IMPROVING DATA FOR DECISION-MAKING

A TOOLKIT FOR CERVICAL CANCER PREVENTION AND CONTROL PROGRAMMES

World Health Organization
CDC Centers for Disease Control and Prevention
CDC Foundation Together our impact is greater
George W Bush Institute

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Improving data for decision-making: a toolkit for cervical cancer prevention and control programmes

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ABBREVIATIONS AND ACRONYMS

AIDS	acquired immune deficiency syndrome
API	application programming interfaces
ART	antiretroviral therapy
BCC	behaviour change communication
CDC	The United States Centers for Disease Control and Prevention
CDSS	Clinical Decision Support System
CHW	community health worker
CITI	Collaborative Institutional Training Initiative
CKC	cold knife conization
DEFT	sample design effect
DHS	Demographic Health Survey
DQA	data quality assessment
DQR	data quality review
EQA	external quality assessment
EMR	electronic medical record
GAVI	The Global Alliance for Vaccines and Immunisation
GICR	Global Initiative for Cancer Registry Development
HIS	health information system
HIV	human immunodeficiency virus
HMIS	health management information system
HPV	human papillomavirus
IARC	International Agency for Research on Cancer
ICT	information and communication technology
IDCCP	Improving Data for Decision-making in global Cervical Cancer Programmes
IEC	information, education and communication
IPC	infection prevention and control
ITU	International Telecommunication Union
LBC	liquid-based cytology
LEEP	loop electrosurgical excision procedure
LMIC	low- and middle-income country
MoH	Ministry of Health
M&E	monitoring and evaluation
NCDs	noncommunicable diseases
NGO	nongovernmental organization
PITC	provider-initiated testing and counselling
RAP	rapid assessment process
SARA	Service Availability and Readiness Assessment
SOP	standard operating procedure
SPA	service provision assessment
STEPS	The WHO Stepwise Approach to Surveillance
STI	sexually transmitted infection
SVA	single visit approach
SWOT	strengths, weaknesses, opportunities, and threats
PCL	precancerous lesions
VIA	visual inspection with acetic acid
WHO	World Health Organization

