice:** Follows fundamental norms and values of evaluation practice including application of evaluation standards in an ethical and respectful manner.

  - **Systematic Inquiry:** Understands the technical aspects of evaluation, including qualitative, quantitative, and mixed methods; evaluation design; and data analysis and interpretation; demonstrates awareness of strengths and limitations of designs.

  - **Situational Analysis:** Demonstrates awareness of context of an evaluation, including the evaluability of a policy, relevant stakeholders, competing interests, and political contexts.

  - **Project Management:** Controls practical aspects of work, including negotiating with team, budgeting, identifying needed resources, and sticking to the timeline.

  - **Reflective Practice:** Understands personal strengths and limitations in expertise and skills.

  - **Interpersonal Competencies:** Demonstrates the ability to work effectively with others, including effective communication and negotiation skills and cultural competency.

- If the team chooses to select an external evaluator, establish a selection committee to review proposals and develop criteria to assess candidates. Sample criteria may include the following:

  - Level of professional training.

  - Approach to evaluation.

  - Experience in evaluation.

  - Ability to meet the needs of the team.

  - Content knowledge.

  - Technical skills.

  - Proposed cost.

  - Positive references.

- Rank each candidate using the same criteria, discuss among the selection committee and larger evaluation team, and determine the most qualified evaluator.

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2   Stevahn L., King J. A., Ghere G., & Minnema J. (2005). Establishing essential competencies for program evaluators. *American Journal of Evaluation*, 26(1), 43-59.

- Prepare a thorough and comprehensive contract outlining objectives, duties, deliverables, and other considerations. At a minimum, the contract should include the following:
  - Scope of work.
  - Key deliverables and due dates.
  - Responsibilities of the evaluator.
  - Responsibilities of the evaluation team.
  - Data ownership and publication or presentation rights.
  - Payment amount, schedule, and conditions.
- Establish accountability procedures once the evaluator has started to ensure appropriate oversight of the evaluation. Some tools for ongoing accountability include the following:
  - Regular progress reports.
  - Regular meetings between the evaluator and a designated member of the evaluation team.
  - Interim implementation milestones.
- If an adjustment to the scope of the evaluation is required, modify the contract accordingly.

Additional Resource: *Selecting an evaluation consultant* (Evaluation Briefs No. 1). (2005, December). Atlanta, GA: CDC Division of Adolescent and School Health. Retrieved from http://www.cdc.gov/healthyyouth/evaluation/pdf/brief1.pdf
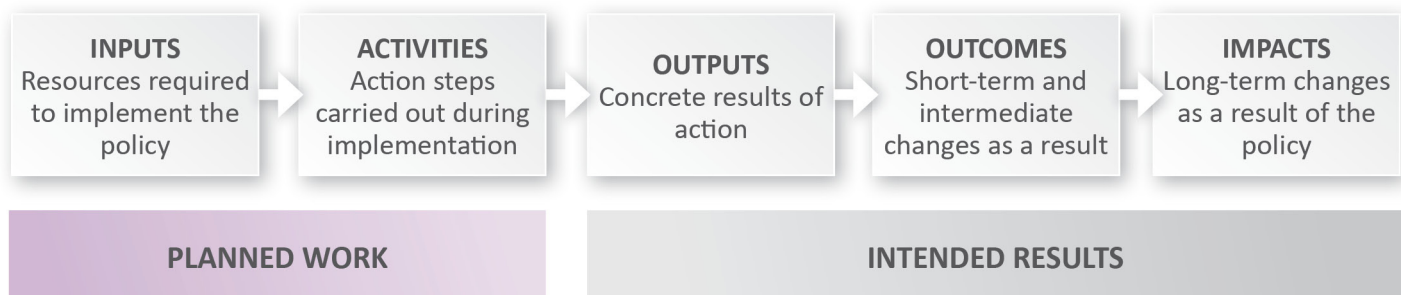
Refer to Brief 2 for additional information similar in topic to **Appendix G.**

When planning a policy evaluation, it's important to have clarity and consensus on the components of the policy being evaluated, its intended results, and its underlying logic (i.e., why should this policy achieve the intended impact?). Sometimes the underlying logic of a policy is clear and evidence based and sometimes it is less obvious.[3] Developing a logic model is crucial in helping to elaborate the goals, content, and context before implementing the policy. A logic model can also assist with selecting appropriate indicators and points of measurement.

Although a narrative is a fine way to describe each of the components, a logic model or similar tool can be useful in describing the policy and may make it easier to arrive at clarity and consensus. Creating a logic model allows for specific articulation of the underlying logic, assumed causal pathways between a policy or policies and behaviors, and the links between those behaviors and long-term impacts such as injury rates (see **Figure 1**).[4] Inability to identify a clear link between each of the components of the logic model may indicate a potential flaw in the underlying logic in the policy, which can influence the evaluation focus and design selected.[5] Likewise, the logic model process is an easy way to ensure that all stakeholders have the same understanding of the policy and its intended outcomes.[6] A template for completing a logic model, as well as two examples of policy logic models, can be found in **Appendices H**, **I**, and **J**.

Figure 1. Basic Logic Model

| **INPUTS** Resources required to implement the policy | **ACTIVITIES** Action steps carried out during implementation | **OUTPUTS** Concrete results of action | **OUTCOMES** Short-term and intermediate changes as a result | **IMPACTS** Long-term changes as a result of the policy |

| **PLANNED WORK** | **INTENDED RESULTS** |

Below are the definitions for each of the logic model steps:

- **Inputs** are information or resources required for developing or implementing policy, such as funding, staff, or stakeholder support.

