SECTION 11: INFORMATION SYSTEMS AND PROGRAM MONITORING

KEY MESSAGES

- A cervical cancer program needs an information system to be able to monitor patient outcomes and program indicators.
- Information systems can be based in each health facility or centralized in an office that serves several health facilities.
- Their essential function of the information system is to systematically collect patient data and results of tests and procedures, and to periodically produce monitoring reports.

OBJECTIVES OF THE INFORMATION SYSTEM

The cervical cancer screening program will require an information system to enable monitoring patient outcomes and program indicators. The information system can be used to record information about the care and HPV test results of each woman participating in the screening program, as well as to produce periodic reports on program indicators, as suggested in Table 1.

The information system should be used to generate information on woman's HPV test results, categorized as follows:

- Group A: Women with HPV negative test results.
- Group B: Women with HPV positive test results, and who have been diagnosed and treated (completed care).
- Group C: Women with HPV positive test results, and who did not receive results and/or were not treated (incomplete care).

The purpose is to monitor quality of care and, if indicated, adopt measures that minimize the number of women in Group C.

Table 1: Cervical cancer screening program indicators (WHO, 2014)

Performance Indicators

a) Screening coverage of the eligible population: Percentage of eligible women in the target group with at least one HPV test in a period of three to five years, according to the screening interval established in the country.
b) HPV test positivity rate: Percentage of women with an HPV positive result in the past 12 months.
c) Treatment rate: Percentage of women with an HPV positive test who have completed appropriate treatment in the past 12 months.

Impact Indicator

d) Cervical cancer incidence and mortality: Cervical cancer incidence and mortality by age group in the program's target population.

FACTORS TO CONSIDER IN SETTING UP AN INFORMATION SYSTEM

Measurement of program indicators requires an information system that produces quality data in a timely fashion. When setting up an information system, consider the following:

- Create clinical data collection forms to record information about women in the screening program.
- Train health providers on data collection and how to enter these data into the information system.
- Designate a responsible person(s) at each level of care who will manage the information system, data collection, and reporting.
- Ensure that data are collected across all levels of care -primary, secondary, and tertiary- linking information systems if necessary. Such a linkage will enable health personnel to track users across the health system and evaluate overall program impact.

A computerized information system can link various health facilities, laboratories, and data processing centers, enabling them to produce periodic automated reports on basic indicators, such as coverage, treatment, and follow-up rates.

FACILITY-LEVEL HEALTH INFORMATION SYSTEM

At the health facility level, the information system is used to monitor and evaluate screening and treatment services provided at that facility. Although secondary and tertiary level health care facilities may have computers available, some facilities may need a simple manual log or registry to record data. The following information is suggested to be recorded in the registry:

Registry for participation in screening services

Basic information and test results are recorded for all screened women. It can be used to monitor laboratory results, identify when they are missing, and be used to call back women to receive their HPV test results.

Laboratory registry

It is located in the laboratory and is used to record all incoming HPV test samples and record results after processing. It helps to monitor results that have not yet been reported to the health facility.

Referral-care registry

It records all users who receive diagnostic and treatment services after receiving HPV positive test results. It helps to monitor treatment rates.

In each facility, the information on the women obtained from the registries is used to calculate the monthly statistics for a limited number of indicators that are feasible for a facility-level health information system (see Table 2). The monthly statistics from the different facilities in a district can then be grouped to evaluate program performance at the district level.

Table 2: Elements for monitoring a cervical cancer screening program

DATA COLLECTION SITE	PARAMETERS	DESCRIPTION
Screening facilities	Women's participation in screening.	Number of women tested for the first time in the year in the screening program.
	Appropriate target age group.	Divide the number of women screened in the target age group, divided by the total number of women tested for the first time in the year.
Laboratory	Percentage of women with HPV positive results.	Number of women with HPV positive test results, divided by the total number of women with HPV test results in the year.
	Quality of HPV testing.	Divide the number of HPV positive tests by the total number of HPV tests processed in the year.
	Laboratory processing time.	Divide the number of test results processed and sent to the health facility, in the three weeks following sample receipt in the laboratory, by the total number of samples received for processing in the laboratory in the same time period.
Diagnosis and treatment facilities	Percentage of women with precancerous lesions.	Divide the number of women diagnosed with precancerous lesions, by the number of women who received colposcopy. **Note:** Colposcopy quality can also be evaluated seeking the correlation between colposcopy results and histological study results.
	Treatment of women with HPV positive results.	Divide the number of women treated, by the number of women with HPV-positive results in the year.
	Percentage of women with invasive cancer results.	Divide the number of women diagnosed with invasive cancer, by the number of women receiving colposcopy in the year.
	Treatment of women with cancer.	Divide the number of women treated for cancer, by the number of women diagnosed with cancer in the year.