GLOSSARY

TERM	ORIGINAL DEFINITION
Annualization	Division of total costs by life expectancy of the good, used to estimate the cost of a capital good over its lifetime.
Application Programming Interface (API)	A set of routines, protocols, and tools for building software applications which describes the way one piece of software asks another programme to perform a service.
Capital costs	The cost of goods that last for longer than one year such as equipment, vehicles and buildings.
Catchment area	The geographic area from which a facility's clients are drawn.
Catchment population	The population served by a particular facility.
Cervical cancer prevention and control programme	A cervical cancer prevention and control programme comprises an organized set of activities aimed at preventing and reducing morbidity and mortality from cervical cancer. The programme provides a plan of action with details on what work is to be done, by whom and when, as well as information about what means or resources will be used to implement the programme. The achievement of the programme is assessed periodically using a set of measureable indicators. A comprehensive programme includes the principal evidence-based interventions needed to reduce the high and unequal burden imposed on women and health systems in less developed countries by cervical cancer.
Change management	A process-focused approach to the management of organizational change and the transition involved in a re-directing of resources.
Colposcopy	The examination of the cervix, vagina and vulva with an instrument that provides strong light and magnifies a field, allowing specific patterns in the epithelial (surface) layer and surrounding blood vessels to be examined.
Cold knife conization	The removal of a cone-shaped area from the cervix, including portions of the outer (ectocervix) and inner cervix (endocervix), usually carried out in a hospital; the amount of tissue removed will depend on the size of the lesion and the likelihood of finding invasive cancer.
Cost-effectiveness analysis	Describes an activity or procedure that produces an adequate beneficial effect on a disease or condition in relation to its cost (in money, equipment, or time).
Coverage	The proportion of all targeted persons who attend a given service in a specified time.
Cryotherapy	By applying a highly cooled metal disc (cryoprobe) to the cervix and freezing the abnormal areas (along with normal areas) covered by it, cryotherapy eliminates precancerous areas on the cervix by freezing (i.e. it is an ablative method).
Cytotechnologist	Cytopathologist/cytotechnician/cytologist: persons trained in the microscopic examination of smears for the presence or absence of abnormal cells.
Data accuracy	Data objects must accurately represent the real world values they are expected to model. Accuracy problems may include: males reported as receiving cervical cancer screening; a test that is not for cervical cancer included in cervical cancer test data; number of people reported as receiving screening is greater than the eligible number, etc.
Data aggregation	The process of combining data into useful information aligned with indicators.
Data completeness	All requisite cervical cancer data points must be available (i.e. not missing), and the available data must be in a usable state.
Data conformity	The cervical cancer data must adhere to a predefined format. How to format relevant indicators and monitoring and evaluation data must be determined first, then how well the data received from the facilities and sites conform to the predefined format.
Data consistency	Data must be consistent across different datasets, systems, institutions, etc.
Data duplication	Multiple unnecessary representations of the same data objects within a dataset (i.e. double counting). It also includes the inability to maintain a single representation for each entity across your systems (i.e. same data being collected multiple times).
Data element	The smallest unit of a type of information that has a unique meaning and distinct units or values.
Data integrity	Ability to link data records across the system so that data remain the same when stored, retrieved and processed. The opposite of data integrity is data corruption.
Data timeliness	Data must be collected and made accessible in a timely manner.
Decision support systems	Provide intelligently filtered and presented knowledge and information at appropriate time to enhance quality and performance of system and providers. Include client alerts or reminders, checklists, medical guides, stock levels, deviations, etc.
Depreciation	Amount of capital used during one fiscal year.
Discounting	Accounts for time preference through calculating the present value using the discount rate.
Economic costs	Estimates all costs of an intervention, regardless of the source of funding. The opportunity cost of all resources is accounted for in the analysis, including in-kind and donor contributions.
eHealth	Health-care practices supported by electronic and digital processes and communication.
Electronic system	A system with the ability to have information stored, searched, accessed, analysed, and reported electronically. Not paper-based.
Endocervical curettage (ECC)	Some surface cells are gently scraped from the endocervical canal with a special thin instrument or spatula; this is a simple procedure that takes just a few minutes.

