



# National Strategy for Cervical Cancer Prevention and Control Bangladesh (2017-2022)

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# Abbreviations

AHI	:	Assistant Health Inspector
AEFI	:	Adverse Event Following Immunization
ASRs	:	Age-Standardized Rates
BCC	:	Behavioural Change Communication
BSMMU	:	Bangabandhu Sheikh Mujib Medical University
CBHC	:	Community Based Health Care
CBE	:	Clinical Breast Examination
CC	:	Community Clinic
CS	:	Civil Surgeon
CHCP	:	Community Health Care Provider
CES	:	Coverage Evaluation Survey
CIN	:	Cervical Intraepithelial Neoplasia
DDFP	:	Deputy Director - Family Planning
DGFP	:	Director General of Family Planning
DGHS	:	Director General of Health Services
DGNM	:	Director General of Nursing & Midwives
DH	:	District Hospital
DHIS2	:	Data Health Information System Version-2
DNA	:	Deoxyribo Nucleic Acid
EPI	:	Expanded Program on Immunization
FIGO	:	International Federation of Gynaecology and Obstetrics
FPI	:	Family Planning Inspector
FWA	:	Family Welfare Assistant
FWV	:	Family Welfare Visitors
GAVI	:	Global Alliance for Vaccines and Immunization
GAVI HSS	:	GAVI Health System Strengthening Support
GOB	:	Government of Bangladesh
HA	:	Health Assistant
HI	:	Health Inspector
HMIS	:	Health Management Information System
HPNSDP	:	Health Population and Nutrition Sector Development Program
HPNSP	:	Health Population and Nutrition Sector Program
HPV	:	Human Papillomavirus
HSIL	:	High-grade Squamous Intraepithelial Lesion
HRHPV	:	High and Intermediate Risk HPV
HSM	:	Hospital Service Management
ICC	:	Invasive Cervical Carcinoma
LBC	:	Liquid-Based Cytology
LEEP	:	Loop Electrosurgical Excision Procedure
LSIL	:	Low-grade Squamous Intraepithelial Lesion
MCH	:	Medical College Hospital
MCRAH	:	Maternal Child Reproductive and Adolescent Health
MDG	:	Millennium Development Goal
MIS	:	Management Information System
MO	:	Medical Officer
MOH&FW	:	Ministry of Health and Family Welfare

MNC&AH	:	Maternal Newborn Child and Adolescent Health
MT-EPI	:	Medical Technologist-EPI
NCCBCST	:	National Centre for Cervical and Breast Cancer Screening and Training
NCDC	:	Non-Communicable Disease Control
NCIP	:	National Committee on Immunization Practice
NICRH	:	National Institute of Cancer Research & Hospital
NIP	:	National Immunization Programme
PATH	:	Program for Appropriate Technology in Health
PIP	:	Programme Implementation Plan
PHC	:	Primary Health Care
SACMO	:	Sub-assistant Community Medical Officers
SCC	:	Squamous Cell Carcinoma
SDG	:	The Sustainable Development Goals
SSN	:	Senior Staff Nurse
STD	:	Sexually Transmitted Diseases
UCI	:	Universal Child Immunization Initiative
UH&FWC	:	Union Health & Family Welfare Center
UHC	:	Upazila Health Complex
UHFPO	:	Upazila Health and Family Planning Officer
UICC	:	Union for International Cancer Control
UNFPA	:	United Nations Populations Fund
UNICEF	:	United Nations International Children's Emergency Fund
VIA	:	Visual Inspection of Cervix with Acetic Acid
VILI	:	Visual Inspection after Application of Lugol's Iodine
WHO	:	World Health Organization

## **Executive Summary**

The overall objective of the strategy of prevention and control of cervical cancer in Bangladesh is to develop broad guidelines for Government of Bangladesh (GOB) to strengthen the National Cervical Cancer Control Programme by introducing vaccination programme for adolescent girls against the Human Papillomavirus (HPV) through Expanded Program on Immunization (EPI) and implementing population based organized cervical cancer screening and treatment through public delivery system.

Cervical cancer is the 2<sup>nd</sup> most common cancer among women in Bangladesh, and every year 11,956 new cases of cervical cancer are detected and 6582 women die of the disease. It is preceded by precancerous changes within cervical cells by the infection from HPV. GOB initiated HPV demonstration program at Gazipur in August, 2015 and vaccination is in progress since 16th April, 2016. GOB will scale up HPV vaccination programme to girls of grade V at school and 10 years at community and a school-based vaccination programme will be implemented. Ministry of Health and Family Welfare (MOH&FW), in collaboration with development partners, will mobilize sufficient resources to expand immunization services once the HPV vaccine demonstration programme is successfully completed.

Since the year 2005, GOB gradually developed opportunistic cervical cancer screening facilities at all districts and since the year 2012 GOB is expanding the programme to the upazila level. The programme adopted Visual Inspection of Cervix with Acetic Acid (VIA) method for cervical cancer screening for the women 30 years and above at around 400 centres. In this National Strategy, GOB has planned to implement organized population-based cancer screening programme through the public health delivery system following a uniform guideline to achieve a reasonable coverage of 40% of the target population and will develop efficient linkage between screening and treatment of the positive cases. All ever married women between 30 – 60 years of age will be offered screening at an interval of 5 years. VIA-based screening will be continued for cervical cancer screening. All screen-positive women should be counseled, further evaluated by colposcope/mini-colposcope and treated at appropriate facilities. All colposcopy suspected cervical pre-cancers shall be treated following “see and treat strategy” during the same visit. Adequate human resources for service delivery need to be developed and deployed. Initiation and strengthening of various services within the existing health infrastructure, adequate supply and maintenance of equipment and uninterrupted supply

of consumables should be ensured. The cancer cervix screening programme will be part of Primary Health Care (PHC), Reproductive Health, Non-communicable Disease Control (NCDC) programme, Hospital Service Management (HSM) and Management Information System (MIS) of DGHS and DGFP. A mass screening policy will be taken along with developing population based screening programme. Appropriate referral, electronic data management system for screening and management within the health system will be organized. Institution Heads and Gynaecology consultants of primary, secondary and tertiary level should be responsible for implementation of services, coordination between various levels of service delivery, and quality assurance. Detection of early cervical cancer, facilities for staging and diagnostic workup, appropriate treatment based on stage of the disease will be ensured. Gynaecologists, gynaecologic oncologists should be made available at all tertiary care centers for surgical management of early-stage cancers. Radiation therapy and chemotherapy facilities should be made available at selected tertiary care hospitals, including dedicated oncology centers. The capacity of health systems should be improved to ensure the treatment of cancer patients on time. An appropriate evaluation and treatment services for pre-invasive and invasive cervical cancers such as colposcopy, thermo-coagulation, LEEP (Loop Electrosurgical Excision Procedure), radical surgery, radiation-therapy/chemo-therapy, alone or in combination should be established.

The concept of palliative care to policy-makers, health-care planners, administrators, and the general people should be promoted. An inter-professional team including doctor, nurse, social worker, counselor need to be developed to deliver the palliative care services. Availability of essential drugs for the management of pain and other symptoms including access to an adequate and uninterrupted supply of oral morphine at all facilities should be ensured.

GOB through several meetings designed and developed this cervical cancer control strategy (2017 – 2022) according to the needs of the country, community, outreach and facility-based clinical services. This strategy discusses the determinants of a successful and organized HPV vaccination and cancer cervical screening programme. It recommends that adolescent vaccination and cervical cancer screening services will be organized as a functional continuity across different levels of health care delivery from community to primary health care centers and to referral hospitals. Augmentation of cancer treatment services and improving palliative care are also crucial components of cervical cancer control that are discussed in the strategy.

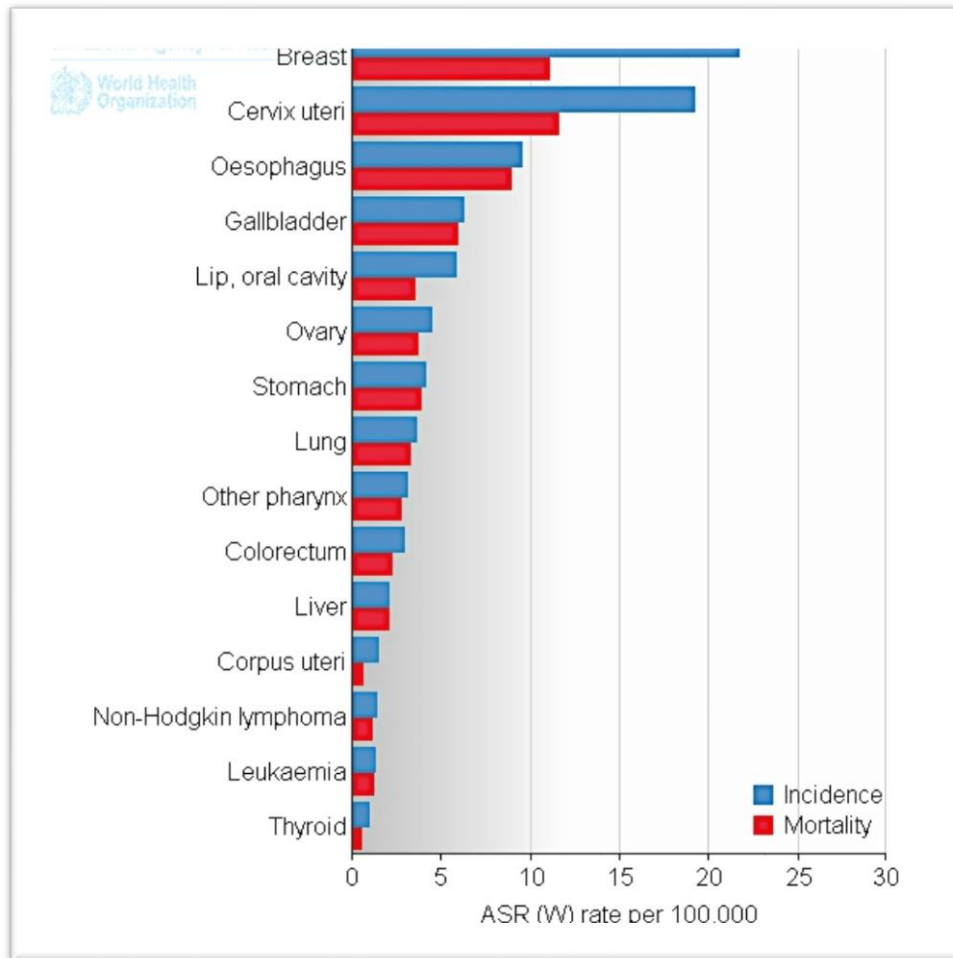
## 1. Introduction

Cervical cancer is one of the most common cancers in women across the globe, with an estimated prevalence of 1,547,161 cases worldwide in 2012.<sup>1</sup> Almost 80% of cervical cancers occur in the developing countries. In Bangladesh, cervical cancer is the 2<sup>nd</sup> most common cancer among women, with age-standardized rates (ASRs) for incidence and mortality much higher than the global average statistics (Incidence rates: 19.3 vs. 14.0/100,000 women; Mortality rates: 11.5 vs. 6.8/100,000 women). It is estimated that every year 11,956 new cases of cervical cancer are detected in Bangladesh and 6582 women die of the disease (Figure 1)<sup>2</sup>. Cervical cancer is caused by the sexually transmitted HPV, which is one of the most common viral infection of the reproductive tract. Survival of cervical cancer patients is strongly determined by stage at diagnosis. Due to the late stage at diagnosis and inadequate management facilities, mortality rates from cancer cervix are very high in Bangladesh. The overall 5-year relative survival for early and localized cancers is 73.2%, but can be as low as 7.4% for advanced stage disease.<sup>3</sup>

Bangladesh has high burden of cervical cancer due to the high prevalence of risk factors like early marriage, early initiation of sexual activity, multiparity, sexually transmitted diseases (STDs) and low socio-economic condition. All the tertiary level hospitals and institutes of this country are burdened with a large load of cervical cancer patients with high mortality rates. Treatment of cancer cervix is expensive and requires radical operative procedures and/or radiotherapy and prolonged hospital stay. In Bangladesh, facilities for radical surgery and radiotherapy are available only in few government institutions. In the private sector the treatment facilities are available in limited centers and are expensive.

