

A portrait of a woman with dark hair pulled back, wearing a dark top, looking slightly to the right. The background is a textured, blue-toned pattern.

Overview of Cervical Cancer Treatment and Palliative Care

Chapter 10 provides an overview of the clinical and programmatic aspects of cervical cancer treatment and palliative care in order to improve linkages between prevention and control services and to improve access to treatment and palliative care services.

Cancer Treatment and Palliative Care

Contents

Key Messages	211
Introduction	211
The Role of the Management Team	212
Background	212
Burden of disease	
Availability of services in limited-resource settings	
Diagnosis and treatment options for cervical cancer	
Strategies to Establish and Strengthen Cervical Cancer Treatment Services	218
Policy level	
Management level	
Community level	
Palliative Care	223
Types of palliative care services	
Strategies to establish and maintain palliative care services	
Interventions to improve access to pain management	
Other interventions	
Conclusion	232
Further Reading	233
Appendix 10.1. Technical and Programmatic Aspects of Treatment Options for Cervical Cancer	234
Appendix 10.2. Commonly Used Analgesics for Cancer Pain Relief	237
Appendix 10.3. FIGO Staging Classification for Cervical Cancer	238

Key Messages

- Countries with *no* cervical cancer treatment services should focus on establishing and strengthening prevention efforts and palliative care services and planning investment in centralized basic treatment services for cervical cancer.
- Countries with *limited* cervical cancer treatment services should focus on establishing and strengthening prevention efforts and palliative care services, while also improving access to radical surgery (if such potential exists) and radiotherapy services.
- Cervical cancer prevention services should be linked with cervical cancer treatment and palliative care services and integrated, wherever possible, into a national cancer control plan.
- Information and education (I&E) activities should create awareness for both providers and clients that cervical cancer is frequently curable with appropriate treatment.
- Palliative care services should be available at all levels of health facilities, including community-level care.
- In addition to management of pain and other cancer symptoms, palliative care includes providing support at the community level to mobilize local resources, establishing links to treatment centers, and offering additional emotional, social, and spiritual support to terminally ill women and their caregivers.
- Drug regulation and medical/pharmaceutical policies may unnecessarily restrict access to appropriate medications, particularly in rural areas. These policies should be evaluated and revised.

Introduction

It is inevitable that a cervical cancer prevention program will identify women with invasive cancer. Cervical cancer is often curable if detected and treated in its early stages: more than 80% of the women detected with early-stage disease can be cured with treatments such as surgery or radiotherapy. The purpose of this chapter is to provide basic information for the management team on the clinical and programmatic aspects of diagnosis and treatment of cervical cancer, including palliative care. The aims are to improve access to treatment and palliative care services and to establish and maintain effective linkages between prevention and treatment services, information systems, and cancer registries.

The Role of the Management Team

The management team's role involves coordinating cervical cancer prevention services with cancer treatment and palliative care services. To fulfill this task, the management team should work closely with policymakers and professionals involved in cancer treatment to:

- Ensure functioning linkages are established and maintained among communities; facilities providing prevention, cancer treatment, and palliative care services; and cancer registries.
- Develop strategies for building community awareness of the importance of early detection of cervical cancer.
- Actively participate in the development of strategies to ensure availability and access to cancer treatment and palliative care services.

Background

Burden of disease

In many developing countries, a large proportion of cervical cancers are diagnosed in late stages, when treatment is less effective in controlling disease (see Table 10.1 for country-specific data and Appendix 10.1 for an explanation of stages). This burden of disease exists in large part because in those countries there are little or no screening and treatment services available. In contrast, in developed countries the majority of cervical cancer cases present at an earlier stage. Late presentation and limited access to appropriate treatment services result in lower survival rates in developing-country populations (Sankaranarayanan et al. 1998).

TABLE 10.1. Distribution of early cervical cancer cases in selected populations in developing and developed countries

City/country	Study period	Total women with cancer	Proportion of women presenting with early stage (localized) cancer
Cuba	1988–89	831	24.1%
Mumbai, India	1982–86	8,861	11.7%
Chennai, India	1984–89	6,141	6.8%
Rizal, Philippines	1987	937	5.2%
Chiang Mai, Thailand	1983–92	3,231	20.7%
Kampala, Uganda	1995–97	261	14.6%
SEER (USA)*	1992–98	7,594	54.0%

*Surveillance, Epidemiology, and End Results Program.