- **Activities** are the actions that are carried out to implement the policy.

- **Outputs** are the direct results of these action steps, such as changes in product design, regulations, or enforcement of laws; or changes in systems that support or facilitate a policy.

3   The Community Toolbox. (2012). *Developing a logic model or theory of change*. Retrieved September 15, 2011, from http://ctb.ku.edu/en/tablecontents/sub_section_main_1877.aspx

4   Milstein, B., & Chapel, T. (2012). Developing a logic model or theory of change. *In The Community Toolbox* (Part A, Chapter 2, Section 1; V. Renault & S. Fawcett, Eds.). Retrieved from http://ctb.ku.edu/en/tablecontents/sub_section_main_1877.aspx

5   Her Majesty's Treasury (2011). *The magenta book: Guidance for evaluation*. London, UK: Author. Retrieved from http://www.hm-treasury.gov.uk/data_magentabook_index.htm

6   Stevahn, L., King, J. A., Ghere, G., & Minnema, J. (2005). Establishing essential competencies for program evaluators. *American Journal of Evaluation*, 26, 43–59.

- **Outcomes** are short-term and intermediate changes in target audience behaviors, awareness of risk factors, attitudes, and knowledge.
- **Impacts** are long-term changes in indicators.
- **Indicators** are specific, observable, measurable characteristics of changes that demonstrate progress toward outcome or impact.

As each of the components in the logic model is determined, identify meaningful indicators that will allow an assessment of the planned work and the intended results.[7] Doing so will ensure that you collect relevant data and select the most appropriate design.[8]

When developing the logic model or policy description, focus on the following key aspects:

- Goals and objectives of the policy
- Content of the policy
- Context surrounding the policy
- Underlying logic and causal pathways supporting the policy
- Policy requirements and implementation components

Some policies clearly articulate each of these components, while others may require investigation and discussion. It is also important to describe any potential gaps or areas of ambiguity in the policy that may influence its implementation or impact. Having a clear understanding of all of the policy components and implementation requirements will ensure that you are planning a thorough evaluation. Additional descriptions of these policy components, as well as examples and questions to guide discussion of them, are provided in **Appendix K**.

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7   MacDonald et al., op. cit
8   Milstein and Chapel, op. cit.

Appendix H: Logic Model Worksheet

Refer to Brief 2 for additional information similar in topic to **Appendix H.**

Context/Need	Assumptions/Theory of Change			External Influences		
	Inputs	Activities	Outputs	Short-Term Outcomes	Intermediate Outcomes	Impacts
	Indicators	Indicators	Indicators	Indicators	Indicators	Indicators

Refer to Brief 2 for additional information similar in topic to **Appendix I.**

Outcomes

Inputs	Activities	Outputs	Short-term	Intermediate	Long-term
China CDC funding	Build and sustain coalition of interested parties	Engaged Changsha PRAID coalition / Community mobilization to address alcohol problems	Increased knowledge and awareness about risks	Changes in drinking and driving behaviors	Reduction in injuries and deaths due to alcohol
Community partners and stakeholders	Publicity/media campaign (TV and radio)	New male drivers, along with community, are exposed to alcohol injury education			Safer roads and highways for drivers and pedestrians
PRAID coalition members	Increase the number of driver's education programs that cover alcohol use/RT I		Increased citations and sobriety checkpoints	Reduction in drivers found to be intoxicated	Reduction in treatment and recovery costs in hospitals and by families
Volunteers	Increase traffic police enforcement (e.g. sobriety checkpoints)	Strengthen enforcement of drunk driving laws			
Changsha City Health Department	Increase sanctions for driving under influence of alcohol				
Staff time and effort	Policy and regulatory action				
Free and earned media					
Resources to disseminate information about the program to alcohol outlets					
Training					
Alcohol education curricula					
Staff to perform monitoring operations					

CDC

Refer to Brief 2 for additional information similar in topic to **Appendix J.**

The following is an example of an alternative format for a logic model. The logic model was developed for a 5-year comprehensive multi-agency state program to reduce dangerous excessive drinking, driving while intoxicated (DWI) and ultimately, alcohol-related motor vehicle crash deaths.

Increased DWI enforcement
- Sobriety checkpoints
- Saturation patrols

Increased Public Awareness
- Paid media campaign
- Earned media

Increased Perceived Risk of DWI Arrest

Binge Drinking

Alcohol-Impared Driving

Alcohol-Related Crash Fatalities

Reduced Sales/Service to Intoxicated Persons

Strengthed Regulations prohibiting Sales/Service to Intoxicated Persons and Increased LCA Enforcement

9   Roeber, J. (2011, October). New Mexico Department of Health presentation at CDC Vital Signs Town Hall Teleconference.

Appendix K: Policy Components[10]

Refer to Brief 2 for additional information similar in topic to **Appendix K**.