Cervical cancer can be prevented and controlled through a combined strategy: by vaccination of adolescent girls against the human papillomavirus (HPV) and implementing population based organized cervical cancer screening and treatment. Since the year 2004 Government of Bangladesh (GOB) gradually developed cervical cancer screening facilities at all districts of Bangladesh through technical assistance of Bangabandhu Sheikh Mujib Medical University (BSMMU) and United Nations Populations Fund (UNFPA). Since 2012, GOB is expanding the programme towards upazila level for spreading screening services towards grass root level. The programme adopted VIA method for cervical cancer screening for the women 30 years and above at around 400 centres. Though the centres screened more than a million of women, the centres are providing opportunistic screening only. Hence development of organized

population based screening programme designed to detect and treat pre-cancerous conditions is crucial for reduction of cervical cancer incidence in Bangladesh.



**Figure1.** Estimated age-standardized incidence and mortality rates of cancers in women of Bangladesh [Source: GLOBOCAN 2012]

Expanded Programme on Immunization (EPI) is one of the important components of the Programme Implementation Plan (PIP) of GOB. As commitment of the GOB to the Global Universal Child Immunization Initiative (UCI), in 2009, a National Committee on Immunization Practice (NCIP) was established to consider and assess feasibility of introduction of new and underused vaccines in the national EPI Programme. The NCIP in 9 September 2013 recommended implementation of HPV Demonstration programme. GOB has started HPV demonstration program at Gazipur in August, 2015 and vaccination started on 16th April 2016. Therefore GOB is in a promising position to develop cervical cancer prevention



control strategies through a combined strategy of vaccination of adolescent girls against the HPV and implementing population based organized cervical cancer screening and treatment.

During planning for the preventive strategies, it is also essential to establish appropriate evaluation and treatment services for pre-invasive and invasive cervical cancers such as Colposcopy, Thermo-coagulation, LEEP, Radical surgery, Radiotherapy alone or as combined chemo radiation. Bangladesh like some other countries in the South-East Asia Region has very much inadequate management facilities for invasive cervical cancers and this issue needs special attention. An efficient strategy to deliver palliative care to provide relief from the physical and psychological sufferings of advanced cancer should be planned at different levels of the health facilities and community by trained team of clinicians, nurses and health workers. GOB should design and implement cervical cancer control programmes according to the needs of the country, community, outreach and facility-based clinical services.

## **2. Vision and Objectives**

### **Vision**

Cervical Cancer free Bangladesh.

### **Goal**

The strategic goal is to improve cervical cancer prevention and control activities to reduce the incidence, prevalence, morbidity and death from cervical cancer and to promote women's good health.

### **Objectives**

The overall objective of the National Strategy for Cervical Cancer Prevention & Control is to guide, develop, strengthen strategies to improve cervical cancer control activities; to reduce the burden of morbidity, disability and death from cervical cancer and to promote women's good health.

**The specific objectives:**

1. Introduce and scale up delivery of HPV vaccine to girls aged 9 to 13 years through a coordinated multisectoral approach including EPI.
2. Implement and scale up organized cervical cancer screening programmes utilizing evidence based, cost-effective interventions through public health service delivery system across different levels of health care.
3. Strengthen health systems and quality assurance mechanism to ensure quality and equitable access to cervical cancer screening services with particular attention to socioeconomically disadvantaged population groups.
4. Augment management facilities for invasive cancer cervix as part of a comprehensive cancer control programme.
5. Introduce palliative care services into all level of health system as part of a comprehensive cancer control programme.
6. Encourage convergence with related health programmes to ensure a coordinated approach for cervical cancer control within the health system.
7. Initiate and augment a structured advocacy and educational campaign for cervical cancer control.
8. Establish a Monitoring & Evaluation framework for the cervical cancer control.
9. To contribute towards establishment of a National Cancer Registry comprising several hospitals based and one population based cancer registry as a ready source of data for further research.

**3. Cervical cancer control strategies****3.1 Overview**

Cervical cancer is preceded by precancerous changes within cervical cells which represent a continuum of morphologic changes beginning with Cervical Intraepithelial Neoplasia 1(CIN 1, mild dysplasia) and progressing through CIN II (moderate dysplasia) and CIN III (severe dysplasia) to invasive carcinoma. Cervical cancer is caused by the infection from HPV, a double stranded DNA virus, a sexually transmitted infection.

Zur Hausen (1977) for the first time suggested the association between HPV and genital cancer.<sup>4</sup> But it received little attention from researchers and epidemiologists prior to 1988. Afterwards, several studies established HPV infection as a STD and major risk factor for the

development of CIN and invasive cancer.<sup>5-10</sup> A study in 1999 estimated that over 99% of cervical cancers worldwide contained HPV DNA.<sup>11</sup> Studies revealed that cervical dysplasia and cancer usually arises among women with persistent HPV infection.<sup>12,13</sup>

The persistence and severity of the precancerous change influence the progress of the disease. HPV infection initially causes CIN I, CIN II and CIN III according to severity. Unless treated, some of the CIN lesions progresses to frank cancer. The likelihood of regression of CIN I, CIN II and CIN III is 60%, 40%, 33% respectively and progression to Invasive Cervical Carcinoma (ICC) is 1%, 5% and greater than 12% respectively. The time lag between infection and development of ICC varies and is apparently on average more than 15 years.<sup>14</sup>

HPVs are classified into nearly 130 different genotypes and about 30 types of HPV that infect the genital mucosa has been categorized into low, intermediate and high risk groups.<sup>5,8</sup> “Low risk” HPVs (6,11,42,43 and 44) were present in 20.2% of low grade squamous intraepithelial lesions (LSIL) or CIN1 but absent in cancers. “Intermediate risk” HPVs (31,33,35,51,52, and 58) were detected in 23.8% of high-grade squamous intraepithelial lesions (HSIL) or CIN2/CIN3 and 10.5% of invasive cancers. “High risk” (HPV 16) were associated with 47.1% of both HSILs and invasive cancers. “High risk” HPV 18, 45, and 56 were found in 26.8% of invasive cancers. Numerically, HPV 16 was also the most important single type, detected in invasive cancers and HSIL and HPV 16 and 18 are implicated in 65% to 80% of all cervical cancers.<sup>8</sup> About 10-15 types of high and intermediate risk HPV (HRHPV) types were responsible for more than 90% of invasive cancers and they were referred to as cancer-associated HPVs.<sup>8,15</sup> Besides cervical cancer, HPV can cause anal cancer, vaginal and vulvar cancer, penile cancer and oro-pharyngeal cancer.

The virus can be transmitted through genitalia to genitalia, skin to skin or skin to genitalia contact. Transmission via HPV-contaminated fomites (clothing, sheets, towels, objects, and instruments) has also been suggested. Women are at highest risk of acquiring HPV infection when they initiate their sexual life. Peak prevalence of ano-genital HPV infection is observed between 20-25 years and the prevalence comes down drastically after 30 years of age since most of the infected women clear the infection due to natural immunity. It takes nearly 1 to 2 years to clear the HPV infection and this infection by itself does not have any symptoms. Symptoms appear only when the infection causes diseases like genital warts or cancer. The virus enters through small breaks present in the epithelium near the squamo-columnar junction and infects the cells of the basal layer of the squamous epithelium. The virus replicates within the cells and the viral replication is synchronized with the cell division. Since most women can

clear the viral infection due to the natural immunity, they do not get cervical neoplasia. Only a small number of women cannot clear the infection and the persistent HPV infection causes neoplastic changes in the metaplastic epithelium at the transformation zone. The malignant process starts if the viral genome gets integrated into the host genome.

CIN1 or low-grade squamous intraepithelial lesions (LSIL) regress spontaneously or remain static. CIN2 and CIN3 lesions together referred to as high-grade squamous intraepithelial lesions (HSIL), may progress to invasive cancer if they remain undetected and/ or untreated. Hence, HSILs are known as true cervical cancer precursors.

It is well established that detection and treatment of CIN and early invasive cancers through organized cervical cancer screening programmes can reduce mortality rates from the disease in the screened population.

A comprehensive continuum of care for cervical cancer will require prevention at three stages: primary prevention (through HPV vaccination); secondary prevention (through cervical cancer screening and treatment of precancerous lesions) and tertiary prevention (through early diagnosis and proper treatment of cervical cancer). Palliative care should be the last resort of care for terminal cases.

**Primary Prevention:** Protecting adolescent girls through vaccination against the two most carcinogenic HPV types is a safe and effective primary prevention strategy against cervical cancer. Two commercially produced HPV vaccines are widely available in almost all countries in the South-East Asia Region including Bangladesh. Assessment of the target population for vaccination through schools is proved a viable option in Bangladesh.

Assessment of the target population for vaccination through schools is proved a viable option in Bangladesh. Bangladesh has already achieved gender parity in primary and secondary school enrolment. This attainment has occurred due to some specific public interventions focusing on girl students, such as stipends and exemption of tuition fees for girls in rural areas and the stipend scheme for girls at secondary level. The net enrolment ratio in 2011 was 98.7 percent (Girls-99.4%, Boys-97.2%) which was 60.5 percent in 1990 (from Ministry of Primary and Mass Education Report)<sup>16</sup>. A comprehensive national policy for HPV vaccination and cervical cancer screening will be cost-effective and will contribute towards attainment of the The Sustainable Development Goals (SDGs). As per this document, all girls of grade V and 10 years of age will be the target group of HPV vaccination. Service delivery models for HPV vaccination in Bangladesh will be mainly school-based, with community-based and health

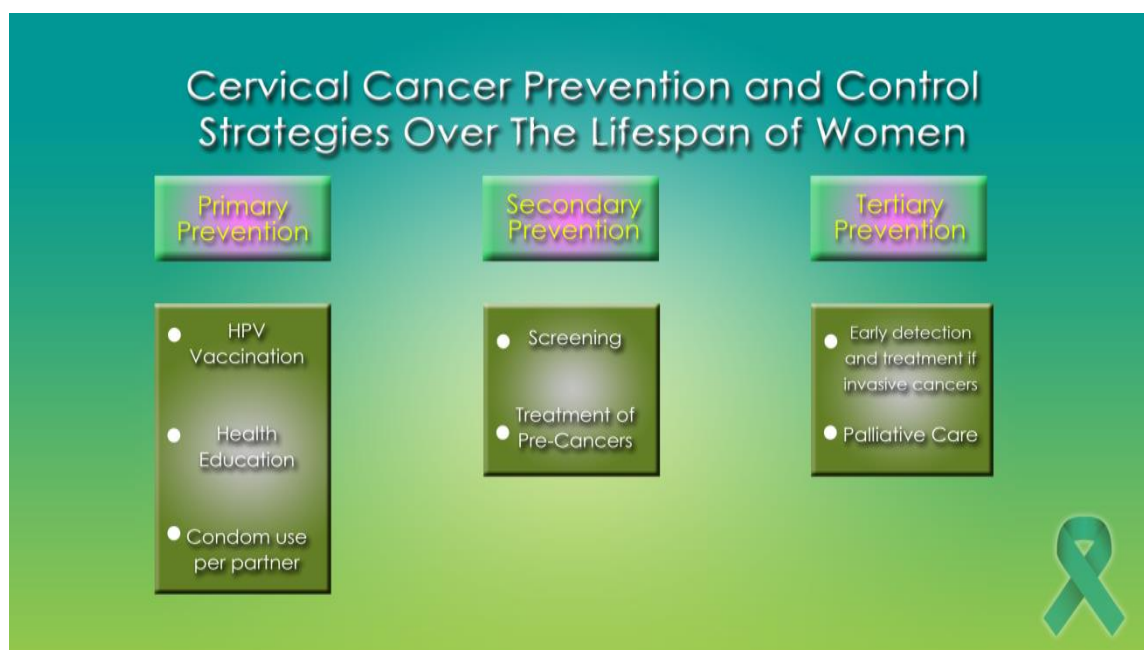
centre-based vaccination programs to improve reach the target population. It is important to note that girls vaccinated with HPV should also be screened when they reach the target age group, since 30% of cervical cancer is caused by HPV types that are not currently targeted by available vaccines. EPI, Bangladesh will monitor the performance of the vaccination program through vaccination coverage and disease surveillance.

**Secondary Prevention:** It is well established that detection and treatment of CIN and early invasive cancers through organized cervical cancer screening programmes can reduce mortality rates from the disease in the screened population. Several simple and low-cost screening strategies have evolved over the past few years for implementation for population-based screening programmes in different countries. In Bangladesh, Visual Inspection by Acetic Acid (VIA) is the accepted test for cervical cancer screening. The target population for screening will be women between 30-60 years of age; and the screening interval will be 5 years. All screen-positive women will receive a colposcopy test and treated accordingly.