Sources: Sankaranarayanan et al. 1998, SEER 2002.

Availability of services in limited-resource settings

The management of invasive cervical cancer continues to be a major challenge in many developing countries, particularly in sub-Saharan Africa, due to the lack of surgical facilities, skilled providers, and radiotherapy services (Stewart and Kleihues 2003). For instance, in many countries in the region, histopathological services are extremely limited or unavailable. Radiotherapy services are rare. Further, the entire African continent has fewer radiotherapy machines than there are in Italy alone. There is only an extremely limited capability for performing radical hysterectomy in the public health services. In some countries, cervical cancer treatment is available in the private sector, but this option is financially prohibitive for the majority of women.

Barriers in countries with limited cervical cancer treatment services

The main barriers to the diagnosis, treatment, and management of cervical and other cancers in countries with limited cancer treatment services are:

For clients:

- Lack of public awareness about early detection and treatment of invasive cancer.
- Association of cancer with death.
- Geographic barriers (transport, roads).
- Economic barriers (inability to pay for health services or other illness-related expenses).
- Sociocultural barriers (reflecting varying patterns of accessing health services).
- Physical (e.g., too ill) and psychological (e.g., depression) barriers related to the disease.

For providers:

- Lack of awareness about early detection and treatment of invasive cancer.
- Lack of functioning equipment and short supply of chemotherapeutic drugs.
- Lack of trained personnel.
- Lack of documentation of essential information on client care.
- Lack of linkages among health facilities.

In many countries with cervical cancer treatment services, patients often do not use these services, do not complete their course of treatment, and do not attend follow-up for clinical monitoring. For example, a survey in six premier cancer hospitals in India indicated that a quarter of cervical cancer patients did not take or complete the prescribed course of treatment, and one-fifth of patients with localized cervical cancer did not seek treatment.

Diagnosis and treatment options for cervical cancer

For an overview of cervical cancer, see the box that begins below. Treatment methods include radical surgery, radiotherapy (intracavitary and external beam), and chemotherapy. Appendix 10.2 describes for each method how it is performed, indications for its use, facility and personnel requirements, costs, and length of hospital stay. The strengths and limitations of the various treatment methods are presented in Table 10.2. Familiarity with this information will help the management team to advocate and actively participate in planning and coordinating service delivery, and to develop professional and community awareness strategies.

Clinical Features, Diagnosis, Staging, Investigations, and Treatment of Cervical Cancer

Clinical features Clinical presentation of invasive cervical cancer depends mainly on the location and spread of the cancer. In the very early stages, when the cancer is limited to the cervix (i.e., localized) patients usually do not observe symptoms or clinical signs. Patients with cervical cancer develop symptoms when the tumor spreads and involves other organs, such as the vagina, urinary bladder, and rectum, and ultimately spreads to distant organs. Some presenting features are foul-smelling, bloody vaginal discharge; abnormal vaginal bleeding; blood in the urine; bowel obstruction (vomiting, abdominal pain, and distension); severe backache; severe anemia; and weight loss. If the cancer spreads to the bladder and rectum, fistulas may form between these organs and the vagina (vesico-vaginal and recto-vaginal fistulas), which result in uncontrolled release of urine or feces through the vagina. These are perhaps the most distressing and difficult symptoms to control.

Diagnosis The clinical diagnosis of overt cervical cancer is fairly straightforward. In almost all symptomatic women, a pelvic examination reveals a growth in the cervix and its spread to the vagina and surrounding pelvic tissues. A cytological finding of invasive cancer is insufficient to confirm the diagnosis; the diagnosis of invasive cancer must be confirmed by biopsy and histopathological examination of a tissue specimen.