Component	Description	Example	Key Questions
Policy goals and objectives	Articulate the goals and objectives of the policy including the issue or need it is designed to address and potential measures of success.	The goal of a motor vehicle restraint policy may be to decrease fatal crash-related injuries and the objectives may include increased use of seat belts and decreased crash-related injury severity.	▪ What issue or need is the policy designed to address? ▪ What are the stated goals or objectives? ▪ What criteria are being used to judge program success? ▪ Does the policy describe the specific indicators of program success? If not, can you identify what these indicators would be?
Underlying logic and causal pathways	Articulate the underlying logic and causal pathways supporting the policy. These explain the connection between the activities and the outcomes. They may be informed by public health theory, research, or previous evaluations.	The underlying logic behind a pool fencing law is that changing the physical environment will decrease the likelihood of behaviors that could result in injury thereby decreasing injury rates.	▪ Does the policy articulate the theory of change? If not, does it provide sufficient information to infer the theory of change? ▪ Does the research or evidence support the theory of change? ▪ Is a model policy with strong evidence the basis for the policy? ▪ How complex is the theory of change? How many steps are between the policy and the impact?
Policy requirements and implementation components	Articulate the specific and inferred requirements for implementation, including implementation milestones, feasibility of requirements, stakeholders, availability of resources, and implementation responsibilities.	Some "Return to Play" policies stipulate exact activities and documentation requirements for implementers. Other policies may leave policy requirements up to the parties responsible for implementation.	▪ What are the requirements in the policy for implementation? ▪ Are there any implied requirements for implementation? ▪ How clear and specific are implementation requirements? How will each stakeholder interpret the requirements? ▪ Does the policy assign clear responsibility for implementation of the policy? ▪ Are implementation milestones identifiable? ▪ Does the theory of change support the implementation components? ▪ Are the requirements and implementation components feasible given the resources and capacity of the stakeholders who will implement the policy? ▪ Does the policy describe any mechanism for supporting and clarifying the requirements of policy implementation (such as written regulations or technical guidance)? If so, is it feasible and likely? ▪ Does the policy describe any mechanism for monitoring policy implementation? If so, is it feasible and likely? ▪ Does the policy require particular resources for implementation? If so, does it specify the source of resources?

| Policy context | It is also necessary to identify and describe critical contextual variables including political interest, support and resistance, and potential facilitators and barriers to implementation. | The introduction and enactment of certain policies can be influenced by high profile national events, such as a school shooting. In addition, opposition to a policy can influence its enactment and implementation. | Are all the relevant stakeholders engaged and supportive of the policy? Are the resources required for implementation likely to be available? Are there key assumptions underlying the policy or the environment related to implementation? Are these assumptions accurate? What is the level of political interest in the policy? Is it a high-profile policy? Is there pressure on the policy to succeed or to demonstrate immediate impact? What opposition exists? Could it have a negative impact on policy implementation? |

10 MacDonald, G., Starr, G., Schooley, M., Yee, S. L., Klimowksi, K., & Turner, K. (2001). *Introduction to program evaluation for comprehensive tobacco control programs*. Atlanta, GA: Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/tobacco/tobacco_control_programs/surveillance_evaluation/evaluation_manual/pdfs/evaluation.pdf

Appendix L. Examples of Outcomes, Indicators, and Possible Data Sources in Injury Prevention and Control

Refer to Brief 2 for additional information similar in topic to **Appendix L**.

Outputs	Indicator	Possible Data Sources
Increased number of homes with access to smoke alarms	Number of smoke alarms distributed	▪ Activity logs ▪ Local survey of households
Exposure to advertisements designed to educate about child maltreatment	Gross rating point (GRP) estimate of exposure to advertisements aimed at reducing physical and verbal abuse and emotional neglect of children	▪ Activity logs ▪ Media exposure tracking systems
Increased compliance with BTF–based TBI treatment protocol	Intensive education program instituted to develop compliance with TBI treatment protocol	▪ National Trauma Data Bank ▪ National Hospital Discharge Survey
Short-term Outcomes	**Indicator**	**Possible Data Sources**
Increased knowledge of dangers of texting while driving	Percentage of adults who understand that texting while driving increases their chances of an accident	▪ State-administered survey regarding use of technology in motor vehicles
Increased number of schools implementing written violence prevention policies	Percentage of schools with written violence prevention policies	▪ School Health Policies and Practices Study ▪ NASBE State School Health Policy Database
Increased number of hospitals adopting Brain Trauma Foundation guidelines for treatment of severe TBI	Percentage of hospitals that adopt BTF guidelines for treatment of severe TBI	▪ National Trauma Data Bank ▪ HCUP
Intermediate Outcomes	**Indicator**	**Possible Data Sources**
Increased percentage of child booster seat use in motor vehicles	Percentage of families who consistently use booster seats for all children, as age or size appropriate	▪ Behavioral Risk Factor Surveillance System
Improved behavioral intentions of students concerning dating violence	Percentage of college students with improvement in behavioral intentions concerning dating violence	▪ Monitoring the Future (MTF) Series ▪ National Youth Survey (NYS) Series
Decreased costs for treatment of patients suffering from severe TBI	Difference between costs for whether or not TBI is treated according to BTF guidelines	▪ National Trauma Data Bank ▪ HCUP
Long-term Impacts	**Indicator**	**Possible Data Sources**
Decreased deaths due to falls among older adults	Percentage of older adults who die as a result of a fall	▪ WISQARS™ ▪ Inventory of National Injury Data Systems
Decreased adult deaths related to drowning from intoxication	Percentage of adults who drown as a result of intoxication	▪ Alcohol-related disease impact ▪ WISQARS™

BTF, Brain Trauma Foundation; HCUP, Healthcare Cost and Utilization Project; NASBE, National Association of State Boards of Education; TBI, traumatic brain injury; WISQARS, Web-based Injury Statistics Query and Reporting System.

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Refer to Brief 2 for additional information similar in topic to **Appendix M**.

- Focus the evaluation on the high priority questions. Ensure that the evaluation questions selected can be realistically answered given the available resources and data. Balance the difficulty of answering the question with its relative importance when selecting evaluation questions.