**Tertiary Prevention:** In Bangladesh, cases of cervical cancer present both during screening as well as at different gynaecological outpatient departments. For proper treatment of cervical cancer, histological confirmation of disease and staging needs to be done before the treatment is initiated. Early detection of cervical cancer is crucial to improve prognosis of cases; and facility capacity to provide staging and diagnostics need to be improved in addition to organizing appropriate treatment.

**Palliative Care:** Palliative care is reserved for terminal cases of cervical cancer. It is a critical need within the public health system, but in Bangladesh it is often ignored. Policy makers, health care providers as well as the patient community need to be made aware raising regarding the importance of palliative care. The country needs to set up proper training and facilities for providing high quality palliative care.

Appropriate and timely treatment of invasive cervical cancer and introduction of palliative care services for patients with advanced cancer should be strategies to reduce morbidities, mortalities and, improved quality of lives. Cervical cancer prevention and strategies over the lifespan of women is shown in Figure 2



**Figure 2 Cervical cancer prevention and control strategies over the lifespan of women**

### 3.2 Convergence between different health programmes

The service delivery for both HPV vaccination and cervical cancer screening components utilizing the existing health infrastructure is shown in Table 1. GOB has integrated cervical cancer screening programme within the government health infrastructure and major advantage of programmatic convergence is utilization of a common health MIS.

**Table 1. Key roles of different health-care levels and sharing of resources and responsibilities, to deliver comprehensive cervical cancer control**

Health Facilities/Programme	Service Providers	Services Offered
<i>Primary Level (CC, Union subcentre, UH&amp;FWC, UHC)</i>	Community Health Care Provider (CHCP), Health Assistant (HA), Assistant Health Inspector(AHI), Health Inspector (HI) Family Welfare assistant (FWA), Family Planning Inspector (FPI), Family Welfare Visitors (FWV), MT-EPI, SACMO, Senior Staff Nurses (SSNs), Midwives, Medical Officer, Gynecologist	<ul style="list-style-type: none"> <li>• HPV Vaccination</li> <li>• Screening with VIA</li> <li>• Examination by mini-colposcope/ Colposcope</li> <li>• Treatment of CIN by Thermo-coagulator/cryotherapy</li> <li>• Behavioral Change Communication (BCC) and community mobilization</li> <li>• Capacity building of primary level health workers.</li> <li>• Use of MIS &amp; surveillance system.</li> </ul>
<i>Secondary Level (District Hospital,</i>	SSNs, Midwives, EPI superintendent, Medical Technologists of	<ul style="list-style-type: none"> <li>• HPV vaccination,</li> <li>• Screening with VIA,</li> <li>• Colposcopy, biopsy &amp;</li> </ul>

<b><i>MCWC, private facilities)</i></b>	laboratory, Medical Officer, Pathologists, Gynecologist, Surgeon	<p>treatment of CIN by Thermo-coagulator / LEEP,</p> <ul style="list-style-type: none"> <li>• Histopathology,</li> <li>• Capacity building for VIA service provider, Capacity building for pathologists, health educators, counselors, statistician.</li> <li>• Manage referrals and send back to primary level</li> <li>• Coordination and follow up with departments of Gynaecology and Pathology of the same hospital and tertiary level hospital.</li> <li>• Integrate services with reproductive/adolescent health and/or immunization programme.</li> <li>• Use of MIS &amp; surveillance system.</li> </ul>
<b><i>Tertiary Level (Institutes &amp; Medical College Hospitals)</i></b>	SSNs, Midwives, Pathologists, Medical Oncologist, Radiation Oncologist, Gynecologist, Surgeon	<ul style="list-style-type: none"> <li>• Treatment of pre-cancers by Thermo-coagulator / LEEP, Diagnostic facilities, Colposcopy and biopsy,</li> <li>• Capacity building for VIA, cytology, HPV test, Colposcopy, treatment, and histology; Treatment of invasive cancers (operative, radiotherapy, chemotherapy)</li> <li>• Training of trainers, Use of MIS &amp; surveillance system.</li> </ul>
<b><i>National cancer prevention and control programme</i></b>	DGHS, DGFP, DGNM, NICRH, NCCBCS&T of BSMMU, MOHFW	<ul style="list-style-type: none"> <li>• Policy and guidelines</li> <li>• Funding and resources</li> <li>• Monitoring, evaluation &amp; quality assurance</li> </ul>

## **4. Primary prevention: Introduction of HPV Vaccine into Expanded Program on Immunization (EPI)**

### **4.1 Introduction**

HPV vaccination is most effective if administered prior to sexual debut and exposure to HPV infection. As per WHO recommendations, girls aged 9 to 13 years should be vaccinated against HPV through effective, affordable and equitable delivery strategies. Vaccinating a single age cohort within the target age range is a cost-effective approach. EPI of Bangladesh, selected one district for HPV demonstration programme with school girls of Grade V and 10 years in the community (out of school) as the target group for vaccination. As per WHO recommendation, the girls below the age of 15 years need only two doses of the vaccine with an interval of six months between the doses. Therefore EPI of Bangladesh has adopted two doses of the vaccine with six months interval. High coverage of the target population and adherence to the dose schedule are key factors for the success of the HPV vaccination programme. Bangladesh as low income country already received support through the Gavi Alliance to initiate demonstration programme at a subsidized cost. After completion of the demonstration programme, Gavi Alliance may support for national scale up and sustainability of this vaccination programme. If Gavi Alliance support is withdrawn, then GOB will consider to continue the vaccination program.

The EPI in Bangladesh is one of the well-established and successful programmes which aim to reduce child morbidity and mortality from vaccine preventable diseases. Following the launch of the National Immunization Program in 1979, EPI Bangladesh has been recognized for its sustained high vaccination coverage. The full valid vaccination coverage in the year 2015 was 82.5% (Bangladesh EPI Coverage Evaluation Survey, 2015)<sup>17</sup>. With the support of Gavi Alliance, HPV Demonstration Program in Gazipur (2016-18) has been launched on 16th April' 2016. The target group included around 30689 girls of grade V and 10 years girls out of school for the 1<sup>st</sup> year and the vaccination coverage was 87.2% (As per HPV Vaccination Coverage Survey 2016).<sup>18</sup> Total target for 1<sup>st</sup> dose for 2<sup>nd</sup> year in Gazipur district was 23,632 and 23,517 was vaccinated successfully. Total vaccination coverage was 99.52% & vaccine wastage rate was 4.37% according to the data obtained from civil surgeon office, gazipur.



#### **4.1.1 Service delivery models**

In Bangladesh, EPI is implemented through various outreach centers and health center-based activities. However to ensure high coverage of girls belonging to the target age group, Bangladesh has included school based vaccination programme. The following service delivery model is being adopted:

##### ***A. School based vaccination***

A school-based delivery strategy has been adopted in the demonstration programme. In Bangladesh as high proportion (98%) of adolescent girls attend school (Ministry of Primary and Mass Education Report)<sup>16</sup> and the school authorities have positive attitude to participate in school health based programmes. High level commitment and good coordination between Ministry of Health & Family Welfare, Ministry of Primary & Mass Education, Ministry of Education, Local Government Division, Ministry of Women & Child Affairs, administrators and teachers are required. The vaccination schedule has to be planned avoiding school holidays and examination dates. Behavioural Change Communication (BCC) activities among parents and parent–teachers association meetings will be done to improve awareness on cervical cancer control and other health issues and facilitate to obtain verbal consent for HPV vaccination.

##### ***B. Community Based Vaccination***

There should be a plan to find out the girls who are not in school. This can be executed through outreach services on a monthly basis in rural wards and on the basis of EPI session plan in urban wards. Service providers for vaccination at rural wards include Health Assistants (HAs), Family Welfare Assistants (FWAs) and Community Health Care Providers (CHCPs). Vaccination at urban wards will be the primary responsibility of the Local Government Division through the appointed service provider of the City Corporation, Municipalities and different NGOs.

##### ***C. Health Centre based Vaccination***

The HPV vaccine will be administered through the primary and secondary health facilities including outreach services like satellite session. Mechanisms are available to inform the girls and their parents who have not received vaccination at school and community based facilities to attend the health facilities on the days of vaccination.

### **4.1.2 Procurement and logistics**

Like other vaccine, In line with national and international targets, the MOHFW, in collaboration with development partners, will mobilize necessary resources to extend immunization services throughout the country. Every application for new vaccine introduction will be carefully analyzed in terms of costs, financing gaps, and government co-financing requirements. A decision to proceed with HPV Vaccine introductions will be accompanied by a clearance from the Ministry of Finance in terms of financial sustainability. The vaccine procurement policy, logistic plan to deliver the vaccines maintaining the cold chain and to supply other logistics and the protocol for vaccination should be laid down prior to rolling out the programme. Like any other vaccination programme, the programme managers are expected to regulate vaccine procurement, supply chain, temperature monitoring, storage and transport capacities, and report regularly on progress against targets, stock levels and wastage rates. The logistics of the new vaccine delivery should be sustainable and synchronized with immunization and other health interventions.

### **4.1.3 Capacity-building**

Orientation training and supervision of existing staffs are integral part of HPV vaccine delivery strategy. Capacity-building will be organized for health and family planning staffs at primary and secondary level facilities. Teachers and parents will be oriented on HPV vaccination and cervical cancer control.

Implementation/requirement plan along with budget will be developed. Strengthening the capacity of cold chain logistics, logistics and distribution mechanism, surveillance, MIS integrated with District Health Information System Version-2 (DHIS2) will be required. Districts/Upazila level annual micro-plan with special emphasis to HPV vaccination will be prepared. EPI training guidelines, training materials, record keeping and recording forms will be revised to include the HPV vaccine. Advocacy meetings will be carried out with multi-sectoral partners and community representatives at national, divisional, district and sub-district levels. Communication materials (posters, leaflets etc.) will be produced. Effective communication channels between the key stakeholders at the central and district levels will be developed and maintained. Close collaboration of academic institutions will be required.

#### **4.1.4 Screening for cervical cancer and HPV vaccination**

Cervical cancer screening will be continued during HPV vaccination. Women not having HPV vaccination will need protection through screening. The vaccinated population will also need screening in future, since nearly 30% of cancer cervix is caused by HPV types not targeted by currently available vaccines. The vaccinated population may require less frequent screening as they are at much lower risk, although the current recommendation is to follow the routine schedule of screening as per individual country protocol. The data of vaccinated girls will be preserved by MIS and they will have screening after the age of 30 years.

#### **4.1.5 Monitoring and surveillance**

EPI, Bangladesh will monitor the performance through vaccination coverage and disease surveillance. It has well-established mechanism for reporting vaccine-related Adverse Events Following Immunization (AEFI). This same reporting mechanism should be utilized for the HPV vaccine. The health authorities should ensure that all reported serious adverse events are appropriately investigated to establish causality.

Continuous monitoring and feedback on performance will be done to evaluate the quality of programme performance. HPV vaccination coverage will be monitored by proportion of girls in the target age group vaccinated and proportion of vaccinated girls receiving both the doses of the vaccine. The vaccine database will be linked to the screening database through a common HMIS, and the vaccinated women will be screened at 30 years of age. Several process indicators should also be monitored, including the regular supply of vaccines, maintenance of the cold chain and records. CIN and cervical cancer should be reported from all health facilities (including primary, secondary and tertiary hospitals, private facilities and NGOs) on a monthly basis to the HMIS according to the case definitions, procedures and guidelines of the DGHS. All Divisions, Districts, City Corporations, UHCs, Municipalities and other Hospitals (public and private) will identify a trained and designated surveillance focal person to conduct active and passive surveillance for HPV infected/associated diseases, respond to disease events and report to HMIS through DHIS2.

The MOHFW, in collaboration with technical partners and research institutes, will collaborate/develop the laboratory capacity of the country in order to introduce case based laboratory surveillance for HPV vaccine preventable diseases (for laboratory confirmation of diagnosis, tracking epidemiology of diseases, and for evaluating vaccine efficacy and program

effectiveness). The HPV test facilities (appropriately equipped and staffed National Control Laboratory) at divisional level to monitor vaccine effects should be developed.

