

8. Evaluation of an ESS

The process for evaluation of an ESS follows methodical steps necessary for reaching a complete and useful analysis. These are:

8.1 Evaluation of the usefulness of the system

The general purpose of the evaluation process is to **confirm that the objectives are being met and ensure that the collection and reporting of data are reliable and timely**. Once an ESS is created and begins to function, its objectives, attributes, and purposes should be evaluated for the purpose of verifying its correct operation. Evaluation of an ESS should be continuous and aimed at maintaining or improving the quality of the system. Following are the major steps to be taken in evaluating an ESS.

a) Objectives of the system. *It should be confirmed whether the objectives set at the beginning are being met*; if not, the reasons should be identified. Pilot studies and monitoring of the ESS will also be used to redefine objectives if that should be necessary. Review the operational definitions.

b) Identification of strengths and weaknesses. *A flow chart of the system from the initial collection of data through their dissemination is very useful for identifying strengths and weaknesses of the process, for the purpose of optimizing or modifying the system.*

c) Finally, *the description of the components and operation of the ESS can be completed by answering the following questions:*

- *What is the population being evaluated?
- *How much time does data collection take?
- *What information is collected?
- *Who provides the information?
- *How are the data transmitted?
- *How are the data stored?
- *Who analyzes the data?
- *How and with what frequency is this analysis carried out?
- *With what frequency are the data disseminated?
- *Who receives the information?
- *How are the reports distributed?

The usefulness of the ESS is evaluated according to its capacity to detect changes in trends related to acts of violence (such as child abuse, reported violence against women, recorded homicides, young people involved in gangs, wounded people treated, etc.); to determine time periods and places of higher risk; and to assess whether the information facilitates calculations of morbidity and mortality. It should also be considered whether the system provides timely and reliable information to support intervention projects and the evaluation of control measures. It is also expected that the insights provided by the ESS will lead to changes in institutional practices regarding care and supervision of victims and aggressors (in family services or family counseling programs, in hospital emergency departments when they receive a complaint or treat an injured person, in forensic medicine institutes when carrying out the required examinations, and in the attitude of the police when dealing with injuries, crimes, or traffic incidents).

8.2 Evaluation of attributes of the ESS⁵⁰

Another aspect of evaluation concerns the attributes of the system. Evaluation indicators should be defined for each attribute. Ways of assessing these attributes are discussed below.

1. **Simplicity.** This involves identifying the quantity, quality, and reliability of the sources of information, structure, operation, collaboration, and coordination among the sources, and detection of the difficulties and advantages of the working group or technical committee. The following criteria should be taken into account:
 - a) *elimination or modification of contributions from data sources that are not reliable, and selection of sources considered to be of higher quality;*
 - b) *a smaller number of sources gives a greater guarantee of simplicity;*
 - c) *operation costs should be appropriate for the locality or country; the schedule for data distribution should be carried out according to the plan.*
2. **Flexibility.** Flexibility is related to simplicity. Evaluation of flexibility should assess the ease with which the system adapts to operational or structural modifications, or to the need to respond to new situations or risks. Over time, certain terms, concepts, or realities may change. For example, the creation of special centers to handle cases of domestic violence may increase the number of such complaints; the working groups should respond quickly to improve the information generated and the corresponding reports. In another example, a community that decides to get involved in activities for prevention of juvenile violence or common crime may expect the information systems to immediately provide them with tools to decide what interventions are needed. In yet another case, construction of a new road without the required safety standards could lead to an increase in unintentional injuries.

The introduction of one or more variables in order to identify the problems mentioned is part of the evaluation of *flexibility*. Flexibility is measured through the effect that conceptual or operational changes may have on the other attributes.

3. **Acceptability.** The acceptability of an ESS is measured by the commitment of the working groups and the institutions they represent, as well as by their interaction in the operation of the ESS. This is reflected in the quality of the data and depends on how the information is collected.

In general, if the data are collected in a complex or time-consuming manner, the system will not be accepted and collaboration will become more difficult.

For example, medical personnel in an emergency service cannot be expected to fill out long forms, given the nature of such a service and kind of work they perform. Extensive data collection is not acceptable. Evaluation of the objectives of a surveillance system and the importance of a problem mean that acceptability varies. Over time, data collection becomes routine, and this can lead to reduced interest on the part of those who provide the data as well as those who code and report it. It is necessary to recognize the work of institutions and individuals and also to be sensitive to internal and external criticisms. In fact, it is this process of criticism and self-criticism that makes it possible for an ESS to improve in quality.

4. **Sensitivity.**

Evaluating the sensitivity of an ESS involves determining its capacity to detect cases, by comparing it with another method considered to have high credibility.

Epidemiological surveillance is not a method of final classification of cases or events; thus its sensitivity varies according to the quality of the data it processes and how those data are defined. Data are usually provided to an ESS by an original or primary source. Sensitivity can diminish if cases are defined in the wrong way or if information is lost or collected incompletely during the process of data collection and transmission. For example, data on a violent event may be incomplete when it reaches the ESS because the case has not yet been resolved in court. As a result, the ESS will classify the event incompletely or incorrectly. With the passage of time, the primary source of information (the court, in this case) can complete the information (by arriving at a decision). The information from the court will then differ from what was initially reported to the system. Since information at the primary source can change over time, it is possible to find discrepancies between the primary source and the ESS, since the data were collected in a period when there was not sufficient data on an event.

Because of these differences in time, or, in other cases, because different criteria are used for case definitions, discrepancies will be found in the data. Comparison of the ESS data with complete and up-to-date information from the source with greatest credibility (courts, social services offices, forensic medicine offices, NGOs) will provide a measure of sensitivity. In reporting cases, the propor-