- Select the evaluation design that most appropriately answers the evaluation questions, regardless of whether it is the most complex design.

- • Bring in external consultants only on the aspects of the evaluation that require external expertise (such as data analysis). Use internal staff for other responsibilities (such as data collection and reporting).[11]

- Partner with universities and colleges to gain access to technical expertise (such as evaluation design and data analysis) as well as logistical support (students can assist with data collection and data entry).

- Collaborate with nonprofit research organizations that may have an interest in the topic.

- Consider using only data from existing datasets, including surveillance and administrative data. If additional data is required, be very specific and focused in collecting it.

- Use inexpensive online survey software to gather and organize data.

- Reach out to governmental entities that may have an interest in this issue. Even if they cannot provide funding, they may be able to provide staff support or access to other resources.

- Reach out to national and local foundations and community organizations that may have an interest in the topic.

- Consider the staff time required when creating the evaluation budget. Ensure that estimates are realistic so that the budget is feasible.

Additional Resource

Bamberger, M., Rugh, J., Church, M. & Fort, L. (2004). Shoestring evaluation: Designing impact evaluations under budget, time and data constraints. *American Journal of Evaluation*, 25, 5–37.

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11 W. K. Kellogg Foundation. (1998; rev. 2004). *Evaluation handbook*. Battle Creek, MI: Author. Retrieved from http://www.wkkf.org/knowledge-center/resources/2010/W-K-Kellogg-Foundation-Evaluation-Handbook.aspx

Appendix N: Policy Database Examples

Refer to Brief 3 for additional information similar in topic to **Appendix N**.

Policy databases are a key tool in comparing policies across jurisdictions (including international, national, state, and local). These databases contain detailed information about policies including content, context, and other relevant variables. This can make the task of compiling and comparing policies much easier. Some potential databases include the following:

- U.S Government Printing Office (http://www.gpo.gov/fdsys/)
- Congressional Quarterly
  - Federal Policy Tracker (http://corporate.cqrollcall.com/content/48/en/Legislative_Tracking)
  - State Policy Tracker (http://www.cqstatetrack.com)
- National Conference of State Legislatures (NCSL) (http://www.ncsl.org/)
- World Health Organizations (WHO)—European Inventory of National Policies for Prevention of Violence and Injuries (http://data.euro.who.int/injuryprevention/)
- Insurance Institute for Highway Safety (IIHS) (http://www.iihs.org/laws/default.aspx)
- Safe Kids USA—Find Safety Laws by State (http://www.safekids.org/in-your-area/safety-laws/)
- Administration for Children and Families—Child Welfare Information Gateway: Laws and Policies (https://www.childwelfare.gov/systemwide/laws_policies/)

Refer to Brief 5 for additional information similar in topic to **Appendix O**.

Types of Evaluation Designs

- **Experimental designs** are designs used frequently in formal research or sophisticated evaluation in which intervention and control groups are determined by random assignment; at a minimum, the variable of interest is measured before and after the intervention.[12]

- **Randomized controlled trial (RCT)**: Often called the "gold standard" of study design, RCTs randomly allocate study participants to one or more treatment or control groups. Comparing treatment groups with controls can produce the strongest evidence that a project, program, or policy has contributed to outcomes. Note, however, that in most cases, RCT methodology is not an appropriate or feasible choice as a policy evaluation methodology, as randomization may be unethical, impossible, costly, or time-consuming.

- **Quasi-experimental designs** involve either a time comparison (before and after the intervention) or comparison with another group, such as a similar community in a jurisdiction not affected by a policy change. Comparison groups are not determined by random assignment, which makes quasi-experimental designs typically more feasible than experimental designs. They are often used to evaluate policy impact.[12]

- **Non-experimental designs** examine variation without any making comparisons over time or between groups. Examples of non-experimental designs include descriptive, cross-sectional, and case study. Non-experimental designs tend to rely heavily on qualitative methods. The focus of the design may be to provide an accurate description rather than to prove a specific hypothesis.

- **Mixed-methods designs** combine multiple designs or methods to provide multiple perspectives.

- **Case studies** provide an in-depth examination of a phenomenon within a very small sample with a variety of data sources and perspectives.[13] Although case study designs typically include qualitative data, they can include quantitative data as well. Case studies can provide valuable insight into the role of context and the barriers to and facilitators of implementation.

- **Cross-sectional designs** collect quantitative data at a point in time on a broad base such as a population, often using surveys.[12]

Time Comparisons

- **Pre-post designs** (also known as before-and-after studies) measure indicators before the policy is implemented and then again after a sufficient period of time has passed for effects to be expected.

<p align="center">O   X   O</p>

- **Time-series designs**, on the other hand, incorporate a number of observations over time and may or may not include the same respondents each time. When a long time-series of pre-implementation observations exist, it can be possible to demonstrate long-standing trends and project them into the future.[12]

<p align="center">O   O   X   O   O</p>

12 Rossi, P. H., Lipsey, M. W., & Freeman, H. E. (2004). Evaluation: A systematic approach (7th ed.). Thousand Oaks, CA: Sage.

13 Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *Qualitative Report, 13*, 544–559.

- **Difference-in-difference**: This method involves contrasting the indicators in the matched comparison and target jurisdictions at multiple points before the policy is implemented and at multiple points after the policy is implemented (time-series design with comparison group). Changes in the indicator over time (trend) are then compared between the groups. The trend for the matched comparison group is assumed to be the counterfactual or the natural change in the indicator (absent the policy).[14]

Between Group Comparisons

To demonstrate that the policy is responsible for change, you may want to consider the condition of the target population affected by the policy and compare it with the condition of an equivalent group that was not affected by the policy. Being able to compare the effects of a policy in relation to what would have happened in the absence of the policy (called the **counterfactual**) can increase confidence that the influence on the outcomes and impacts was due to the policy.

