



Evaluating and Monitoring Safe Communities Programs

Evaluation and monitoring must be a priority for all injury control efforts whether they are prevention-, acute care-, or rehabilitation-oriented. Gone are the days when resources can be spent on a program just because it seems like a “good” thing to do or people “like” it. Resources are scarce; competition is fierce; lives are valuable. Programs must now be accountable and prove effectiveness. Communities, health and safety professionals, managed care organizations, third party payers, legislatures, stakeholders, and funding agencies are all demanding this accountability. Safe Communities programs have a challenge to prove their worth. In order to meet this opportunity, the planning and execution of evaluation and monitoring efforts must be considered as important as every other element of a traffic safety program. In turn, evaluation and monitoring will enhance and strengthen the goal, objectives, and implementation of the program to help produce a successful outcome. This paper discusses how to plan a program goal and objectives in order to evaluate, measure progress toward the goal, and monitor program implementation.

How to Measure Effectiveness of a Safe Communities Program Goal

The overall aim of all Safe Communities programs is to reduce deaths, injuries, and costs resulting from vehicle, pedestrian, and bicycle collisions as well as from other injury incidents. A successful program outcome will be indicated by a decrease of fatal and non-fatal injuries or an increase in safe behaviors (e.g., correct use of child restraints). A successful Safe Communities program will benefit the community by reducing the number of people killed and injured and also by reducing the costs associated with these injuries. Thus, evaluation of the program goal answers the questions:

- ▶ What did the program set out to do? (e.g., increase safety belt use by 20 percent)
- ▶ Who was the target population?
- ▶ What was the outcome of the program?
- ▶ Did the program have an impact? (e.g., did the program do what it set out to do?)
- ▶ Did the program reduce costs?

Construct Measurable Program Objectives

For an evaluation to answer these questions, the objectives must be clearly stated in measurable terms. To be measurable, the objectives must be specific as to what the program plans to do, for whom, in what time period, and where. The more focused and

specific the objectives, the more directive it will be for program implementation as well as the evaluation measurement.

For example, a clear objective for a bicycle helmet program is: Increase correct bicycle helmet use by 5 percent among children 5 to 12 years of age over the next three years in Grant County. This objective concisely states what the program plans to do: increase correct bicycle helmet use. It states the target population (children 5 to 12 years of age), it gives geographical parameters which further define the population, and it lays out a two-year time period. The objective sets up measurement by comparison of the number of fatal and non-fatal head injuries due to bicycle crashes before the program began and after it ended, aiming at a 5 percent difference.

An example of an objective that is vague and unmeasurable is: Work to prevent children from getting hurt on bicycles. This objective is not clear as to what injury the program is aiming to decrease, for exactly what age group, over what time period, and in which community. It does not help to focus program implementation, is not specific enough to direct what data to collect and examine, and does not give an exact measurement of change, such as reduce by 5 percent. Thus the objective must be carefully planned and written before the program begins — as the starting point for the program implementation as well as the foundation for its evaluation.

Collect Data First

For the measurement of Safe Communities program effectiveness, baseline data must be gathered through multiple data sources and linkages (where possible) before the program begins so they can be compared to data at the end of the program and used to help plan program objectives. For example, in planning a child pedestrian safety program, data are necessary to know how many children of what ages are being hit by vehicles, locations of the incidents, and as much as possible about how the incidents actually occurred. (Refer to “A Look at the Data” for more information regarding data sources, collection, etc.)

Be aware of several problems which may exist in evaluation of this type of program effort. For example, although a decrease in the number of deaths and injuries is evidence of program success, outcome evaluation of a short term (i.e., two-year program objective) cannot be based on this alone. Even though overall there are many injuries, there may be relatively few of each type of injury. Therefore, a decrease of just a few injuries in one or two years is not a large enough number to claim that it is due to the program. A steady decline over a period of at least five years must occur in order to attribute the reduction to the Safe Communities program. Any decrease over only a year or two will be rewarding, but it could be due to chance — one less child just happened to be hit by a vehicle in the year. Because there are relatively more non-fatal injuries than fatal for each type of injury incident, collecting and examining data on non-fatalities, usually done through hospital discharge and emergency department records, can to some extent help to overcome this problem of low numbers.

A second problem is that it may be difficult to separate the effect of a Safe Communities program in reducing deaths and injuries from something else that occurred in the community, such as a change of school bus routes or one elementary school out of six being closed in the county. Other things could happen in the community to increase or decrease injuries. This is a difficult problem to overcome, but by using other measures, such as impact objectives pertaining to things such as decreases in the incidence of impaired driving, you can provide the needed validation.