Table continued

Epidemiology	Epidemiology is the study of the distribution and determinants of health-related states or events (including disease), and the application of this study to the control of diseases and other health problems.
Evaluation	The systematic and objective assessment of the relevance, adequacy, progress, efficiency, effectiveness and impact of a course of actions, in relation to objectives and taking into account the resources and facilities that have been deployed.
Financial costs	Estimate the actual monetary flows of the buyer, such as the Ministry of Health. Do not include the value of resources already paid for such as personnel time and donated goods.
Guidance	Information provided to stakeholders regarding how tools are intended to be used and how they may be adapted to meet the needs of a given programme.
Guideline	A recommended, standardized plan that provides direction to operationalize policy or strategy.
Health information exchange systems	Systems in place that can mobilize health-care information electronically across organizations within a region, community, or hospital system.
Health management information system	An electronic system that captures, compiles, and aggregates data on health care services; the data can be used to create dashboards.
Health policy	Decisions, plans, and actions undertaken to achieve specific health-care targets in a society.
HL7	Health Level-7, set of international standards for the transfer of clinical and administrative data between hospital information systems.
Histology	The study of the microscopic structure of tissues; a histological examination uses thin slices of stained tissue to determine the presence or absence of disease.
Histopathology	The study of changes in tissues caused by disease; a histopathological examination uses the same methods as a histological examination, but is performed on biopsied samples of abnormal tissue.
Horizontal integration of data	Ability of systems at the same level to share or aggregate data easily between each other and give a complete picture of the client. For example, the ability to share data between client level systems, such as electronic health records, pharmacy dispensing, and laboratory systems.
Human papillomavirus (HPV)	Human papillomavirus (HPV) is the most common sexually-transmitted infection (STI). Cervical cancer is caused by high-risk types of HPV; the two high-risk HPV types that most commonly cause cervical cancer are types 16 and 18, which together are responsible for approximately 70% of cervical cancer cases in all countries worldwide.
HPV Test	DNA or serology test to determine active HPV infection.
Indicator	A variable that measures one aspect of a programme that is directly linked to the programme's objectives; markers that help measure change by showing progress toward objectives.
Infrastructure	The items required to support provision of quality services in the designated cervical cancer screening and treatment services at the facility (e.g. handwashing area, washroom, physical layout of the facility, examination room, and communication equipment).
Interview probe	Follow-up questions used as a technique in interviewing technique to prompt the respondent for more information, or to provide the respondent with the context needed to accurately answer the survey question.
Introduction costs	One-time programmatic activities. These include microplanning, initial training activities, and initial sensitization/IEC. These are treated as capital costs in economic costing.
Invasive cancer	Cancerous tumours that have broken out of the lobule where they began growing and have the potential to invade other parts of the body.
Investment costs	Initial expenditures used in preparation for an intervention. These include introduction costs plus purchase of capital goods, such as cryotherapy and LEEP machines and transport purchases.
Loop Electrosurgical Excision Procedure (LEEP)	The removal of abnormal areas from the cervix and the entire transformation zone, using a loop made of thin wire powered by an electrosurgical unit; the loop tool cuts and coagulates at the same time; this is followed by use of a ball electrode to complete the coagulation.
Legacy systems	Historical data system that predates the current system.
Lugol's iodine	Iodine applied to the vagina and cervix to determine the presence of suspicious lesions.
Management software	Computer programmes that have the capacity to help plan, organize, and manage resources and develop estimates.
mHealth	Mobile-health, the practice of medical and public health supported by mobile devices.
Monitoring	The continuous oversight of an activity to assist in its supervision and to see that it proceeds according to plan; it involves the specification of methods to measure activity, use of resources, and response to services against agreed criteria.
Open-source software	A computer programme that allows the user to change and distribute it to anyone for any purpose.
Opportunity costs	Financial costs incurred from taking one action over another.
Palliative care	A multidisciplinary approach to specialized medical care for people with serious illnesses, focusing on providing patients with relief from symptoms, pain, physical stress, and mental stress to improve quality of life for both the patient and the patient's family.
Pap smear	Papanicolaou test, carried out to evaluate the presence of abnormal cervical cells.
Pathology	The study of disease and its effect on body tissue.
Patient and programme monitoring	A systematic means of capturing client-level data, analysing it with appropriate aggregation and reporting tools, and using the resulting information to make strategic choices regarding programme management.
Performance standard	A statement that defines, in the clearest, most objective terms, the agreed-upon level of performance for a specific service, based on best evidence and best practices. It states what the health-care service is expected to deliver.