Pre-Post with Non-Equivalent Comparison Group

O   X   O

C   C

Time Series with Non-Equivalent Comparison Group

O   O   X   O   O

C   C   C   C

Identifying Comparison Groups

TThe comparison group is presumed to be either similar to the targets or, at the very least, not systematically different from the population being studied. However, unless the groups are randomly assigned, some additional steps are required during analyses and interpretation to demonstrate the appropriateness of the comparison group. Inherent in the design is that groups are not equivalent, regardless of how similar they may appear. Statistical adjustments can be made to account for any critical differences that may exist between the two groups; therefore policy effects can be assessed with a reasonable degree of confidence.

There are a number of statistical methods that you can use to control for key differences between the comparison group and target group.[14] For example, for non-randomly-assigned groups, the analyst may wish to consider regressing outcome indicators not just on an indicator of study group membership, but on demographics, in case small between-group variations exist.

14 Purdon, S., Lessof, C., Woodfield, K., & Bryson C. (2001). *Research methods for policy evaluation* (Research working paper No 2). London, UK: National Centre for Social Research. Retrieved from http://research.dwp.gov.uk/asd/asd5/WP2.pdf

Natural Experiments

A natural experiment is a quasi-experimental design in which group assignment is exogenous but not strictly randomized or controlled. The way that a policy is implemented may, either intentionally or unintentionally, result in a naturally occurring comparison group. For example, there may be a situation where adjoining jurisdictions adopt slightly different policies, or one adopts a policy and one does not. It is possible to compare impacts between the two jurisdictions. However, it is important to demonstrate that the jurisdictions are not systematically different. The comparison jurisdiction should be selected on the basis of its similarity to the implementing jurisdiction on key variables not related to the intervention.[14]

Other Related Analyses

Other types of evaluation designs and methods include:

- **Cost-benefit analyses** examine the overall costs of the policy in relation to the cost savings that occurred because of the policy. You might find it challenging to assign monetary value to all of the benefits of the policy. At the very least, the analyses can consider the costs of the injuries avoided.
- **Cost-effectiveness analyses** examine the costs of the policy in relation to the cost per outcome (injury avoided). These analyses can provide you with a cost per unit of outcome. Again, it is often challenging to account for all of the costs related to the outcomes.

Refer to Brief 6 for additional information similar in topic to **Appendix P**.

National Surveillance Systems		
System	**Description**	**URL**
Web-based Injury Statistics Query and Reporting System (WISQARS™)	An interactive, online database that tracks fatal and nonfatal injuries, violent deaths, and costs of injuries. Evaluators, the media, public health professionals, and the public can use WISQARS™ data to learn more about the public health and economic burden associated with unintentional and violence-related injury in the United States. Users can search, sort, and view the injury data and create reports, charts, and maps based on the following: ▪ Intent of injury (unintentional injury, violence-related, homicide/assault, legal intervention, suicide/intentional self-harm) ▪ Mechanism (cause) of injury (e.g., fall, fire, firearm, motor vehicle crash, poisoning, suffocation) ▪ Body region (e.g., traumatic brain injury, spinal cord, torso, upper and lower extremities) ▪ Nature (type) of injury (e.g., fracture, dislocation, internal injury, open wound, amputation, burn) ▪ Geographic location (national, regional, state) where the injury occurred ▪ Sex, race/ethnicity, and age of the injured person	http://www.cdc.gov/injury/wisqars/facts.html
Inventory of National Injury Data Systems	A list of 45 different federal data systems operated by 16 different agencies and 3 private injury registry systems that provide nationwide injury-related data. Data systems are organized by the topics listed below. (Some data systems are listed more than once relevant to different violence- and injury-related topics.) ▪ Behavioral risk factors/injury incidence ▪ Injury morbidity data ▪ Injury deaths—death certificates ▪ Automotive/transport injury data ▪ Automotive behavioral injury data ▪ Occupational injury data ▪ Violent death data ▪ Crime and victimization data ▪ Drug abuse data ▪ Other injury data ▪ Trauma care/poisoning data	http://www.cdc.gov/Injury/wisqars/InventoryInjuryDataSys.html

National Surveillance Systems (cont.)		
Health Indicators Warehouse (HIW)	Provides a single, user-friendly, source for national, state, and community health indicators and links indicators with evidence-based interventions. HIW serves as the data hub for the Department of Health and Human Services Community Health Data Initiative, a flagship HHS open government initiative to release data, encourage innovative application development, and catalyze change to improve community health. HIW contains pre-constructed national, state, and local level indicators including: ▪ Healthy People 2020 indicators ▪ County health rankings indicators ▪ Community Health Status Indicators (CHSIs) ▪ Medicare quality and utilization indicators HIW has the ability to map, chart, graph, and trend indicators, and it also provides supporting descriptive indicator definitions, methods, data sources and other descriptive data needed to facilitate appropriate use of indicators.	http://healthindicators.gov/
Fatality Analysis Reporting System (FARS)	A nationwide census providing National Highway Traffic Safety Administration (NHTSA), Congress, and the American public yearly data regarding fatal injuries suffered in motor vehicle traffic crashes.	http://www.nhtsa.gov/FARS
National Child Abuse and Neglect Data System (NCANDS)	Dataset consisting of child-specific data of all investigated reports of maltreatment to state child protective service agencies. It is a federally sponsored national data collection effort created for the purpose of tracking the volume and nature of child maltreatment reporting each year within the United States. The Child File is the case level component of the NCANDS; the Agency is the NCANDS State-level component. Child File data are collected annually through the voluntary participation of states. Submitted data consist of all investigations or assessments of alleged child maltreatment that received a disposition in the reporting year. Data elements include the demographics of children and their perpetrators, types of maltreatment, investigation or assessment dispositions, risk factors, and services provided as a result of the investigation or assessment.	http://aspe.hhs.gov/hsp/06/catalog-ai-an-na/NCANDS.htm