Staging To plan appropriate treatment, assess the response to treatment, and predict long-term survival (prognosis), the extent of clinical spread at the time of presentation must be determined, along with a detailed evaluation of the patient's general health. Determining the extent of the tumor within and beyond the pelvis is referred to as "staging." Staging is done by pelvic examination and certain investigative procedures (see below). The staging system developed by the International Federation of Gynaecology and Obstetrics (FIGO) is the most widely used; stages range from Stage I (early stage) to Stage IV (late, or most advanced). Appendix 10.1 provides details on FIGO stages.

Investigations Sophisticated diagnostic tests provide valuable information for planning treatment, but they are extremely expensive and not usually feasible in low-resource settings. These tests assess if other organs have been invaded



by cancer and include visualizing the interior of the bladder (cystoscopy) and the lower part of the rectum and anal canal (proctoscopy), plus chest X-rays of the lungs and X-rays of the kidneys (intravenous pyelogram/urogram). A full blood count and renal- and liver-function tests are also recommended. Ultrasound, computerized tomography (CT), and magnetic resonance imaging (MRI) may provide additional information, but are not mandatory. Because of the resources required for these tests, in many areas the only feasible approaches to staging are speculum examination, vaginal and rectal examination, and visualization of the anal canal (proctoscopy).

Treatment Invasive cervical cancer may be treated by surgery, radiotherapy, or a combination of both, with or without chemotherapy. The size and clinical extent of cancer are the most important considerations in deciding treatment. Surgical treatment (radical hysterectomy) performed by trained, skilled, and experienced surgeons is effective management for early stages of cervical cancer. Radiotherapy involves using ionizing radiation to destroy cancer cells and can be used to treat early as well as late stages of cervical cancer. Radiotherapy can be provided in two ways: intracavitary radiotherapy (also known as brachytherapy) or external beam radiotherapy (teletherapy). Brachytherapy is an essential component of radiotherapy of cancer of the cervix. The strengths and limitations of the treatment methods are presented in Table 10.2. Chemotherapy is not used as a primary line of treatment for cervical cancer. Effective management of women with cervical cancer requires a multidisciplinary approach involving gynecologists, radiation oncologists, medical oncologists, pathologists, medical physicists, technicians, nurses, and counselors. (See Appendix 10.2 for key features of the methods to treat cervical cancer.)

Follow-up care Women are usually advised to have periodic clinical follow-up after treatment for at least two to five years to assess response to treatment and to detect recurrences, if any, at the earliest possibility. Physical examination of the cervix, vagina, and rectum is carried out during follow-up visits to assess if the disease has totally resolved, is persisting, or if there are features of recurrence or distant spread. In many developing countries, however, there is only limited scope for providing any effective therapy if residual or recurrent disease is detected at clinical follow-up.

Prognostic factors Clinical stage of disease at presentation is the single most important predictor of long-term survival. Recurrences more than five years after treatment are extremely rare. Hence, five-year survival is a good indicator of cure. When treated appropriately, five-year survival:

- Exceeds 80% for patients with Stage I disease.
- Exceeds 70% for patients with Stage IIA disease.
- Is about 40 to 50% for patients with Stage IIB and Stage III disease.
- Is less than 10% in patients with Stage IV disease.

Source: Sankaranarayanan 1995, Sankaranarayanan 1998.

TABLE 10.2. Strengths and limitations of cervical cancer treatment methods

Features	Radical surgery	Radiotherapy	Chemotherapy
<p>Strengths</p> <ul style="list-style-type: none"> • Surgery performed by skilled and experienced surgeons is effective in the treatment of early stage (Stage I and selected Stage IIA) disease. • Allows preservation of ovaries in young women and avoids vaginal stenosis (narrowing). • Limited capital investment is required for development of surgical services compared to radiotherapy services. 	<ul style="list-style-type: none"> • Used in the treatment of all stages of cervical cancer as well as other kinds of cancer (e.g., breast, head, and neck). • Effectiveness varies with the stage of the disease. • Radiotherapy is the only realistic treatment once the disease has spread beyond Stage IIA, when surgery is neither feasible nor effective. It is commonly used for less extensive tumors when surgical expertise is not available. • Survival rates are equal to surgery in early-stage cancers. • Suitable alternate option for women with early disease but at high risk for surgery. • Mainly provided as an outpatient/ambulatory service. • High dose-rate machine for intracavitary treatment can treat 1,000–2,000 patients per year and can also be used to treat other cancers (e.g., head and neck, breast, brain, rectum, prostate). The unit cost per patient treated decreases the more the machine is used. 	<ul style="list-style-type: none"> • Can be combined with radiotherapy for the management of locally advanced cancer. • Can be used in the management of very advanced cervical cancer. 	