The third problem is that data often are not available for approximately two years, depending on the source, so that immediate outcome evaluation by death and non-fatal

injury data is not possible. This makes a strong case for using impact objectives which measure things such as changes in safety-related behavior (e.g., increase in safety belt use).

In summary, data must be used to describe the extent of the problem before, during, and for at least five years after the beginning of the program. However, in addition to data, outcomes can also be assessed by evaluating the objectives of a Safe Communities program.

How to Evaluate Objectives for Movement Toward a Safe Communities Program Goal

Outcome evaluation of program objectives measures whether each objective worked. It answers the question: Did the objective create change? It also sets up proxy measures for accomplishment of the goal — the assumption is that if the objectives are successfully accomplished, then the ultimate goal will be accomplished. Therefore, each objective must be measurable and, because they give program management its “marching orders” for what must be done to reach the goal, they need to be clear and directive as to how they will lead to accomplishment of the goal. Evaluating for program objectives must be planned and put in place prior to the start of the program, so that the situation before the implementation can be compared to that after the implementation. The aim of outcome evaluation is to show change.

Decide What to Measure

The next step is to determine whether outcome evaluation of the objectives needs to measure knowledge, attitude, and/or behavior change. It is only behavior change that is going to cause a decrease of deaths and injury, so it should be at least part of the measurement. However, knowledge and attitude change are also important as steps toward behavior change.

Getting more teens to wear seat belts requires measuring behavior change. If the objective were to teach the dangers of drinking and driving, an increase in knowledge and attitude would be measured. Change in a positive direction for these objectives will lead to accomplishment of the goal — decreasing fatalities and non-fatal injuries from vehicle crashes. While waiting for death certificate and hospital discharge data, these objective outcome evaluations show whether each objective worked and give proxy measurements of successful outcome of the goals, because if the use of seat belts and the number of educational programs have increased and legislation has passed, then vehicle deaths and injuries will go down.

Choose How to Show Comparison

Since showing change is the aim of outcome evaluation, decisions must be made on how to show comparison. The choices are:

- ▶ Pre-test, post-test, post post-test;
- ▶ Control group; or
- ▶ Matched pairs.

For evaluating a drinking and driving education program for teens, a knowledge and attitude questionnaire could be given in driver's education classes before the program (pre-test) and after the program (post-test). To measure for long-term knowledge/attitude change, a third test could be given much later — a year or more (post post-test). The term "test" refers to time period, not the particular questionnaire or survey method used. The questionnaires could also be given to students in a school(s) where the program had not been given, called control schools. Using controls greatly enhances the difference the program made between pre- and post-time periods by showing that no such difference occurred in a school(s) where there was no program. (Before planning and implementing a student questionnaire, check with the school regarding survey procedures. Many school systems have specific protocols that must be followed.)

Matched pairs is a test-control set-up between individuals or groups of some kind. The pairs must be matched in every way possible except for the intervention — one of the pair gets it, the other does not. Using the same example, each student's answers on the pre-test could be compared to his/her answers on the post-test, so that the student is serving as his/her own pair or control. Or the pre-test answers by each class could be compared to the post-test answers for each class. The pairs can be different individuals or groups but setting up such a matching becomes highly technical (e.g., comparing a class receiving the intervention with one of similar students who did not receive it). Even using matched pairs that serve as their own control can be prohibitively complicated for a Safe Communities evaluation.

Use Tools for Evaluation

Questionnaires or surveys are the tools to use for measurement of knowledge and attitude change. The questions should reflect material that the Safe Communities program has presented. A problem with questionnaires and surveys is that the self-report by the person responding may not be completely accurate.

Observation is the best tool to use to measure behavior change. It avoids the problem of self-report and demonstrates the extent to which the behavior, critical to decreasing injury, is being undertaken. Examples of measuring by observation are:

- ▶ Observing and counting how many children are wearing helmets before the program (pre-test), how many are wearing them after the program (post-test), and how many are wearing them a year later (post post-test).
- ▶ Observing and counting the number of seat belts being worn by adolescents before (pre-test) and after the program (post-test) and a year later (post post-test).

In planning and determining outcome evaluation, the extent of research principles to be used, technicality of the methods, and the degree of complexity must be decided. The level of outcome evaluation must be carefully matched to the capability to conduct it. Help should be sought, rather than becoming overwhelmed or discouraged by evaluation planning. A local hospital, university, or injury prevention center can offer expertise; state health departments and highway safety offices have experts in evaluation; and the National Highway Traffic Safety Administration (NHTSA) may also be able to offer direction.