#### **4.2 Key strategic directions for introduction of HPV vaccine into national immunization programme**

GOB is going to introduce HPV vaccination programme into existing EPI. The following strategic directions will be taken to augment the health system to introduce the HPV vaccine.

##### **4.2.1 Strategic direction 1: Define the target population**

1. The vaccine will be given only to girls until there is a new recommendation for vaccinating boys.
2. All girls of Grade V and 10 years of age in the community (out of school) will be the target group for vaccination every year.

##### **4.2.2 Strategic direction 2: Arrange for sustainable financing**

1. In line with national and international targets, the MOH&FW, in collaboration with development partners, will mobilize sufficient resources to extend immunization services once the HPV vaccine demonstration programme is successfully completed.
2. Every application for new vaccine introduction will be carefully analyzed in terms of costs, financing gaps, and government co-financing requirements.
3. A decision to proceed with new vaccine will always be accompanied by a clearance from the Ministry of Finance in terms of financial sustainability
4. There should be no funding gap for resource requirements for vaccines and logistics. The requirements of vaccines and logistics supply are expected to be financed from two sources: Gavi and the GOB (through Pooled Funds). Together with co-financing Gavi-supported vaccines, GOB directly contributes around 67% of the total Programme financing. WHO and UNICEF will also be responsible for some portion of programme financing, while other bilateral partners combined contribution will fulfil the financial gaps if required.
5. The GOB will be continuously monitoring financial situation with financing EPI in collaboration with development partners. GOB is committed for HPV immunization through the HPNSDP.

### **4.2.3 Strategic direction 3: Select appropriate delivery and coverage strategy**

1. A school-based vaccination programme will be implemented in Bangladesh as it has provided more than 95% coverage during the vaccine demonstration project and a good proportion of girls attend primary schools.
2. Vaccination at primary and secondary level health facilities and at community level will also be done
3. A combination of both delivery strategies will be followed to vaccinate hard to reach populations to improve coverage.
4. All girls to be vaccinated at the age of 10 years at the private facility should be reported to the nearest GOB facility for incorporation in DHIS2.
5. Maintenance of the cold chain, uninterrupted supply of vaccines & logistics and high coverage with all the doses of the vaccine should be ensured.

### **4.2.4 Strategic direction 4: Integrate immunization, surveillance and other related health interventions**

1. A programme officer/focal person at the national/regional level should be responsible for planning and execution of services, coordination between different stakeholders and quality assurance.
2. The opportunity of reaching adolescent girls through the HPV vaccination programme should be utilized to deliver other health services targeted to the same population.
3. Regular programme evaluations should be conducted at local, district and national levels and should be linked with routine immunization Coverage Evaluation Surveys (CES) and HMIS.
4. Capacity building of service providers for both vaccination and screening should be organized at health facilities.

**Table 2. Key strategic directions for introduction of HPV vaccine into national immunization programme**

1	The target population	All girls of Grade V and 10 years in the community (out of school) will be the target group for vaccination every year
2	Sustainable financing	The MOH&FW, in collaboration with development partners, will mobilize sufficient resources to expand immunization services
3	Vaccine delivery and coverage strategy	School-based vaccination will be the main delivery strategy. 95% vaccine coverage will be ensured
4	Integrate immunization, surveillance and other related health interventions	Regular programme evaluations at local, district and national levels should be conducted and should be linked with routine immunization CES and HMIS
5	Capacity building	Service providers along with respective supervisors at different health facility levels

## 5. Secondary Prevention:

### Population-Based Cancer Cervix Screening

#### 5.1 Introduction

An organized cancer screening programme should be population-based, managed through the public health delivery system, follow a uniform guideline, achieve a reasonable coverage of the target population and have efficient linkage between screening and treatment of the positive cases. The essential components of an organized population-based screening programme are shown in Figure 3.

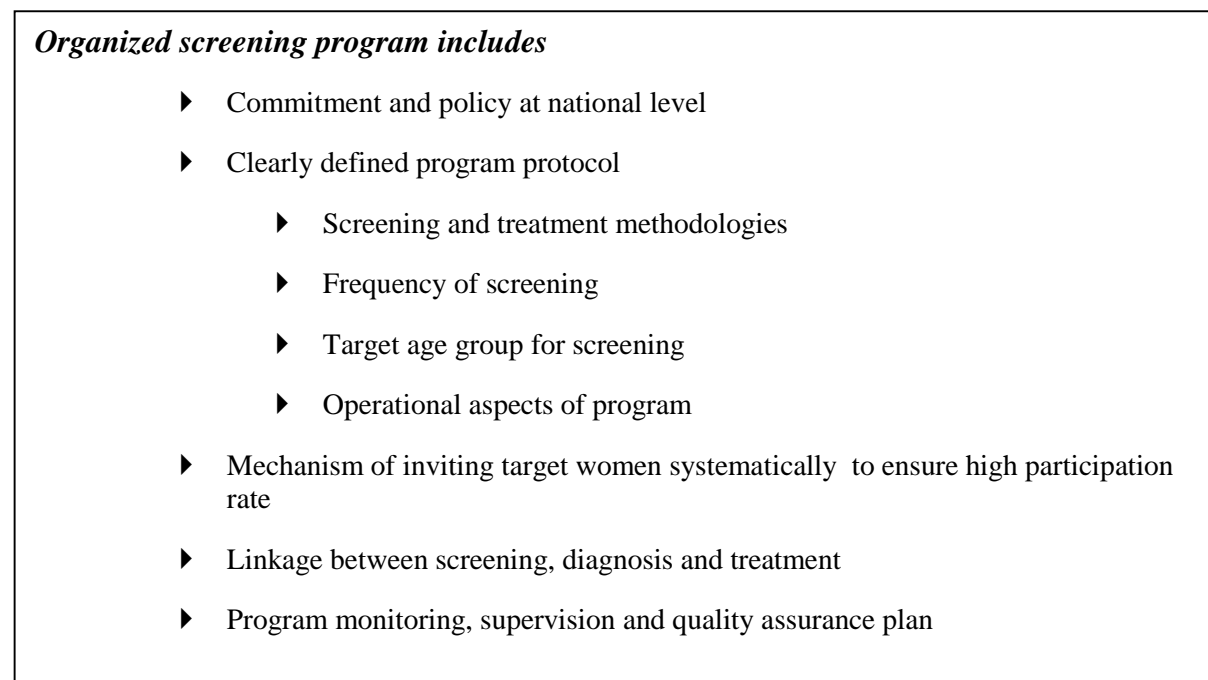


Figure 3. Different components of an organized population-based cervical cancer screening programme

GOB through an orientation meeting in October, 2003 decided VIA as a feasible method for cervical cancer screening and a pilot programme to evaluate the feasibility of screening with VIA within the existing government health infrastructure was carried out in 16 districts in 2005.<sup>19-22</sup> Service providers (Doctors, SSNs and FWVs) were trained at BSMMU, which was the nodal center for training. VIA was offered to ever married women of 30 years and above and VIA positive women were referred for colposcopy and treatment at the colposcopy clinic of BSMMU, Rangpur and Chittagong Medical College Hospitals. After piloting GOB has scaled up the programme to all the districts and is now expanding the programme to the upazila level. In Bangladesh screening is practiced currently by around 400 centres at primary,

secondary and tertiary level hospitals. However this is predominantly an opportunistic screening programme,<sup>20</sup> and GOB need to develop organized population based screening programme designed to detect and treat pre-cancerous conditions.

### **5.1.1 Defining the target population and frequency of screening**

As cervical cancer is rare before 30 years of age and Bangladesh is a low resource country, GOB has taken a policy for not to screen women prior to 30 years of age. Moreover, screening women at a younger age detects many low-grade lesions that are self-limiting and do not usually progress into cancer. The maximum possibility of detecting high-grade precursor lesions (CIN2 and CIN3) is possible if screening is performed from 30 to 49 years age group. GOB will adopt 30-60 years for cervical cancer screening. The screening will be performed every five years. All efforts should be made to achieve at least 40% coverage of the target population within next five years.

### **5.1.2 Screening test adopted in Bangladesh**

Bangladesh adopted an affordable, accessible way of cervical cancer screening programme. VIA is accepted as a method of screening as it is relatively simple, need minimum infrastructure support and part of the result of the procedure is available immediately. GOB formally launched the **National Cervical and Breast Cancer Screening Program** in 2006 by gradually scaling up the pilot project towards the district level with support from BSMMU and UNFPA. This screening programme has expanded upazila level since 2012 through strong government's contribution. A list of test characteristics, personnel requirements and limitations of different screening is given in Annex 1.

### **5.1.3 Screening test facilities and providers**

Bangladesh initiated cervical cancer screening facilities at the primary, secondary and tertiary level health-care facilities. VIA is performed at Medical College Hospitals (MCHs), BSMMU, District Hospitals (DHs), Maternal and Child Welfare Centres (MCWCs), selected Upazila Health Complexes (UHCs), few NGO clinics by trained Family Welfare Visitors (FWVs), Paramedics, SSNs, and Doctors.<sup>19-22</sup>

Work Flow at the Screening Centers is shown in annex II. In the next 5 years VIA services will be expanded to remaining 250 UHCs.



#### **5.1.4 Management of women with VIA positive cases**

Screen positive cases are being referred to the colposcopy clinics of tertiary level health-care facilities (BSMMU / MCHs), where evaluation and management are carried out.<sup>19-24</sup> About twenty government medical college hospitals and BSMMU are functioning as referral centre through development of colposcopy clinics for evaluation and management of screen positive cases. Workflow at the Colposcopy Clinic is shown in annex III. Cervical pre-cancers are treated either by removing the entire abnormal area with Loop Electrosurgical Excision Procedure (LEEP) or with Thermo-coagulation. Facilities for LEEP are available at BSMMU and about 15 Government MCH and facilities of thermo-coagulation is available at 4 selected MCHs almost free of cost.

**Thermo-coagulation** is safe, simple and effective technique to treat selected CIN lesions of any grade. Nurses shall be trained to perform thermo-coagulation. In Bangladesh Thermo-coagulation has been generously used recently at several tertiary health facilities and at health camps of many UHCs. In Bangladesh minicolposcope is used to identify cervical pre-cancers among VIA positive women at BSMMU, selected MCHs, DHs and selected UHCs before treatment in health camps.<sup>23-24</sup> At tertiary levels, DHs and UHCs “See and Treat” protocol (Annex IV) are being adopted and logistics (colposcope/minicolposcope and Thermo-coagulator) will be made available in a phase wise manner in all this centers.

All grade of cervical pre-cancers should be treated. Hysterectomy should not be practiced for the treatment of CIN lesions. Follow-up of treated patients will be continued at the primary, secondary or tertiary facilities by available methods. VIA, colposcopy and HPV DNA test can be used during follow-up on an annual basis for three years. Women tested negative on three consecutive rounds will be returned to the routine screening protocol applicable to the normal population.

All invasive cancer cases will be referred to appropriate facilities for further management based on International Federation of Gynaecology and Obstetrics (FIGO) clinical staging.

#### **5.1.5 Strategies to improve compliance**

To improve client’s compliance, program efficiency and cost effectiveness less visit approaches is preferred. The following strategies will be adopted to improve compliance to diagnosis and treatment.

- **See-and-treat strategy:** A colposcopy suspected cervical pre-cancer (all grades) shall be treated during colposcopy without waiting for histology confirmation.
- GOB will develop and strengthen colposcopy clinics along with colposcope, electrosurgical equipment and thermo-coagulator at all MCHs and DHs to establish ‘**See-and-treat strategy**’.
- At primary (UHCs) level, VIA positive women will have examination by colposcope/minicolposcope if facility is available and suspected pre-cancers will be treated by thermo coagulator during the same sitting with verbal consent of the client or can be referred to higher centre (DH or tertiary level) if necessary.
- Screen-positive women who need higher centre referral will be counseled to travel to referral centers whenever necessary. A strong linkage between the screening centres at primary and the referral facilities at secondary or tertiary level will be developed with help of HMIS.
- Strengthening of static centres and special programme (screening and management camps) can be organized for marginalized, remote, hard to reach populations.

#### **5.1.6 Record-keeping and data management**

Maintenance of records, storage of data related to various components of screening, and periodic reports are essential for an organized screening programme. At BSMMU, MCHs, District Hospitals, MCWCs and UHCs a simple paper-based record keeping system has already been introduced for the clients receiving VIA and CBE test through registry and VIA+ve and VIA-ve cards. At BSMMU and other referral centers, findings of referred patients are recorded on the colposcopy registry and VIA+ve Cards.