Table continued

Point of care diagnostics	Medical testing at or near the site of patient care.
Policy	Decisions, plans, and actions undertaken to achieve specific health-care targets in a society.
Post-treatment follow-up screening	A visit which uses a screening test to determine the success of a previous treatment for precancerous lesions.
Precancerous lesion	Non-invasive lesion with a predictable likelihood of becoming malignant.
Prerequisite infrastructure	Pre-existing equipment that does not need to be costed in an incremental analysis.
Present value	The current value of goods or services, usually applied to costs or outcomes expected in the future.
Primary prevention of cervical cancer	Actions to avoid exposure to the principal causes of a disease; in the case of cervical cancer, prevention of HPV infection.
Proprietary information source	Software that is licensed with exclusive rights to the developer that can limit modification, analysis, access, and sharing with others.
Quality assurance	Overall management plan (the "system") that guarantees the provision for high-quality service.
Quality control	The application of a series of measurements (the "tools") used to assess the quality of the services and facilities.
Quality improvement	The structured approach to analyse performance and apply systematic efforts for improvement.
Radiation physics	Invisible rays (high-energy radiation) are beamed onto the cancerous cells and the surrounding affected areas; the rays penetrate the tissue, destroying the cancerous cells, so that the cancer is fully or partially eliminated; the destroyed cancer cells are eliminated from the body.
Radiation technologist	Non-medical, trained staff member who operates the radiation machines used to deliver radiation-based cancer treatment.
Radical hysterectomy	Surgical removal of the entire uterus, cervix, tissue on the side of the uterus including the fallopian tubes and ligaments; nodes and ovaries may also be removed.
Real-time	Information that is obtained at the same time the inquiry is initiated.
Recurrent costs	The costs of goods used in the delivery of a service or intervention that last less than a year, e.g. personnel salaries.
Rescreening	A screening visit attended by a woman after a previous negative result on a screening test. This visit is part of routine preventive care and should be conducted within the recommend interval for screening.
Screening	A public health intervention provided to an asymptomatic target population; it is not undertaken to diagnose a disease, but to identify individuals with increased probability of having either the disease itself or a precursor of the disease.
Secondary prevention of cervical cancer	A level of preventive medicine that focuses on early diagnosis, use of referral services, and rapid initiation of treatment to stop the progress of disease processes or of a disability.
Service availability	The physical presence of facilities or mobile clinics that are providing cervical cancer screening and treatment services.
Service utilization	The key indicator benchmarks that the facility is tracking (e.g. the number of monthly screenings and treatment rate of precancerous lesions identified).
Simple hysterectomy	Surgery to remove only the uterus and the cervix alone.
Standard	An agreed-upon level of performance desired for a specific service that is consistent with evidence-based practice and national and international guidelines, against which performance can be measured to improve and ensure quality.
Straight-line depreciation	This type of depreciation assumes that all benefit from a capital good depreciates evenly throughout its lifetime. It involves annualizing the total costs but not discounting.
Supportive supervision	A process of supporting, strengthening, and encouraging health personnel to improve their performance to provide quality services. It involves a structured approach to identifying gaps and applying systematic efforts to improve service provision with tracking of results.
SWOT analysis	Structured framework for analysing the internal strengths and weaknesses of an organization, project or programme, and its external opportunities and threats.
Target population	A group of people identified as intended clients for a particular health-care service; in this case, the population of women targeted for cervical cancer prevention and control programmes.
Telemedicine consultation	Using electronic communication (e.g. phone, video conference, email) to obtain the expert medical opinion or consensus necessary for diagnosis or decision making when in-person consultation is difficult to provide.
Time preference	Preference for receiving goods and services at one time over another, usually expressed as wanting goods and services now, rather than in the future.
Time-delayed	Information that is obtained after the inquiry has been initiated, usually more than 24 hours after the inquiry.
Treatment of invasive cervical cancer	Includes chemotherapy, radiation, and radical hysterectomy.
Treatment of precancerous lesions	Includes cryotherapy, LEEP, conization, and in some situations, simple hysterectomy.
Triage	Step or procedure typically performed between the screening and diagnosis or treatment procedures to further stratify individuals with positive primary screening results. [Solomon, 2003].
Vertical integration of data	Whether information flows upwards and downwards through the systems (i.e. from facilities to subnational levels to national levels, or vice versa).
VIA	Visual inspection of the cervix with the application of 3–5% acetic acid.
VILI	Visual inspection of the cervix with the application of Lugol's iodine.

INTRODUCTION TO THE TOOLKIT

CERVICAL CANCER IN LOW- AND MIDDLE-INCOME COUNTRIES

Cervical cancer in low- and middle-income countries (LMICs) accounted for approximately 85% of the 528 000 new cases diagnosed globally in 2012. In the same year, approximately 87% of the 266 000 deaths from cervical cancer worldwide occurred in LMICs [Globocan, 2012]. These statistics clearly illustrate the disproportionately heavy burden of cervical cancer faced by communities, families, and women in less developed regions. Women living in LMICs who are at highest risk are typically aged between 30 and 49 years. The tragedy of death or illness due to cervical cancer during what should be some of the most productive years in a women's life is compounded by the knowledge that most cases are both preventable and treatable when identified early [WHO, 2014].