National Surveillance Systems (cont.)		
National Violent Death Reporting System (NVDRS)	A state-based surveillance system that collects facts from different sources about the same incident. The information—from death certificates, police reports, and coroner or medical examiner reports—is pooled into a useable, anonymous database that: ▪ Links records to describe in detail the circumstances that may contribute to a violent death. ▪ Identifies violent deaths occurring in the same incident to help describe the circumstances of multiple homicides or homicide–suicides. ▪ Provides timely preliminary information on violent deaths. ▪ Helps characterize the relationship of the victim to the suspect. NVDRS operates in 18 states, pulls together data on which child maltreatment fatalities, intimate partner homicides, other homicides, suicides, legal intervention deaths, unintentional firearm injury deaths, deaths of undetermined intent.	http://www.cdc.gov/violenceprevention/nvdrs/datacollectionaccess.html
National Intimate Partner and Sexual Violence Survey (NISVS)	NISVS is the first ongoing survey dedicated solely to describing and monitoring these forms of violence as public health issues. It also includes information that has not previously been measured in a national population-based survey, such as types of sexual violence other than rape, expressive psychological aggression and coercive control, and control of reproductive or sexual health. NISVS is also the first survey to provide national and state-level data on sexual violence, stalking, and intimate partner violence.	http://www.cdc.gov/violenceprevention/nisvs/
State Level Surveillance Systems		
System	**Description**	**URL**
State Injury Indicator Reports	These reports compile injury data voluntarily collected by state health departments. They consolidate data from hospital records, death certificates, and several national surveillance systems and provide the rates of various injuries and related factors. Findings presented can help states determine their individual injury prevention program priorities, identify prevention needs, and evaluate the effectiveness of program activities and problems that require further investigation.	http://www.cdc.gov/injury/stateprograms/indicators.html

| Crash Outcome Data Evaluation System (CODES) | CODES is a federally funded software and technical assistance program that helps states link information about all crashes and their consequences statewide. It links crash records to injury outcome records collected at the scene and en route by emergency medical services (EMS), by hospital personnel after arrival at the emergency department or admission as an inpatient or, at the time of death, on the death certificate. CODES is the only source of real-world crash outcome statewide data that can routinely support traffic safety decisions in terms of their impact on deaths, injury type and severity, and health care charges. These linked crash outcome data are unique resources that relate crash and vehicle characteristics to specific characteristics of the occupants, whether injured or uninjured. The linkage process itself also enhances each data system participating in the linkage. EMS and hospitals obtain information about the time of onset to evaluate the responsiveness of the trauma system. Roadway inventories expand to include injury outcome information by location point. Driver licensing information is augmented with the medical and financial consequences caused by drivers who are impaired or repeat offenders. Vehicle characteristics can be related to specific types of injuries and their costs. For all of the state data systems, data quality improves as the process of linking identifies missing and inaccurate data. | |

For additional data sources pertaining to injury prevention and control, see Doll, L., Bonzo, S., Sleet, D., and Mercy, J. (Eds.). (2007). Key injury and violence data resources. In *Handbook of injury and violence prevention*, pp. 539–558 (Appendix 3).

Refer to Brief 6 for additional information similar in topic to **Appendix Q**.

These resources provide information for accessing and linking data sets.

Atabakhsh, H., Larson, C., Petersen, T. Violette, C., & Chen, H. (2011). *Information sharing and collaboration policies within government agencies*. Retrieved from ai.bpa.arizona.edu/coplink/publications/PolicyISI_ver4-1.doc

Backlund Jarquín, P. (2012). *Data sharing: Creating agreements: In support of community-academic partnerships*. Retrieved from http://www.ucdenver.edu/academics/colleges/PublicHealth/research/centers/RMPRC/resources/Documents/Tools%20and%20Data/Data%20Sharing%20-%20Creating%20Agreements%20Backlund%202012.pdf

Bernstein, A. B., & Sweeney, M. H. (2012). Public health surveillance data: Legal, policy, ethical, regulatory and practical issues. *Morbidity & Mortality Weekly Report Supplements, 61*(Suppl. 3), 30–34. Retrieved from http://www.cdc.gov/mmwr/preview/mmwrhtml/su6103a7.htm?s_cid=su6103a7_w

George, R., & Joo Lee, B. (2007). Matching and cleaning administrative data. In M. Ver Ploeg, R. A. Moffitt, & C. F. Citro (Eds.), *Studies of welfare populations: Data collection and research issues* (pp. 197–219). Washington, DC: National Academy Press. Retrieved from http://aspe.hhs.gov/hsp/welf-res-data-issues02/07/07.htm

Quigg, Z., Hughes, K., & Bellis, M. (2011). Data sharing for prevention: A case study in the development of a comprehensive emergency department injury surveillance system and its use in preventing violence and alcohol-related harms. *Injury Prevention*, 18, 315–320. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3461757/

Refer to Brief 6 for additional information similar in topic to **Appendix R**.