For population based organized screening, GOB will develop an electronic data base for all women 30years and above at upazila, district, city corporation and municipality level. GOB should arrange training and resources for developing and maintenance this data base. This data base will include women’s basic information, screening, colposcopy, treatment and follow up records in the allocated spaces. Women will be referred to nearer VIA centre (UHC/DH/MCWC/MCH/Institutes etc.) with a referral slip containing NID number by CHCP and other field level health workers. After examination, VIA negative women will be provided a VIA negative card and advised to come back for repeat test after 5 years. VIA positive women will be given a VIA positive card and evaluated and treated if facilities are available at the same centre or referred to the nearer colposcopy clinic (MCH/Institutes/DH/BSMMU). All data will

be entered in the electronic data base DHIS2 by SSN/doctors/FWVs/statisticians before or during the same visit. The computerized data-base should be maintained at each screening centre and all colposcopy centers. The template for Cervical cancer screening database is being developed and will be maintained by the HMIS through DGHS (DHIS2) (Annex X). A mechanism to check the compliance of screen-positive women to colposcopy and/or treatment should be established by DGHS, DGFP and BSMMU/ national coordination centre.

### **5.1.7 Monitoring, evaluation and quality assurance of the programme**

The impact indicators are reduction of cancer cervix incidence and reduction of death from disease. It can be obtained through a population-based cancer registry or organized health information system. Outcome/performance indicators will be monitored on a regular basis to identify gaps and, based on this; modifications to programme strategies should be undertaken. Common performance indicators are suggested as below:

- **Coverage of the target population** (Number of women in the target age group screened/ Total number of women in the target age group x 100).
- **Screening test positivity** (Number of women positive on screening test/Number of women screened x 100).
- **Compliance to colposcopy** (Number of women undergoing colposcopy/Number of women positive on screening test).
- **Compliance to treatment** (Number of women treated for CIN-II+ on colposcopy or biopsy/Number of women detected to have CIN-II+ on colposcopy or biopsy x 100).
- **Detection rates of CIN-II, or worse disease** (Number of CIN-II or worse disease detected/Total number of women screened).
- **Positive predictive value of the test to detect CIN2 or worse disease** (Number of CIN2 or worse disease detected/Total number of women positive on screening test).  
For quality assurance, the responsible programme personnel (UH&FPO, Civil Surgeon/ Hospital Superintendent, Gynae consultant, Hospital Director/ Head of Gynae and Obs) should review and analyze MIS data and implement corrective measures based on the findings.

### 5.1.8 Research

Research will be encouraged to build the evidence based information on the programme to determine best practices. Collaboration with Institutional researchers and other research institutions like BSMMU, NICRH, ICDDR, international organizations will be pursued to answer critical clinical and community questions. Key focus areas for research include promotion of operational research at all levels and link with national surveys to gather cervical cancer data.

### 5.1.9 Training of service providers

A 'National Centre for Cervical and Breast Cancer Screening and Training (NCCBCST) at BSMMU, is being developed for rapid development of competency-based training for service providers from different levels of health care and better coordination of the programme. Decentralization of training centres will be performed at divisional level in a phase wise manner. More trained manpower will be developed to improve the screening coverage and Table 2 showed details of the conduction of the training programmes. Criteria of a designated training centre are shown in Annex V.

During training each trainee should perform an adequate number of procedures under observation of trainers. A format for evaluation of VIA trainees is given in Annex VI. After the successful completion of training, the appropriate authority will certify the trainees. Only certified providers should perform the tests. After training, the service providers need to be supervised until they achieve a satisfactory level of competency. All VIA providers should receive a short refresher training initially at every year and then at alternate year. VIA trained service providers will receive other specialized trainings such as training on colposcopy and Thermo-coagulator. At least three VIA trained service providers should be placed at each VIA centre. VIA service providers and statisticians/statistic assistance from all level should be trained for data management and follow-up.

**Table 3. Guidelines for conducting training programmes for service providers related to cancer cervix screening programmes**

<b>Service</b>	<b>Health professionals who can be trainer</b>	<b>Health professionals to be trained</b>	<b>Health set-up to conduct training*</b>	<b>Competency to be achieved</b>	<b>Durati on of trainin g</b>
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<b>VIA</b>	Trained doctors and nurses Programme managers	Doctors, SSN, FWV midwives, paramedics	Tertiary level,	Test procedure, interpretation, documentation, record keeping, pre- and post-test counseling	Two weeks
<b>Cytology and histology</b>	Trained pathologists and Laboratory technicians	Pathologists and Laboratory technicians,	Tertiary level	Processing specimens, Interpretation, reporting, documentation, laboratory quality control	One week
<b>HPV detection</b>	Trained virologist, microbiologists, technical persons	Laboratory technicians, Pathologists	Tertiary level	Processing of samples and conducting tests, interpretation, reporting, documentation, laboratory quality control	One week
<b>Colposcopy and treatment</b>	Trained doctors	Doctors, SSN (for colposcopy and/ or thermocoagulation only)	Tertiary level	Performing the procedure, interpretation of colposcopic findings, reporting, documentation, counseling before and after procedures	10 days
<b>Awareness and education</b>	Trained doctors, nurses, social workers, programme managers	All health personnel involved	Primary or secondary level	Counseling individually and in groups, use of the education tools and materials	2 days
<b>Data Management</b>	Trainer from HMIS, DGHS, DGFP, Tertiary Centers, Programme manager	Statisticians, VIA and Colposcopy service providers, Programme manager	Secondary and Tertiary level, DGHS	Computer training, Training on data management	3 days
<b>Programme management</b>	Public health specialists, programme managers	Programme managers, health administrators ,	DGHS, Tertiary level, Secondary level	Programme management, financing, monitoring, evaluation and	2 days

		laboratory in charge		quality assurance	
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\* Criteria of training center (Annex-V)

## **5.2 Key strategic directions for cancer cervix screening:**

### **5.2.1 Strategic direction 1: Define the target population**

All women between 30 – 60 years of age will be offered Screening.

### **5.2.2 Strategic direction 2: Define the frequency of screening**

The screening interval will be 5 years.

### **5.2.3 Strategic direction 3: Suitable screening test**

VIA-based screening will be followed in Bangladesh for cervical cancer screening.

### **5.2.4 Strategic direction 4: Ensure management of the screen-positive women**

- a) All screen-positive women should be counseled, further evaluated by colposcope/ minicolposcope and treated at appropriate facilities. All colposcopy suspected cervical pre-cancer lesions shall be treated following “see and treat strategy”.
- b) Colposcopy/minicolposcopy, Thermo-coagulation services should be organized at selected primary, secondary level health care facilities. At the tertiary level, all services should be available including LEEP.
- c) Women should have easy access to treatment services to ensure high compliance.

### **5.2.5 Strategic direction 5: Organize capacity-building of human resources**

- a) Adequate human resources for service delivery will be developed.
- b) Competency-based training of all service providers at designated training centers will be ensured with proper resource persons and training materials.
- c) Good quality training with appropriate post-training follow-up will be ensured.

### **5.2.6 Strategic direction 6: Strengthen the health infrastructure and ensure convergence**

- a) Organize and strengthen the various services within the existing health infrastructure.
- b) Ensure supply and maintenance of equipment and uninterrupted supply of consumables.

- c) Select the best possible option for integrating the services with existing programmes to minimize additional resource requirements and achieve good coordination.
- d) The cancer cervix screening programme will be part of Maternal Neonatal Child and Adolescent Health (MNC&AH), Maternal Child Reproductive and Adolescent Health (MCRAH), Community Based Health Care (CBHC), Non-Communicable Disease Control (NCDC), Hospital Service Management and HMIS (DGHS and DGFP).
- e) A mass screening policy will be taken along with developing population based screening programme.
- f) Appropriate referral system for screening and management within the existing health system will be organized

### 5.2.7 Strategic direction 7: monitoring, evaluation and quality assurance

- a) Facility managers such as Upazila Health & Family Planning Officers (UHFPOs), Civil Surgeons (CSs), Deputy Directors of Family Planning (DDFPs), Hospital Superintendents and Gynaecology Consultants of primary, secondary and tertiary level health care facilities should be responsible for implementation of services, coordination between various levels of service delivery and quality assurance.
- b) The indicators to be used for monitoring and quality assurance of the programme, and how they will be monitored periodically, will be clearly defined.

**Table 4. Key strategic directions for cancer cervix screening:**

1	The target population	All Women between 30 – 60 years of age
2	Frequency of screening	The screening interval for women will be 5 years
3	Screening test	VIA-based screening will be followed in Bangladesh. The opportunistic screening will be converted to organized population based screening
4	Management of screen-positive women	<ul style="list-style-type: none"> <li>• All screen-positive women should be evaluated by colposcope/minicolposcope</li> <li>• Colposcopy suspected high-grade precursor lesion shall be treated following “see and treat strategy”</li> </ul>

5	Capacity-building of human resource	Ensure competency-based training and refresher training
6	Strengthening the health infrastructure and ensure convergence	Various services within the existing health infrastructure will be strengthened.
7	Set up a mechanism for monitoring, evaluation and quality assurance	Indicators to be used for monitoring and quality assurance with active involvement of MIS (DHIS2)

## 6. Facilitating cervical cancer treatment

### 6.1 Introduction:

In Bangladesh, a significant number of cervical cancer cases are detected both during cervical cancer screening and at different gynaecological outpatient departments. Further diagnostic workup and stage wise treatment should be available in the facilities. These facilities should be accessible and affordable to women and effective referral and linkage between the women and facilities should be developed.

#### 6.1.1 Cancer Cervix staging

Histological confirmation of disease as well as staging of the disease is essential prior to the initiation of treatment for invasive cancer. Cervical cancers need to be staged, as per the FIGO clinical staging guidelines. The basic evaluation methods recommended to determine the stage of cancer cervix are: colposcopy, vaginal and rectal examination to inspect and palpate the growth and its extensions, cystoscopy and proctoscopy, ultrasonography of the abdomen and pelvis, x-ray examination of the lungs.

#### 6.1.2 Treatment of Cancer Cervix

The treatment modality is decided based on the clinical stage of the disease, which also determines the survival rate (Annex VII). Early cervical cancer should be treated by radical hysterectomy with bilateral pelvic lymphadenectomy. Radiation therapy, with or without concomitant chemotherapy, is equally effective, although morbidity is higher than surgical management. More advanced cases should be treated by radiation therapy. The standard radiation therapy for cervical cancer is a combination of external beam radiation therapy and brachytherapy.



## **6.2 Organize facilities for staging and diagnostic work-up**

### **6.2.1 Strategic direction 1: Ensure early detection of cervical cancer**

1. All screen-detected cervical cancer patients will reach an appropriate health facility for further management without appreciable delay.
2. Any woman presenting to the health facilities with symptoms suspicious of cervical cancer should have appropriate referral and diagnostic work-up.

### **6.2.2 Strategic direction 2: Organize facilities for staging and diagnostic workup**

1. Facilities for clinical staging and other diagnostic work-up for cervical cancer are to be made available in the gynaecology department of all tertiary care centres.

### **6.2.3 Strategic direction 3: Arrange appropriate treatment based on stage of disease**

1. Gynaecologists, surgeons or gynaecologic oncologists should be made available at tertiary care centers for surgical management of early-stage cancer
2. Radiation therapy and chemotherapy facilities should be made available in selected tertiary care hospitals, including dedicated oncology centers.
3. The capacity of health systems should be improved to ensure the management of cancer patients on time.

**Table 5. Key strategic directions for cervical cancer treatment**

• Ensure early detection of cervical cancer
• Organize facilities for staging and diagnostic work-up
• Arrange appropriate treatment based on stage of diseases

## **7. Augmenting cervical cancer related palliative care**

### **7.1 Introduction**

Palliative care is the active total care for a person with terminal illness who is near the end of his or her life. Palliative care aims at improving a patient's quality of life. This means treating pain and other symptoms and, at the same time, offering social, emotional and spiritual support. Palliative care facilities are much needed to reduce the suffering of patients with advanced cervical cancer. A significant number of cases are detected in advanced stages where operative and radiotherapy treatment is not possible and they should get palliative care.

Palliative care should have a primary health care approach and integrated into the health-care system. This should facilitate palliative care education and improve access to essential and affordable medicines such as morphine and other opioids.