Key drivers of the disparate burden are the numerous challenges encountered in the development and implementation of effective and sustainable strategies for cervical cancer prevention and control. Lack of policies and programmes for cervical cancer; lack of timely and reliable data; lack of resources; and lack of coordination are all common barriers to comprehensive cervical cancer prevention and control in LMICs. In addition to the impact of these barriers on availability and accessibility of preventive services, women in LMICs frequently must contend with gender bias and cultural and societal norms which further restrict their ability to access services and make decisions about their health. Projections warn that without urgent attention, incidence of cervical cancer can be expected to rise by almost 25% in the next 10 years [Globocan, 2012].

PURPOSE OF THE TOOLKIT

IMPROVING DATA FOR DECISION-MAKING

This toolkit aims to expand the support provided to LMICs in current global normative guidance through an aligned package of operational resources for improving the availability and use of high-quality data for decision-making in cervical cancer programmes. The standardized tools and guiding information provided are designed to be adapted to country and programmatic context in order to assist ministries of health and other stakeholders in generating the information necessary to better plan, implement, monitor, evaluate, and scale cervical cancer prevention and control programmes.

GLOBAL MONITORING

In 2013, the World Health Assembly identified cervical cancer as a priority intervention in its Global Action Plan for the Prevention and Control of NCDs 2013–2020. In order to support implementation and monitoring of the Global Action Plan, WHO Member States agreed upon the Global Monitoring Framework for Noncommunicable Diseases,[1] which highlights the importance of prevention and control of cervical cancer through the inclusion of an indicator to monitor screening on a global level. In addition, cervical cancer also finds a place within several of the targets of the United Nations Sustainable Development Goals,[2] specifically those related to the reduction of noncommunicable diseases worldwide (Goal 3) and the health of women and girls (Goal 5) [UN, 2016].

In alignment with such global initiatives, a secondary aim of this toolkit is to enable LMICs to more readily contribute to the global body of evidence surrounding noncommunicable diseases (NCDs), gender health equality, sexual and reproductive health, vaccination and other health areas where information on cervical cancer is highly relevant. Enhanced availability and quality of cervical cancer data from countries with the highest burden – and the most difficult challenges – provides global normative bodies, donor organizations, and international stakeholders with crucial opportunities for establishing and refining priorities, developing timely evidence-based guidance, and making critical funding decisions.

[1] See: http://www.who.int/nmh/global_monitoring_framework/en/

[2] See: http://www.un.org/sustainabledevelopment/

HOW TO USE THE TOOLKIT

Cervical cancer burden, prevention and control strategies and programme structure vary from country to country; therefore each section in the toolkit includes guiding information and suggestions on how to make adaptations while maintaining standardization over time and across countries. Careful adaptation will allow for appropriate planning and monitoring of national programmes, as well as high-quality global reporting. This toolkit is offered as a mechanism to strengthen data for decision making, and as such should not be considered required in part or as a whole.