The reliability and validity of a measure can affect findings; therefore they should be taken into consideration when selecting evaluation design and analysis.

Reliability is the extent to which a measure can be expected to produce similar results on repeated observations of the same condition or event—that is, the measure is constructed in such a way that respondents are likely to report in a consistent manner.

Validity is concerned with the accuracy of measurement and whether you are measuring what you intend to measure. Questions to consider are as follows:

- **Face validity:** Is the measure one that other injury prevention experts use or would use? (Ask them!)

- **Content validity:** Does the measure represent similar measures sufficiently? (Consult position papers, statements, and reports from agencies and organizations concerned with injury prevention and control.)

- **Criterion validity:** Does the measure correlate to a standard that is credible in the field? (For example, perhaps you are evaluating community member attitudes about a new crosswalk and traffic light system. How do their attitudes correlate to data observed about their usage of the new system?)

- **Construct validity:** Does the measure correlate with other measures in ways that are consistent with existing theory and knowledge? (Examine trend data from WISQARS [Web-based Injury Statistics Query and Reporting System] for injury rates.)

- **Predictive validity:** Does the measure predict subsequent behaviors in ways that are consistent with existing theory and knowledge? (Do mandatory waiting periods for the purchase of handguns reduce violent crime?)

Refer to Brief 6 for additional information similar in topic to **Appendix S**.

Step	Description	Considerations
Data entry	Enter quantitative or qualitative data into a spreadsheet or database. This step can also include converting data into variables that are easier to analyze (e.g. changing text to numeric scores).	Consider the types of analysis you will conduct to ensure that data is entered in the best possible way.
Organize data	This activity may involve combining data from different sources or segmenting subsets of data for specific analyses. Prepare the dataset for cleaning and analysis by ensuring that all required data is included and in a usable format.	Consider the type of analysis you will conduct to ensure that data is organized in the best possible way.
Check data for errors	Review dataset to look for missing data, duplicates, inconsistent data, outliers, etc.	Establish standards for data quality—for example, how much missing data is acceptable.
Address errors	This step may include deleting or correcting duplicate or inaccurate data as well as estimating or accounting for missing data.	Consult a statistician for advice on using statistics to correct errors in data without compromising integrity.
Tabulate data	A first step of analysis tabulation involves classifying and summarizing data. This can provide a graphic view of what the data looks like.	Consider the variables of interest when deciding what tables to create. Create tables that are meaningful to your evaluation questions.

16 Adapted from MacDonald, G., Starr, G., Schooley, M., Yee, S. L., Klimowksi, K., & Turner, K. (2001). *Introduction to program evaluation for comprehensive tobacco control programs*. Atlanta, GA: Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/tobacco/tobacco_control_programs/surveillance_evaluation/evaluation_manual/pdfs/evaluation.pdf

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Refer to Brief 6 for additional information similar in topic to **Appendix T**.

Qualitative analysis categorizes process data in a way that allows the analyst to look for meaningful patterns. There are a number of different approaches to qualitative data analysis, but typically it includes organizing and coding the data by identifying and labeling themes and then interpreting the meaning of the themes and relationships.[17] Qualitative analysis can be time-consuming and complex, so be sure that the data collected is directly relevant to the evaluation questions.

Quantitative analysis is used for data that is counted or compared on a numerical scale. The several different approaches to analyzing quantitative data include the following:

- **Describing data:** There are a number of different descriptive statistics, many of which are relatively simple and can be done using Microsoft Excel.[18]
- **Establishing relationships:** Demonstrate a relationship between observations over time, with comparison groups or within subpopulations or policy components.
- **Establishing causality:** Demonstrate a causal relationship between the policy and the impact.
- **Conducting economic evaluations:** Demonstrate a policy is cost-beneficial or cost-effective. Economic analysis can be quite complex, so seek the expertise of an economist, econometrician, or quantitative policy researcher.

Mixed-methods analysis uses multiple designs and analyses that (ideally) demonstrate similar results. Mixed methods can be a strong design because it allows for triangulation of results and can provide diversity and depth of information to the evaluation, thus strengthening the conclusions that can be drawn. When using a mixed-methods design, conduct separate appropriate analyses for each component.

Additional Resources

Analyzing qualitative data for evaluation (Evaluation Briefs No. 19, April 2009). Available from CDC, Division of Adolescent and School Health, http://www.cdc.gov/healthyyouth/evaluation/pdf/brief19.pdf

Analyzing quantitative data for evaluation (Evaluation Briefs No. 20, July 2009). Available from CDC, Division of Adolescent and School Health, http://www.cdc.gov/healthyyouth/evaluation/pdf/brief20.pdf

Collecting and analyzing data, by P. Rabinowitz and S. Fawcett; edited by C. Holt. In The Community Toolbox (Part J, Chapter 37, Section 5). Retrieved from http://ctb.ku.edu/en/tablecontents/chapter37/section5.aspx

User-friendly handbook for mixed method evaluations. Available from the National Science Foundation, http://www.nsf.gov/pubs/1997/nsf97153/start.htm

17 CDC, Division of Adolescent and School Health. (2009, April). *Analyzing qualitative data for evaluation* (Evaluation Briefs No. 19). Retrieved from http://www.cdc.gov/healthyyouth/evaluation/pdf/brief19.pdf

18 CDC, Division of Adolescent and School Health. (2009, July). *Analyzing quantitative data for evaluation* (Evaluation Briefs No. 20). Retrieved from http://www.cdc.gov/healthyyouth/evaluation/pdf/brief20.pdf

Appendix U: Tips for Communicating With Partners and the Public

Refer to Brief 7 for additional information similar in topic to **Appendix U**.