### **7.2 Organizing palliative care services**

Adequate facilities for palliative care should be made available at the tertiary, secondary and primary health-care level. All physicians and nurses/paramedics must be aware of the basic principles of palliative care. Medical and nursing undergraduate teaching must incorporate the principles of basic palliative care into their curriculum. Opioid analgesics such as codeine and oral morphine are absolutely necessary for the management of cancer pain and these drugs must be available for pain relief.

#### *1. Managing physical Sign and Symptoms*

The women and the health care provider should identify the most common symptoms and signs of advanced cervical cancer like pelvic pain, excessive vaginal bleeding and discharge, decrease or absence of urination. The women should be advised on how and where to get medication, when to seek medical help and when to get admission to hospital.

#### *2. Using Modern Medication to relieve pain*

Most women with advanced cervical cancer will experience pain at some time during their illness. It is important to strengthen follow-up and referral systems and ensure that women have continuous access to medications.

### *3. Promoting good nutrition*

Good nutrition helps a person with terminal illness to maintain her strength and allow her to lead a comfortable life. So, it is important to explain to families that sick people need to continue to eat nutritious food to keep up their strength.

### *4. Social, emotional and spiritual issues*

Staying in regular contact with a sick woman and her family is a very good practice and this demonstrate commitment to her physical and emotional wellbeing. Good communication skills are essential to providing effective social, emotional, and spiritual support.

## **7.3 Key strategic directions for improvement of palliative care services**

### **7.3.1 Strategic direction 1: Prepare the ground for palliative care services**

promote the concept of palliative care to policy-makers, health-care planners and administrators, and the general people.

### **7.3.2 Strategic direction 2: Organize the services at facility level**

1. An inter-professional team including doctor, nurse, social worker, counselor need to be developed to deliver the palliative care services.
2. All professionals working in palliative care for the first time will require training.

### **7.3.3 Strategic direction 3: Ensure availability of drugs, including morphine**

1. Ensure the availability of essential drugs for the management of pain and other symptoms at all facilities.
2. Access to an adequate and uninterrupted supply of oral morphine should be recognized as a basic right of the patients who need them.

**Table 6. Key strategic directions for palliative care services**

• Prepare the ground for palliative care services
• Organize the services
• Ensure availability of drugs, including morphine

## **8. Health education, awareness and community mobilization**

### **8.1 Introduction:**

Health education and awareness are key components of a comprehensive cervical cancer control and should be targeted towards high acceptance of the services by the community. Some basic principles and suggestions are listed below.

1. Understanding the baseline knowledge and perceptions of the community is crucial to developing communication materials and communication strategies.
2. Messages should be target-specific, culturally appropriate and address common myths, misconceptions and fears related to a new vaccine or tests related to cancer.
3. The core messages should be consistent, irrespective of the community and setting, and as per the recommendations of the national guideline and protocol for cervical cancer control.
4. The key counseling message – that the disease can be prevented by adopting a healthy lifestyle, avoiding harmful practices and accepting the age-specific interventions (vaccination or screening) – needs to be stressed during training and awareness-building.
5. Educating girls to complete the vaccination course after the first or second dose and counselling screen-positive women to complete the diagnostic evaluation and treatment are essential to maintain high compliance.
6. Involving boys and male family members in the group counselling sessions usually improves acceptance of the programme. However, due consideration should be given to the fact that in some communities girls or women may feel embarrassed discussing certain issues in the presence of male family members.
7. A booklet in the local language containing answers to frequently-asked questions, along with pictorial depictions related to cervical cancer prevention using simple words, can be a very useful tool for educators.

Health education will be delivered at community or health facilities, or both. Health workers and volunteers at community or primary health facilities are the first point of contact with the

community. They should be given a short orientation training so that they can inform and motivate parents to send their daughters for vaccination and encourage women to undergo screening. They will keep records of the vaccinated girls and screened women, and can remind parents to complete the vaccination course or counsel screen-positive women to reach the next level of health care for further evaluation and treatment. At health facilities, health education and counseling can be done by trained health workers, midwives, nurses and doctors. The target audience can be accessed in waiting areas, outpatient clinics and also through community outreach initiatives.

**The aim of health education will be to:**

- Inform the community about cervical cancer, its causes and natural history,
- Increase awareness on signs and symptoms of overt cervical cancer,
- Reduce ignorance, fear, embarrassment and stigma related to cervical cancer,
- Inform the public of available services and where to get them.
- Empower communities with information to enhance decision making and promote positive health seeking behavior
- Involvement of community leaders will be essential to provide valuable support for outreach efforts and in adequate allocation of local resources for essential screening and treatment services.
- Male family members and other community members must support women's decisions to seek screening and to go for treatment when it is needed.

**8.2 Strategies to be used for community mobilization include:**

1. Existing structures to enhance public awareness and support (e.g. health Assistant, Community Health Care Providers, Community midwives, school health programs, Parliamentary health committees, professional bodies, training institutions etc.) will be used. Health education messages will be imparted through direct face-to-face meetings. Local peer groups (teachers, politicians, religious leaders, etc.), youth groups, women groups, and voluntary organizations etc. can also be involved in group counseling meetings.
2. It is necessary to create awareness about cervical cancer and involvement of the women's representatives of local government division for cervical cancer prevention & control strategies.
3. A broad-based media campaign utilizing print and electronic media will be used to improve the visibility of the programme and enhance participation rates.

4. Printed materials such as booklets, flipcharts and posters in the local language aided by pictures, diagrams and charts should be used to propagate the messages
5. Depending on the facilities and resources available, billboards, slide shows, video, tv & road drama shows and Street-plays will also be organized to develop awareness targeting to schools, mass population and teachers
6. Government organizations including Department of Cancer Epidemiology of NICRH, BSMMU, Non-governmental organizations, community-based organizations, and the private sector health care agencies can play role in cervical cancer prevention. The HPV vaccination, screening and treatment modalities of cervical cancer should be highlighted at each monthly meeting of health centers. They will be critical in the promotion of community involvement and in community mobilization for utilization of services

## **9. Monitoring, Evaluation and Cancer Registry**

**Monitoring and Evaluation:** See the section 4.1.5

### **Cancer Registry:**

Cancer registry is an organization for systematic collection, storage, analysis and interpretation of data on persons with cancer. It is an essential part of any cancer control program. There are two main types of cancer registry: hospital based cancer registry (HBCR) and population based cancer registry (PBCR). Bangladesh needs to establish a population-based cancer registry to provide epidemiological data on cancer incidence, prevalence and trends in the population (for all cancers as well as cervical cancer).

## 10. Advocacy

The purpose of advocacy is to empower policy-makers to make informed decisions on programme needs, implementation and service utilization. Advocacy is also essential to ensure community participation and acceptance, and generate demand for the services from within the community.

**The targets for advocacy and communication efforts should include the following:**

- High-level decision-makers and advisors in relevant government sectors
- Development partners and members of civil society organizations
- Members of academic institutions and professional associations
- Administrators and managers at the health ministry and hospitals
- Health-care providers including physicians, nurses, midwives and school health workers;
- Community leaders and public representatives
- Media representatives.

The advocacy document should include brief and focused country-specific messages and data on cervical cancer incidence and deaths. It should also highlight the fact that the disease is preventable through a comprehensive approach. A document that clearly identifies strategies and service delivery guidelines based on the country's needs, priorities and capabilities is useful for the policy-makers.

Critical areas for advocacy include: the removal of policy barriers; allocation of sufficient financial and human resources for the programme; investment in HPV vaccine; and systems strengthening for implementation of the cervical cancer control program. Lobbying for establishment of a budget line for the cervical cancer program will be undertaken.

To facilitate the advocacy process, tools will be developed to demonstrate the cost benefit analysis and these will be shared in forums with the policy makers. Working with other government sectors and nongovernmental agencies, the Ministry of Health will organize activities and develop materials to increase public awareness of cervical cancer and its

prevention, to mobilize eligible women to utilize cervical cancer control services, and to encourage communities to assist women with cervical cancer.

## **11. Conclusion:**

An action plan will be prepared in the fastest time to implement this approved strategies, through which the successful introduction of VIA screening technology and HPV vaccines into programmes across the country is possible. Bangladesh government is determined to prevent and control cervical cancer by successful implementation of this strategy.



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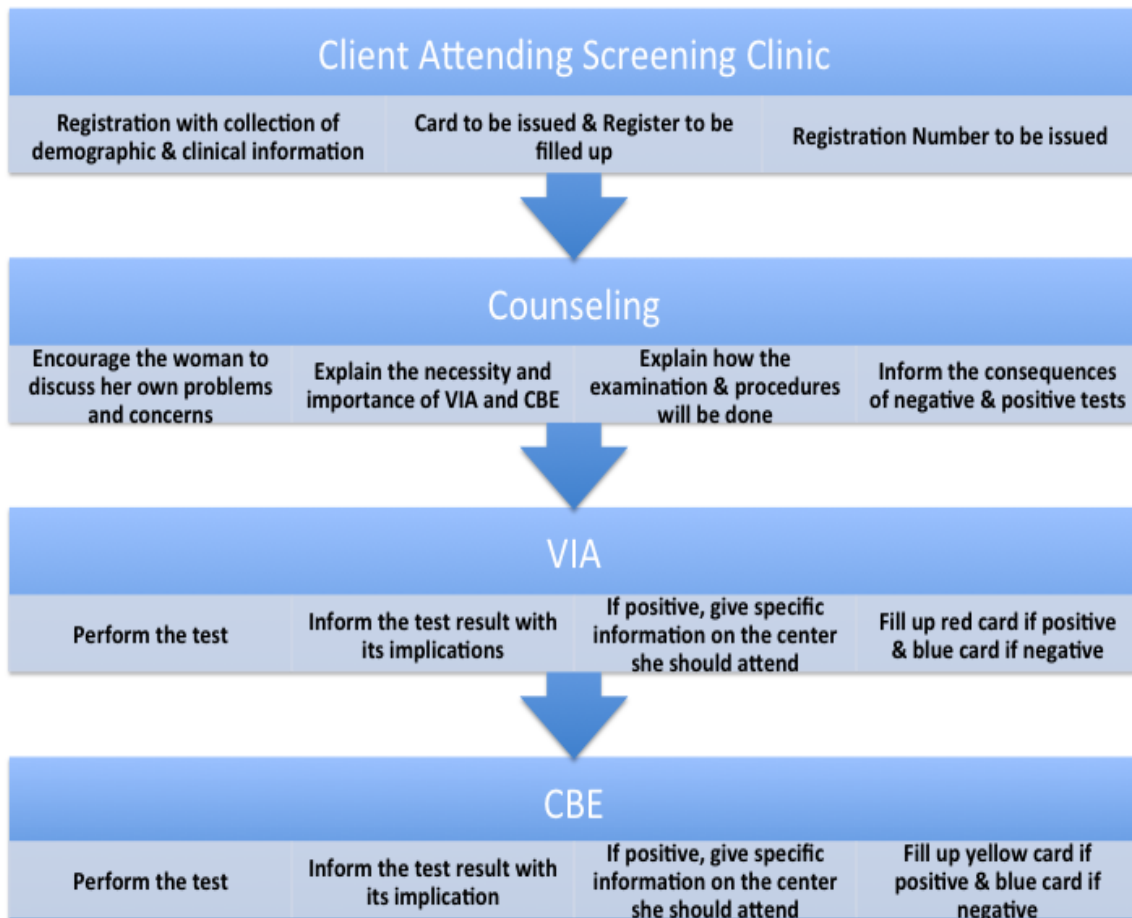
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## Annex I