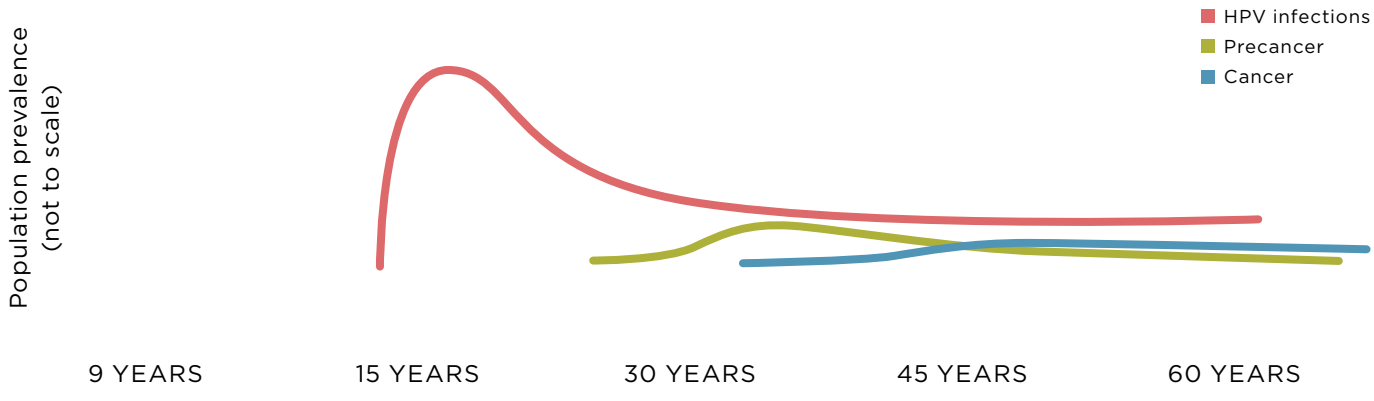
TOOLKIT SCOPE

This toolkit was developed primarily for ministries of health and their implementing partners, for the prevention, screening, and treatment programmes for cervical cancer. Key target audiences include programme managers, monitoring and evaluation staff, survey administrators, health administrators and economists. However, private-sector providers, civil society organizations, nongovernmental organizations, academic research groups, and other national and international stakeholders can all benefit from aligning and coordinating data practices.

Cervical cancer prevention and control programmes consist of a combination of activities that include primary prevention through human papillomavirus (HPV) vaccination; secondary prevention through screening and the treatment of precancerous lesions; tertiary prevention through treatment of invasive cancer; and palliative care (Figure 0.1). While the primary focus of this toolkit is secondary prevention, primary and tertiary prevention are discussed as needed to promote coordination across the continuum.

FIGURE 0.1

Overview of WHO recommended programmatic interventions over the life course to prevent HPV infection and cervical cancer [WHO, 2014]



PRIMARY PREVENTION	SECONDARY PREVENTION	TERTIARY PREVENTION
Girls 9-13 years • HPV vaccination **Girls and boys, as appropriate** • Health information and warnings about tobacco use* • Sexuality education tailored to age & culture • Condom promotion/provision for those engaged in sexual activity • Male circumcision	**Women >30 years of age** **Screening and treatment as needed** • "Screen and treat" with low cost technology VIA followed by cryotherapy • HPV testing for high risk HPV types (e.g. types 16, 18 and others)	**All Women as needed** **Treatment of of invasive cancer at any age** • Ablative surgery • Radiotherapy • Chemotherapy

* Tobacco use is an additional risk factor for cervical cancer

The toolkit includes components of comprehensive cervical cancer surveillance and monitoring systems; however it does not serve all strategic information needs. Data generated using the tools should be triangulated with data from cancer registries, longitudinal cohort studies, and research conducted by academic institutions, consortia, cancer networks, and others. As seen in Figure 0.2, the analysis and comparison of data from multiple sources, supports a strategic approach to strengthening policies, improving programmes and service quality, and maintaining high-quality information systems.

FIGURE 0.2
Cervical cancer strategic information continuum

Data Collection
- Periodic, population-based surveys
- Cancer registries
- Hospital-based databases
- Facility-based surveys
- Patient and programme monitoring
- Research by consortia and networks

Data Analysis and Synthesis
- Screening and treatment coverage
- Morbidity and mortality
- Capacity and readiness
- Programme performance

Decision-making
- Strategic planning
- Programme improvement
- Policy development
- Systems strengthening

Reduction in cervical cancer incidence, late-stage diagnosis, and death

TOOLKIT STRUCTURE AND CONTENT

The toolkit comprises the following five sections:

- **Section 1**: Rapid situational assessment of data and data systems
- **Section 2**: Population-based survey modules
- **Section 3**: Patient and programme monitoring
- **Section 4**: Facility-based surveys
- **Section 5**: Prevention and control costing – analysis and planning module for screening and treatment

Each section includes information outlining its purpose; instructions on how to administer all survey modules and data collection tools; and suggestions for adaptation when and where applicable. A package of tools (e.g. survey questionnaires, checklists, sample data collection forms, etc.), references and resources for the implementation of the presented practices and approaches are included at the end of each section.