Communicating With Partners	
Target audience	▪ Issue-specific partner organizations, such as Safe States Alliance and Society for Advancement of Violence and Injury Research. ▪ Academic or research institutions, including CDC-funded injury control research centers (http://www.cdc.gov/injury/erpo/icrc/).
Communication objectives	Because policymakers rely on information and advice from many sources, it is important to include partners and other stakeholders in dissemination efforts.[19] The communication objectives when focusing on partners include the following: ▪ Fostering collaborative efforts and partnerships. ▪ Providing evaluation results and evidence to assist partners in framing policy issues. ▪ Disseminating evaluation findings through multiple channels at appropriate times.[20] ▪ Encouraging partners to build capacity to do policy evaluation. ▪ Providing broad access to evaluation findings.
Format/focus	Consistent, targeted messaging via print and electronic media (paid and earned), social marketing tools, the press, and various other communications methods.[21]
Considerations	Communicate and disseminate information to partners based on specific needs and in easy-to-understand formats that can be replicated for other audiences. Framing information to meet the needs of different audiences increases the likelihood that evaluation results will be used and communicated effectively.

19 Nelson, S. R., Leffler, J. C., & Hansen, B. A. (2009). *Toward a research agenda for understanding and improving the use of research evidence*. Portland, OR: Northwest Regional Education Laboratory. Retrieved from http://educationnorthwest.org/webfm_send/311

20 CDC, Division of Adolescent and School Health. (2009, July). *Analyzing quantitative data for evaluation* (Evaluation Briefs No. 20). Retrieved from http://www.cdc.gov/healthyyouth/evaluation/pdf/brief20.pdf

21 Nelson et al., op. cit.

Communicating With the Public and Consumers	
Target audience	General public, population targeted by policy
Communication objectives	General public: ■ Educate the public about a specific topic or policy. ■ Influence knowledge, attitudes, and beliefs about a specific topic or policy. Population targeted by policy: ■ In addition to the above, place more emphasis on action related to the policy—e.g., in the case of a school policy against bullying, students may be informed that a new hotline number allows them to report cases of bullying in school.
Format/focus	Materials should be concise and easy to read. The reading level of materials should match that of the target audience. Aiming for a 6th- to 8th-grade reading level for the general public is ideal but not always possible. Writers should follow general principles to make their communications easy to read—for example, using short, familiar words and avoiding jargon. Simple graphics can also be effective in communicating with the general public.[22]
Considerations	Like other audiences mentioned, the general public is surrounded by messaging and media. These considerations may help reach target audience members and effectively communicate your message: ■ Develop a short list of key meaningful messages to focus on communicating. ■ Further break down your target audience into subpopulations so that you can tailor messages more narrowly if you think that may be helpful. ■ Develop a dissemination plan to ensure that materials reach your target audiences. ■ Pretest materials with target audience members if you can. This ideal can be accomplished through one-on-one interviews or focus groups where materials are shared with audience members. Use feedback from participants to revise materials if necessary.

22 DuBay, W.H. (2004). *The principles of readability*. Retrieved from http://www.nald.ca/library/research/readab/readab.pdf

2011 Interactive Policy Guide: Injury & Violence Prevention (ASTHO). Available at http://www.astho.org/Programs/Prevention/Injury-and-Violence-Prevention/

Adding Power to Our Voices: A Framing Guide for Communicating About Injury. Available at http://www.cdc.gov/injury/framing/CDCFramingGuide-a.pdf

American Evaluation Association: Professional association of evaluators devoted to the application and exploration of program evaluation, personnel evaluation, technology, and many other forms of evaluation. The website, http://www.eval.org, provides access to a number of evaluation resources and articles.

CDC Evaluation Page: Provides information about the CDC Framework for Program Evaluation in Public Health as well as a number of additional general evaluation resources. Available at http://www.cdc.gov/eval/

CDC Gateway to Health Communication & Social Marketing Practice. Available at http://www.cdc.gov/healthcommunication/

Evaluation Briefs (CDC Division of Adolescent and School Health). Topics include data collection for evaluation and analysis of quantitative and qualitative data. Available at http://www.cdc.gov/healthyyouth/evaluation/resources.htm

Evaluation Handbook (W.K. Kellogg Foundation). Available at http://www.wkkf.org/knowledge-center/resources/2010/W-K-Kellogg-Foundation-Evaluation-Handbook.aspx

A Guide to Measuring Advocacy and Policy (Annie E. Casey Foundation). Available at http://www.aecf.org/upload/publicationfiles/DA3622H5000.pdf

A Guidebook to Strategy Evaluation: Evaluating Your City's Approach to Community Safety and Youth Violence Prevention. Available at http://www.ph.ucla.edu/sciprc/pdf/Evaluation_Guidebook_July08.pdf

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The Pink Book—Making Health Communication Programs Work (National Cancer Institute). Available at http://www.cancer.gov/cancertopics/cancerlibrary/pinkbook

Policy Characteristics Checklist (USAID). Available at http://www.policyproject.com/policycircle/content.cfm?a0=6c

Policy Evaluation Webinar Series (National Collaborative on Childhood Obesity Research). Available at http://nccor.org/resources/nccor/webinars.php

Temple University Public Health Law Research. *Methods Guides.* Available at http://publichealthlawresearch.org/methods-guides

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