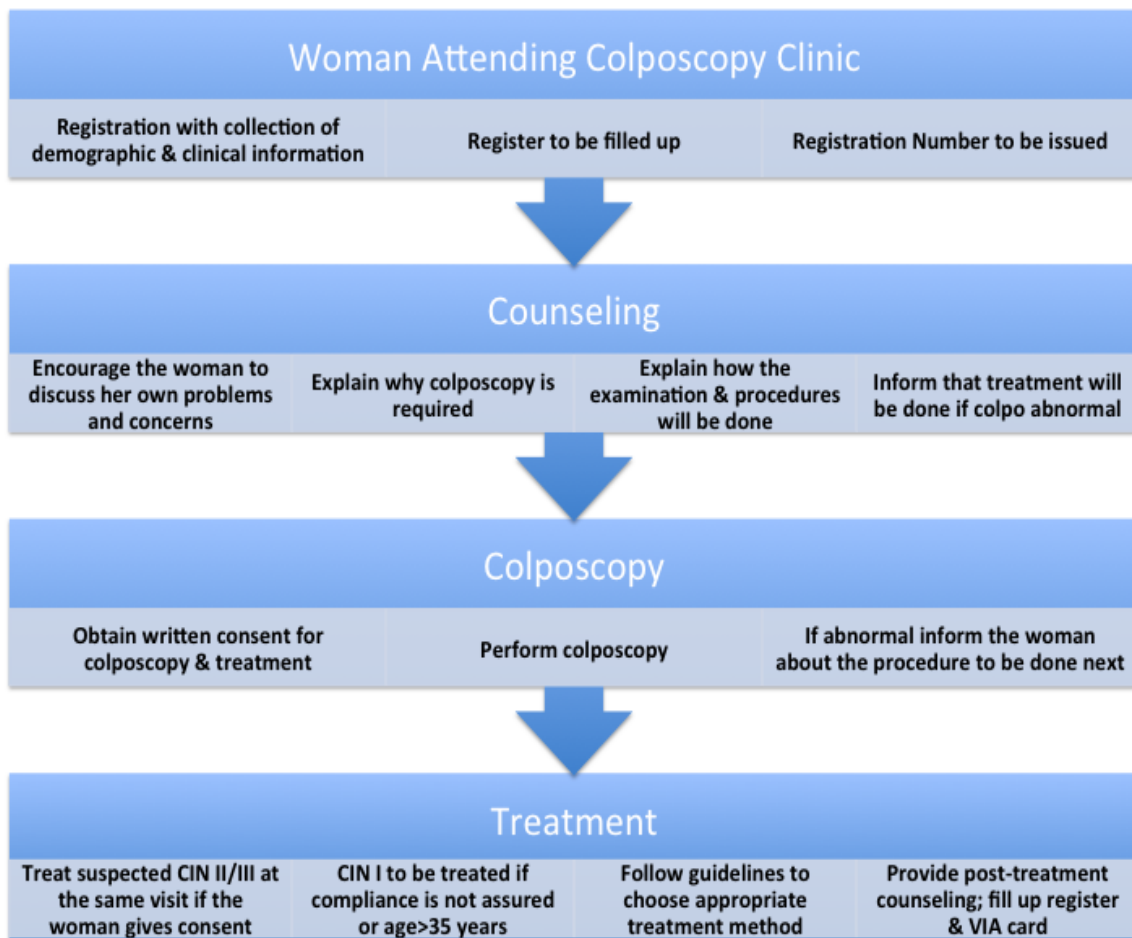
### Test characteristics, personnel requirements and limitations of different screening:

Screening test	Sensitivity to detect CIN2+	Specificity to detect CIN2+	Test provider	Personnel for processing and interpretation	Major limitations
Conventional cytology	53%	96.3%	Doctors/nurses/midwives/ Reproductive health care providers	Cyto-Technicians/ cytopathologists	Result not immediately available, laboratory necessary, Highly trained personnel, Low to moderate sensitivity
Liquid-based cytology	79.1%	78.8%	Doctors/nurses/midwives/ Reproductive health care providers	Cyto-Technicians/ cytopathologist	Result not immediately available, laboratory necessary, Highly trained personnel, expensive
HPV DNA	96.1%	90.7%	Doctor/nurse/midwife/ Reproductive health care provider	Laboratory technician	Result not immediately available laboratory necessary expansive
VIA	80%	92%	Doctor/nurse/midwife/ Reproductive health care provider	Not Necessary	Sensitivity moderate, high false-positives subjective, performance variable and depends on training providers

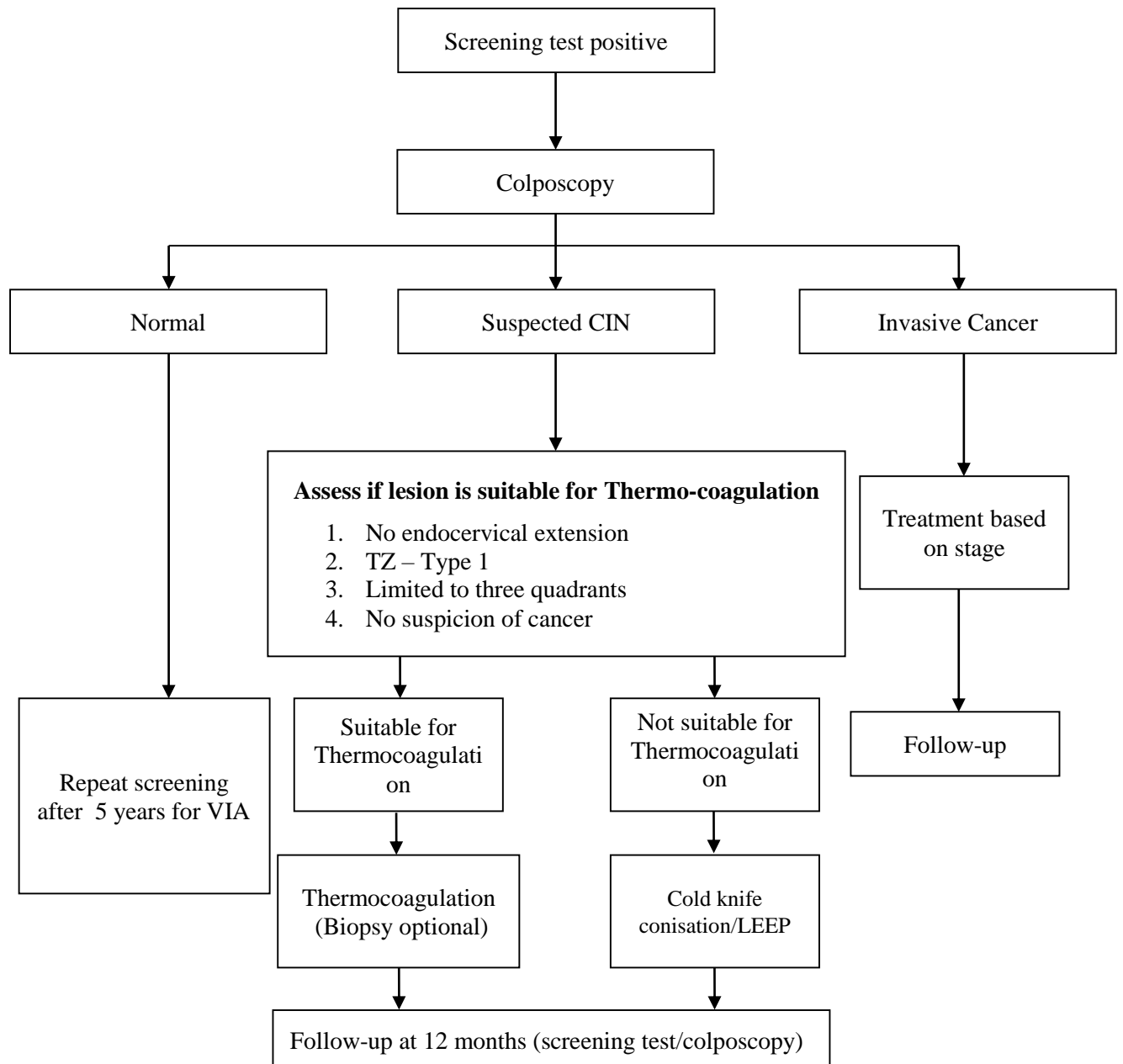
Work Flow at the Screening Center



**Workflow at the Colposcopy Clinic:**



**Management of screen-positive women based on colposcopy diagnosis (“see-and-treat” approach) alone**



## ANNEX V

### Criteria of a designated training center:

SI No	Parameter	Performances
1	Number of screening	At least 4000 screening each year
2	Number of management of screen positive cases (VIA, Paps, HPV test)	At least 1000 screen positive cases should have colposcopic examination each year
3	Treatment of pre-cancer	At least 300 pre-cancers should be treated each year ( at least 100 cases treated by LEEP)
4	Histopathological Examination	Must be performed within the institute
5	Record keeping	Must be upto the standard (VIA, Colposcopy Register, Cards, system for maintaining electronic database connected to DHIS2 of DGHS MIS)
6	Equipment	Colposcope, Thermocoagulator, Electrosurgical equipment must be in good working condition
7	Teaching and nursing staff	Adequate teaching and nursing staff must be present

**Score sheet for clinical supervision of via trainees**

**A. COUNSELING SKILLS ON VIA and CBE**

Rate the performance of each step or task observed using the following rating scale:

1. Needs Improvement: Step or sequence not performed correctly
2. Competently Performed: Step or sequence partly performed.
3. Proficiently Performed: Step or task efficiently and precisely performed in the proper sequence.

COUNSELING SKILLS ON VIA AND CBE									
STEP/ACTIVITY	CASES								
<b>COUNSELING</b>									
<b>Initial Interview (Woman Reception Area)</b>									
1. Greet the woman respectfully.									
2. Establish purpose of the visit and answer questions.									
3. Provide general information about preventing cervical and breast cancer by early detection.									
4. Give the woman information about the pelvic examinations.									
a. Explain how the VIA, breast and pelvic examination are done.									
b. Explain what to expect during the clinic visit.									
<b>VIA and CBE-Specific Counseling (Examination Area)</b>									
1. Assure necessary privacy.									
2. Obtain general information (name, address, etc.)									
3. Ask the woman about her reproductive health history (Age at first sexual contact? History of vaginal discharge, pelvic pain and history of cancer in family; particularly breast cancer)									
xvii									
4. Give the woman additional information about VIA and CBE:									
a. Explain the nature of cervical cancer and its relationship to HPV infection.									
b. Discuss the risk factors for cervical and breast disease									
c. Describe how the VIA and CBE is done and the possible findings.									
d. Explain the management if the VIA is abnormal									



e. Explain the management if the CBE is abnormal																				
5. Ask about her attitudes towards VIA and CBE.																				
6. Discuss the woman's needs, concerns and fears.																				
7. Help the woman begin to decide to have VIA test.																				
<b>If woman chooses to have a VIA and CBE:</b>																				
8. Ask the woman if she has any other questions about the VIA and CBE.																				
9. Describe the VIA and CBE procedure and what she should expect during the pelvic examination and afterward.																				
<b>If the VIA and CBE is negative:</b>																				
1. Discuss with the woman the results of the VIA test and what it means to her reproductive health.																				
2. Tell her when to return for future screening.																				
3. Assure the woman she can return to the same clinic at any time to receive advice or medical attention.																				
4. Provide follow up visit instructions.																				
xviii																				

**B. CBE CLINICAL SKILLS**

Rate the performance of each step or task observed using the following rating scale:

1. Needs Improvement: Step or sequence not performed correctly
2. Competently Performed: Step or sequence partly performed.
3. Proficiently Performed: Step or task efficiently and precisely performed in the proper sequence.

<b>CLINICAL SKILLS ON CBE</b>										
<b>STEP/ACTIVITY</b>	<b>CASES</b>									
<b>INITIAL INTERVIEW (EXAMINATION AREA)</b>										
1. Greet the woman respectfully and with kindness.										
2. Tell the woman you are going to examine her breasts.										
3. Ask the woman to undress from her waist up. Have her sit on the examining table with her arms at her sides.										
4. Wash hands thoroughly and dry them. If necessary, put on new examination or high-level disinfected surgical gloves on both hands.										
<b>SKILL/ACTIVITY PERFORMED SATISFACTORILY</b>										
<b>BREAST EXAMINATION</b>										
1. Look at the breasts and note any differences in:										

• shape										
• size										
• nipple or skin puckering										
• dimpling										
Check for swelling, increased warmth or tenderness in either breast.										
xix										
2. Look at the nipples and note size, shape and direction in which they point.										
Check for rashes or sores and nipple discharge.										
3. Look at breasts while woman has hands over her head and presses her hands on her hips. Check to see if breasts hang evenly.										
4. Have her lie down on the examining table.										
5. Look at the left breast and note any differences from the right breast.										
6. Place pillow under woman's left shoulder and place her arm over her head.										
7. Palpate the entire breast using the spiral technique. Note any lumps or tenderness.										
8. Squeeze the nipple gently and note any discharge.										
9. Repeat these steps for the right breast. If necessary, repeat this procedure with the woman sitting up and with her arms at her sides.										
10. Have the woman sit up and raise her arm. Palpate the tail of the breast and check for enlarged lymph nodes or tenderness.										
11. Repeat this procedure for the right side.										
12. After completing the examination, have woman cover herself. Explain any abnormal findings and what needs to be done. If the examination is normal, tell the woman everything is normal and healthy and when she should return for a repeat examination.										
13. Show the woman how to perform breast self-examination.										
<b>SKILL/ACTIVITY PERFORMED SATISFACTORILY</b>										
xx										

### C. VIA CLINICAL SKILLS

Rate the performance of each step or task observed using the following rating scale:

1. Needs Improvement: Step or sequence not performed correctly
2. Competently Performed: Step or sequence partly performed.
3. Proficiently Performed: Step or task efficiently and precisely performed in the proper sequence.