How to Assess Program Implementation

Process evaluation describes how a Safe Communities program is/was implemented. It documents what the program is doing, how it is being done, and who the program is reaching. Unlike outcome evaluation, it does not show whether the program worked, but only how it was done. Process evaluation is also an important tool for keeping an account of program activities, so that they can be duplicated by others wishing to replicate the program. Process evaluation answers the questions:

- ▶ Was the program implemented as planned?
- ▶ Who was being reached by the program?
- ▶ To what extent were they reached?
- ▶ What problems were encountered and how were they addressed?

Set Up Process Evaluation Early On

Because process evaluation is useful as a management tool, it should be planned at the same time as the activities to accomplish each objective. Process evaluation should then be ongoing as the program is being implemented, in order to know whether the interventions are being performed as planned. For example, if the program is developing a poster, records should be kept of the cost to develop and print a poster, how many posters were printed, the age level they were designed for, methods of distribution, and, if possible, how well they were received. This is all important information for management and for documentation of the program implementation.

Performing process evaluation as the program moves along will prevent unwanted surprises at the end of the program and enable adjustments to be made, as necessary, for progress toward successful accomplishment of the program objectives. This ongoing evaluation is done by monitoring program activities.

How to Monitor Safe Communities Program Activities

Monitoring requires planning and developing a documentation and tracking process in order to assess what is happening for each objective — are the interventions being performed as planned? Monitoring shapes the program implementation plan by pointing out mid-course corrections that need to be made. Tracking of costs should also be included for budget planning as well as for making comparisons, at the end of the Safe Communities program, between costs of the program and costs of lives lost, medical care, and disability expenditures.

Choose Tracking Methods

There are many ways that monitoring can be done, but it is best to set up a tracking mechanism for each implementation activity. For example, a Corridor/Community Traffic Safety Program might have an objective of improving environmental safeguards along State Route 120. An intervention, among others, might be to install a speed warning sign before each of the five hazardous curves. This activity might be monitored by setting up a time line of all the steps required for the sign installation and watching to be sure that each step is done by its designated date. Exploration of why a step is falling behind in execution might lead to changes in implementation in order to assure that the intervention is completed as planned and by the target date.

Program staff, coalition members and community volunteers can all be helpful in

tracking information for monitoring. Bothersome as it may seem at the time, such information must be captured in order to have concrete evidence of implementation for each objective. Some suggestions for effective tracking and documentation include:

- ▶ Recording the type, number, and target audience for educational materials distributed (a form for this recording can be a helpful way to get coalition members and volunteers to keep track of what they have distributed and who they reached);
- ▶ Recording the number of presentations or training sessions given, number and type of audience;
- ▶ Keeping minutes of coalition and committee meetings and a list of members; Counting numbers of items and discount coupons given away;
- ▶ Requiring reports from activity coordinators;
- ▶ Documenting communications on planning, implementation, expenditures, agreements, etc.; and
- ▶ Tracking budget expenditures.

How to Make the Most of Evaluation and Monitoring Efforts

Planning the evaluation design — what the evaluation will be and how it will be done — will greatly enhance the development, implementation, and final results of a Safe Communities program, but only when done before the program begins, when it is first being conceived. Planning the evaluation will help plan the program.

Make the Most of Evaluation and Monitoring

Building upon the basic ground rule of planning the evaluation when planning the program, here are some tips to help:

- ▶ Seek consultation in planning and implementing evaluation and monitoring.
- ▶ Seek assistance in choosing, developing, and applying evaluation and monitoring tools.
- ▶ Match expectations of evaluation and monitoring with what can realistically be accomplished.
- ▶ Plan only what can reasonably be accomplished; match the reality of resources and capabilities with the level of evaluation.
- ▶ Determine the staff and resources needed for evaluation.
- ▶ Collect data in manageable (practical and feasible) and usable ways.
- ▶ Understand the limitations of the data/information collected.
- ▶ Analyze and understand the results of evaluation and monitoring.
- ▶ Communicate the results effectively: clearly, concisely, and in easily understood

terms.

- ▶ Use outcome and process evaluation results for future program planning, resource requests, media information, program and agency credibility, and accountability.

Summary of Safe Communities Program Evaluation and Monitoring

Outcome Evaluation: measures whether the program worked by showing change.

Process Evaluation: assesses program implementation by documentation.

Monitoring: documents program implementation.

About the Author

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