While each section of the toolkit may be used individually, the sections were designed to complement each other. Throughout the toolkit, key points of complementarity – or "intersections" – between sections are highlighted. These intersections can be explored in order to streamline and/or leverage data collection efforts, inform programme planning, and strengthen monitoring and evaluation and surveillance systems by standardizing data across different programme aspects.

SECTION 1: RAPID SITUATIONAL ASSESSMENT OF DATA AND DATA SYSTEMS

Section 1 describes the situational assessment of data systems and the goal to contribute to the available evidence-base for planning and implementing national cervical cancer monitoring and evaluation, surveillance, and information systems. In support of this goal, the assessment aims to achieve the following objectives:

1. To identify strengths, challenges and gaps in programme implementation – as well as opportunities and threats relevant to cervical cancer data systems – through a survey documenting the country cervical cancer landscape.

2. To identify the strengths, weaknesses, opportunities and threats affecting cervical cancer data and data systems, through in-depth interviews with key personnel and desk review of key documents.

3. To use the findings of the landscape survey, in-depth interviews, and desk review to develop actionable recommendations for improving cervical cancer data and data systems.

The findings and recommendations can be used to inform strategic planning, and as tools to advocate for programme resources. Furthermore, the recommendations can help determine the applicability of the other sections in the toolkit and guide their use.

Information described within nine key domains is gathered using a mixed methods approach and involves: i) a structured survey questionnaire which collects information on country context and programme landscape and is completed by key personnel and supplemented by desk review as needed; and ii) semi-structured field interviews, observations, and desk review which collect further detailed information on data and data systems. Ongoing gap and SWOT (Strengths, Weaknesses, Opportunities, and Threats) analyses provide the foundation for the development of recommendations. It is important to note that this is a systematic approach to documenting and describing the existing situation in order to inform improvement, and not a scored performance evaluation or assessment.

The steps and processes presented in Section 1 should act as a core foundation and can be further adapted and expanded into standard operating procedures (SOPs), data collection tools, job aids and other practical materials for assessment implementation.

QUICK REFERENCE: CONTENTS OF SECTION 1

- Description of assessment process and tools;
- Assessment checklists outlining the roles, responsibilities, and steps for implementing each phase of the assessment; and
- Survey tools and instructions for collecting and analysing general information on cervical cancer programme landscape and context, and in-depth information on data systems relevant to cervical cancer.

SECTION 2: POPULATION-BASED SURVEY MODULES

Section 2 outlines the population-based survey modules developed to provide stakeholders with standardized questions on cervical cancer screening and treatment that can be incorporated into existing population-based surveys. The use of standardized questions helps to ensure that data collected are not only useful for programme planning and evaluation, but are comparable over time and across countries. The modules in this section assist LMICs in the surveillance of key aspects of cervical cancer prevention and control, including:

- Screening prevalence;
- Follow-up and treatment of precancer;
- Facilitators to screening; and,
- Barriers to screening and treatment.

QUICK REFERENCE: CONTENTS OF SECTION 2

- A core survey module including an introductory statement and a set of basic (core) survey questions;
- An expanded survey module that includes the introductory statement and core and core plus questions;
- Instructions for calculating indicators and administering the introductory statement, and all reference images and questions;
- Methodological considerations for incorporating cervical cancer questions into existing population-based surveys; and
- Recommendations on the inclusion of HPV testing in population-based surveys; and
- Example table shells to illustrate analyses.