CLINICAL SKILLS ON VIA										
STEP/ACTIVITY	CASES									
<b>INITIAL INTERVIEW (EXAMINATION AREA)</b>										
1. Greet the woman respectfully and with kindness.										
2. Explain why the VIA is recommended and describe the procedure.										
3. Tell her what the findings might be and what follow up or treatment might be necessary.										
<b>GETTING READY FOR VIA</b>										
1. Check that the instruments and supplies are available.										
2. Ensure that the light source is available and ready to use.										
3. Check that the woman has emptied her bladder.										
4. Help her onto the examining table, help her to be undressed and drape her.										
5. Wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry.										
6. Put one pair of new examination disposable gloves on both hands. If available, put a second glove on one hand.										
7. Arrange instruments and supplies on high-level disinfected tray or container, if not already done.										
xxi										
<b>VISUAL INSPECTION WITH ACETIC ACID</b>										
1. Inspect external genitalia and check urethral opening for discharge.										
2. Insert speculum and adjust it so that the entire cervix can be seen.										
3. Fix the speculum blades in the open position so that the speculum will remain in place with the cervix in view.										
4. Adjust the light source so that you can see the cervix clearly.										
5. Examine the cervix for cervicitis, ectropion, growth, Nabothian cysts or ulcers.										
6. Identify the cervical os, squamocolumnar junction (SCJ) and transformation zone.										
7. Soak a clean swab in 5% acetic acid and apply it to cervix. Dispose of swab in a leak proof container or plastic bag.										
8. Wait at least 1 minute for the acetic acid to be absorbed and any acetowhite change to appear.										
9. Inspect the SCJ carefully										
a. Check whether cervix bleeds easily										

b. Look for any raised and thickened white plaques or acetowhite epithelium																				
xxii																				
<b>VISUAL INSPECTION WITH ACETIC ACID</b>																				
11. As needed, reapply acetic acid or swab the cervix with a clean swab to remove mucus, blood or debris. Dispose of swab in a leak proof container or plastic bag.																				
12. When visual inspection has been completed, use a fresh swab to remove any remaining acetic acid from the cervix and vagina. Dispose of swab in a leak proof container or plastic bag.																				
13. Remove the speculum.																				
a. If VIA test was negative, place in 0.5% chlorine solution for 10 minutes for decontamination																				
b. If the VIA test was positive, place speculum on high-level disinfected tray or container.																				
14. Perform the bimanual examination and rectovaginal examination (if indicated).																				
<b>POST-VIA TASKS</b>																				
1. Immerse both gloved hands in 0.5% chlorine solution. Remove gloves by turning inside out.																				
a. If disposing of gloves, place them in leak proof container or plastic bag. Gloves must be disposed of if rectovaginal examination performed.																				
b. If reusing surgical gloves, submerge in 0.5% chlorine solution for 10 minutes for decontamination.																				
2. Wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry.																				
3. Record the VIA test results and other findings in woman's record.																				
a. If acetowhite change is present, draw a map of the cervix and the diseased area on the record.																				
4. Discuss the results of the VIA test and pelvic examination with the woman and answer any questions.																				
a. If VIA test is negative, tell her when to return for repeat VIA testing.																				
b. If VIA test is positive or cancer is suspected, discuss recommended next steps.																				
c. After counseling, provide treatment or refer.																				

Score sheet for Clinical Supervision of VIA Trainees (Contd.)

Comments:

Pre-VIA Counseling:

Pre-VIA Activities:

VIA Skill:

## Annex VII

### Overall survival of cervical cancer patients by stage of disease

Cervical Cancer Stage	Treatment Modalities	5 – Year Survival Rate
IA	Conization/radical hysterectomy and pelvic lymphadenectomy	93%
IB	Radical hysterectomy and pelvic lymphadenectomy/external beam radiotherapy with brachytherapy	80%
IIA	Radical hysterectomy and pelvic lymphadenectomy/external beam radiotherapy with brachytherapy	63%
IIB	External beam radiotherapy with brachytherapy	58%
IIIA	External beam radiotherapy with brachytherapy	35%
IIIB	External beam radiotherapy with brachytherapy	32%
IVA	Individualized treatment with palliative intent	16%
IVB	Individualized treatment with palliative intent	15%

Source: American joint committee on Cancer (AJCC) Cancer staging manual. Seventh Edition (2010).

## Annex VIII

### Demographic Data

1.1	Total population	
1.2	Total Men	
1.3	Total Women	
1.4	Urban Population	
1.5	Rural Population	
1.6	Number of aged 30-60 years	
1.7	Number of girls aged 9 years	
1.8	Number of girls aged 10 years	
1.9	Number of girls aged 11 years	
1.10	Number of girls aged 12 years	
1.11	If age breakup not available, number of girls aged 10-14 years	
1.12	Percentage of girls (specify age like 9-14 yrs) that completed primary school education	

Note: Indicate year and source

#### Remarks:

##### DEMOGRAPHIC DATA

1.1 Total population: 156.8 million

1.2 Total men: 78.6 million

1.3 Total women: 78.2 million

1.4 Urban population: 44.1 million

1.5 Rural population: 112.7 million

1.6 Number of women aged 30-59: 43,380,414 (15-49)

1.7 Number of girls aged 9: 1,529,000

1.8 Number of girls aged 10: 1,549,000

1.9 Number of girls aged 11: 1,558,000

1.10 Number of girls aged 12: 1,559,000

1.11 If age breakup not available, Number of girls aged 10-14 yrs

1.12. Percentage of girls (Specify age like 9-13yrs or 10-14 yrs) that completed primary school education

## Annex IX

### Commonly used teaching materials for comprehensive control of cancer cervix

#### *Visual inspection after acetic acid application (VIA)*

**International Agency for Research on Cancer (IARC).** A practical manual on visual screening for cervical neoplasia (2003). Freely available at:

<http://screening.iarc.fr/viavili.php?lang=1>

**International Agency for Research on Cancer (IARC).** A training course in visual inspection with 5% acetic acid (VIA) (2005). Freely available at:

<http://screening.iarc.fr/digitallearningserie.php>

**The Johns Hopkins Program for International Education in Gynecology and Obstetrics (JHPIEGO).** Cervical Cancer Prevention Guidelines for Low-resource Settings (Guide for Participants) (2005). Available as PDF for free. Hard copies available for purchase. Contact: [info@jhpiego.net](mailto:info@jhpiego.net)

**JHPIEGO.** Cervical Cancer Prevention Guidelines for Low-resource Settings (Guide for Participants) (2005), Available as PDF for free, Hard copies available for purchase, contact: [info@ihpiego.net](mailto:info@ihpiego.net)

**JHPIEGO.** Cervical Cancer Prevention Guidelines for Low-resource Settings (Guide for Trainers) (2005). Available PDF for free, Hard copies available for purchase. contact: [info@ihpiego.net](mailto:info@ihpiego.net)

**JHPIEGO.** Atlas of Visual Inspection of the Cervix with Acetic Acid (VIA). Available for purchase. contact: [info@ihpiego.net](mailto:info@ihpiego.net)

**JHPIEGO.** Visual Inspection for Cervical Cancer Prevention: An Interactive Training Tool. Available for purchase. contact: [info@ihpiego.net](mailto:info@ihpiego.net)

**JHPIEGO.** Visual Inspection of the Cervix Flash Card Set. Available for purchase. contact: [info@ihpiego.net](mailto:info@ihpiego.net)

**Program for Appropriate Technology in Health (PATH):** Course in visual Methods for Cervical Cancer screening: Visual Inspection with Acetic Acid and Lugol's iodine (2004). Online preview available at: <http://www.rho.org/training.htm> The complete CD-ROM may be ordered. Contact: [rho@path.org](mailto:rho@path.org)

**WHO.** Comprehensive Cervical Cancer Control: A Guide to Essential Practice (2006). PDF freely available at:

<http://www.who.int/reproductivehealth/publications/cancers/9241547006/en/index.html>

## ***Colposcopy***

UICC UICC Cervical Cancer Curriculum. Demonstration available at: <http://uicc.org/resources/cervical-cancercurriculum> to access additional modules and materials, contact [cervicalcancer@uicc.org](mailto:cervicalcancer@uicc.org)

UICC, WHO, IARC, INCTR. Colposcopy and treatment of Cervical intraepithelial Neoplasia: A Beginner's Manual (2004). PDF freely available at: <http://screening.iarc.fr/colpo.php?lang=1>

### **Histology/cytology**

UICC, WHO, IARC, INCTR. Histopathology of the Uterine Cervix, Digital Atlas – Cytopathology of the Uterine Cervix. Digital Atlas (2004). PDF freely available at <http://screening.iarc.fr/atlashisto.php?lang=1>

### **Staging**

ASCO, ASCO Multidisciplinary Cancer Management Course. Contact: [mcmc@asco.org](mailto:mcmc@asco.org) <http://www.asco.org/mcmc>

### **LEEP/LEETZ**

IARC Digital Learning Series: A course in LOOP Electrosurgical Excision Procedure (2005). PDF freely available at: <http://screening.iarc.fr/digitallearningsere.php>

### **Planning and Programme Management**

ACCP Planning and Implementing Cervical Cancer Programs: Manual for Program Managers (2004) PDF freely available at <http://screening.iarc.fr/planningmanual.php?lang=1>

PATH Planning Appropriate Cervical Cancer Programs (2000)

PDF freely available at: <http://www.path.org/files/cxca-planning-approprog->



## Annex X

### The Template for Cervical Cancer Screening Database from DHIS2

2014-11-22  
Mirpur Upazila Hea...  
Clinical Breast Exa...

1

→

2014-11-22  
Mirpur Upazila Healt...  
VIA Screening

2

<

+

⊙

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Report date

Data element	Value	ⓘ
Positive	<input type="checkbox"/>	ⓘ
Negative	<input type="checkbox"/>	ⓘ
Refer	<input type="text"/>	ⓘ
Follow Up	<input type="text" value="2017-11-23"/>	ⓘ
Full name of Examiner	<input type="text" value="Suraiya"/>	ⓘ
Designation	<input type="text" value="SSN"/>	ⓘ

IncompleteDeleteAdd new eventPrint form

## Tracker capture

Enrolling organisation unit	Mirpur Upazila Health Complex
Program	Cervical and Breast Cancer Screening Program
Enrollment Date	
<b>Profile</b>	
Registration no	
Full name*	
Husband's Name*	
National ID (NID)	
Date of Birth*	
Phone number*	
Present Address	
Parmanant Address*	
Occupation*	
Education	
Total Child ( Death+Alive )	
Age of Marriage*	
Age of first delivary	

Reporting date

2017-03-28

### Colposcopy

Data element	Value	
Date of examination	<input type="text" value="yyyy-MM-dd"/>	
Size of Lesion	<input type="text" value="Select or search from the list"/>	
TZ	<input type="text" value="Select or search from the list"/>	
Vessels	<input type="text" value="Select or search from the list"/>	
Colposcopic Diagonosis/ Findings	<input type="text" value="Select or search from the list"/>	
Management	<input type="text" value="Select or search from the list"/>	
Histopathology Findings	<input type="text" value="Select or search from the list"/>	

### Management of cervical cancer

Data element	Value	
Radical hysterectomy	<input type="checkbox"/>	
Radiotherapy	<input type="checkbox"/>	
Radical hysterectomy + Radiotherapy	<input type="checkbox"/>	
Radical hysterectomy + Radiotherapy + Chemotherapy	<input type="checkbox"/>	
Radiotherapy and Chemotherapy	<input type="checkbox"/>	
Palliative care	<input type="checkbox"/>	
Others	<input type="text"/>	
Place of cancer treatment	<input type="text"/>	