Features	Radical surgery	Radiotherapy	Chemotherapy
<p>Limitations</p> <ul style="list-style-type: none"> • The role of curative surgery diminishes in patients with cervical cancer that has spread beyond the cervix into the surrounding tissues. • Requires skilled and experienced gynecologists. • Requires a stay in the hospital (10–14 days). • Complications include pelvic sepsis, pelvic thrombosis, and postoperative pneumonia. Ureterovaginal or vesicovaginal fistula can occur as a postoperative complication in <1% of patients. 	<ul style="list-style-type: none"> • Requires trained and skilled radiation oncologists, medical physicists, and radiotherapy technicians to provide the treatment and to operate and maintain the equipment properly. • Requires expensive equipment and supply of radioactive sources. Service contracts and spare parts are also necessary. • If utilization is low, the cost per patient increases since the machine must be maintained and the radioactive source changed periodically, regardless of how many patients are treated. • Requires a reliable power supply. • Acute side effects include radiation-induced inflammation of the rectum (proctitis) and urinary bladder (cystitis). Late complications, such as bowel obstruction and rectovaginal and vesicovaginal fistula formation, may occasionally occur. • Low dose-rate brachytherapy requires an operating room and anesthesia services to place the intrauterine catheter and vaginal ovoids. However, this machine can only be used to treat gynecological cancers. 	<ul style="list-style-type: none"> • Requires trained and experienced medical oncologists. • Chemotherapeutic agents are expensive, making them inaccessible and not widely available in many countries. • Not effective as first-line treatment. 	

Strategies to Establish and Strengthen Cervical Cancer Treatment Services

Provision of cervical cancer treatment requires careful planning and organization, involving key stakeholders and personnel with expertise in cervical cancer treatment. Policymakers and management teams should make planned, phased investments in cancer diagnosis and therapeutic services as advocated by the World Health Organization (WHO 2002a). Women with cervical cancer will be detected in cervical cancer prevention services, so it is important that prevention services are set up and linked with available cancer treatment services. In countries with no diagnostic and cancer treatment facilities, initial investment should focus on establishing services for clinical diagnosis, histopathology, surgical treatment, and palliative care. Investments in radiotherapy may be considered as a next step once the basic services are developed and stabilized.

Strategies to improve access to cancer care can be carried out at three levels: policy development, management, and community. These strategies will vary depending on the resources available and the political and legislative framework of each country. Although the management team is usually not involved at the policy level, it is useful to understand the policies needed to support cancer treatment services. In addition, the management team may have an important role to play in involving stakeholders and developing community-based advocates.

Policy level

Providing equal access to treatment for all cervical cancer patients requires establishing social legislation or mechanisms to minimize barriers linked to the cost of treatment. This step requires advocating and involving key stakeholders to prioritize the needs of cancer patients on the political agenda.

Decisions about the mode of treatment are also usually made at the policy level. Technical, programmatic, and cost implications of the various treatment modes are outlined in Appendix 10.2 and Table 10.2 to help with that decision-making. For example, chemotherapeutic drugs are expensive and not widely available in many developing countries. However, purchasing these drugs from manufacturers in other developing countries, such as Brazil, China, India, or South Africa, can be cheaper and thus a more feasible option.

Another important policy development strategy is to develop national protocols for the management of cervical cancer. These protocols should be appropriate for the country's available resources. This strategy involves the following steps:

- Set up a multidisciplinary task force to develop national protocols and periodically revise them.
- Organize meetings to orient and disseminate the protocols to all relevant personnel.
- Ensure that copies of the protocols are available to all relevant health workers.