SECTION 3: PATIENT AND PROGRAMME MONITORING

Section 3 outlines a process for the routine collection, aggregation, analysis, and reporting of data for cervical cancer secondary prevention (screening and precancerous lesion treatment) programmes. Guiding information in this section supports the development of standardized indicators and data practices, and the use of data to improve programme responsiveness and effectiveness.

This section provides resources to assist health care providers, facility managers, subnational and national Ministry staff and their partners to collect, systematically analyse and use data to:

- Better plan, target, tailor, and scale interventions;
- Assess whether programmes are being implemented with quality;
- Respond effectively when they are not implemented as planned; and,
- Report on standardized global indicators.

The tools and guiding information focus primarily on the secondary prevention portion of the continuum (screening and treatment of precancerous lesions) and do not extend past monitoring mechanisms and feedback processes related to invasive cervical cancer referrals.

QUICK REFERENCE: CONTENTS OF SECTION 3

- Roles and responsibilities for cervical cancer M&E;
- A set of core and optional indicators for global, national, subnational, and facility levels;
- A set of minimum (and additional optional), data elements for client level data collection;
- A set of minimum (and additional optional) data elements for facility registers;
- Example forms for collecting and collating individual client data, and summarizing and reporting monthly and annual facility data; and
- Descriptions and examples of data visualization tools, including a sample DHIS2 cervical cancer module dashboard.

SECTION 4: FACILITY-BASED SURVEYS

Section 4 provides Ministry decision-makers, implementing partners, facility administrators, and service providers with the tools to gather and evaluate accurate, up-to-date information on the availability of cervical cancer secondary prevention services, the readiness and capacity to deliver services, and the quality of the services being delivered.

The section is structured to be user-friendly and easy to understand, with instructions for each tool. Guiding information supports the purpose-driven use of individual tools, as well as the use of the full package of resources as part of a comprehensive approach to monitoring and surveillance of cervical cancer service availability, readiness, and quality.

QUICK REFERENCE: CONTENTS OF SECTION 4

- Instructions and materials for planning and conducting supportive supervision for secondary prevention service provision;
- Instructions and supplementary materials for conducting a standalone facility readiness assessment using a portion of the supportive supervision tool;
- Considerations and suggested methods and tools for analysing and interpreting service availability, readiness and performance information at the national (or other aggregate) level.

SECTION 5: PREVENTION AND CONTROL COSTING – ANALYSIS AND PLANNING MODULE FOR SCREENING AND TREATMENT

Policy-makers and programme managers need information on the projected costs of introducing cervical cancer interventions in order to make decisions on the "when", "where", and "what" of service introduction and scale-up. Through a facilitated process, an Excel-based tool allows health programme planners and managers to estimate, synthesize and analyse programme and service costs, including:

- Early detection of cervical cancer;
- Diagnosis;
- Treatment of precancerous lesions and invasive cancer;
- Palliative care for advanced disease;
- Community outreach and sensitization;
- Programme planning, monitoring and evaluation; and
- Supportive supervision.

Section 5 is intended primarily as a reference manual for trained facilitators. National Ministry programme planners, managers and implementers can use it to gain an understanding of the Excel-based C4P-ST tool[1] inputs and associated costing and planning process in order to align existing processes or determine the need for the facilitated C4P-ST process. This robust tool and interactive process enables programmes to:

- Estimate service costs and service coverage based on country-specific data and needs;
- Estimate financial and economic costs, and start up and recurrent costs of cervical cancer programmes;
- Estimate service coverage rates based on cost, distribution, population need and predicted scale-up; and
- Explore cost/service access trade-offs based on different models of public service delivery.

QUICK REFERENCE: CONTENTS OF SECTION 5

- Guiding information directed at the trained facilitator:
  - Instructions for tool use, including information on software requirements
  - Guiding information for conducting meetings with the planning and costing team and other in-country stakeholders
- Guiding information directed at the in-country planning and costing team:
  - Outline of the cost categories and the service outputs
  - List of required data elements to guide data collection

[1] The C4P-ST Excel-based tool and further information regarding facilitator support are available on request from: ncdsurveillance@who.int.