Management level

Planning and investing in centralized basic treatment services for cervical cancer

While it is feasible to develop surgical services in more than one location within a country at the secondary- and tertiary-care levels, it is best to centralize radiotherapy and chemotherapy services at tertiary facilities. For example, the number of teletherapy (external beam radiotherapy) machines required depends on the age pyramid of the population and the national incidence of cervical cancer. For most developing countries, one machine is the minimum required to provide treatment for a population of about two million people.

Setting up radical surgery services

Facilities providing radical surgery should be adequately equipped to provide appropriate preoperative, operative, and postoperative care. Access to blood transfusion services, laboratory services, and a fully functioning operating room with trained and experienced surgeons, anesthetists, and operating room nurses is crucial. Trained and experienced nurses should be available to provide postoperative monitoring and care.

Setting up radiotherapy services

As detailed in Appendix 10.2, radiotherapy requires specialized equipment, but it can be used to treat all stages of cervical cancer, and short courses can have a dramatically beneficial effect on localized pain in patients with advanced cancer. Furthermore, radiotherapy units can treat other cancers as well (e.g., head and neck, breast, brain, prostate). Once a radiotherapy unit is set up, the unit cost per patient treated decreases with increased use of the unit.

To assist in deciding on equipment needs, a management team should consider the cost and utility of the equipment. For example, telecobalt machines (see Appendix 6.4) and linear accelerators can be used to deliver external beam radiotherapy. However, linear accelerators provide very little added advantage over telecobalt machines. Cobalt machines are less expensive than linear accelerators, are easier to maintain, have more predictable dose rates, and require only minimal maintenance. Brachytherapy is essential for the radiotherapy of cervical cancer. Having high dose-rate brachytherapy is useful for countries with a large number of patients with cervical cancer, since high dose-rate brachytherapy can be used to treat a large number of patients without the need for general anesthesia or hospitalization. Accessories for radiotherapy, such as devices that assist with developing treatment planning systems, can be introduced once the basic equipment has been installed and services are running.

The International Atomic Energy Agency (IAEA) provides technical and financial assistance upon request from member states for establishing and maintaining radiotherapy services and for organizing training for radiotherapy professionals. Management teams can contact appropriate IAEA personnel through the agency's website (www.iaea.org) or by writing to:

ARBR/NAHU
International Atomic Energy Agency
P.O. Box 100
A1400 Vienna, Austria

Organizing training programs

As discussed in Chapter 8, organizing a training program for cervical cancer treatment involves selecting training sites with sufficient caseload, experienced trainers, and appropriate trainees. A training curriculum should be developed based on the national protocols.

In countries that have no cervical cancer treatment services, it is important to organize a training program for a core group of personnel in the essential disciplines related to the diagnosis and treatment of cervical cancer. In-country training is advised in order to demonstrate service delivery skills and approaches in a more realistic manner that trainees can apply in their own sites. Likewise skilled and experienced trainers from countries with similar health care and sociocultural systems are preferred.

In developing countries with the need to expand the capacity of cervical cancer treatment services, it is essential to plan an intensive and focused training program. Skilled and experienced in-country staff can provide the training. In addition, refresher training should be an integral part of all training programs. To enable providers to maintain their skills it is important that trained providers are given the opportunity to perform procedures in facilities with adequate caseload.

Case Study of Cervical Cancer Awareness Campaigns

In Barshi, India, a gradual improvement in stage distribution and three-year survival was observed following cervical cancer awareness campaigns. In an ongoing community awareness study in the Solapur district, the outcome of a health education program in one subdistrict was monitored for cervical cancer incidence, stage distribution, survival, and mortality, and compared with the outcome in a control area of approximately equal size, with no special intervention. Health education was carried out by person-to-person communication by health workers during house visits and by special group sessions for women in the villages. They discussed various aspects of female genital hygiene, including cervical cancer and its symptoms, and diagnostic and treatment facilities available in the district. Although the incidence was similar in the two groups, stage distribution and mortality was much improved in the intervention group four years after the intervention began (Jayant et al. 1995, Parkin and Sankaranarayanan 1999).

Providing patient education and counseling

Patients have the right to be informed about their medical diagnosis and prognosis, the risks and benefits associated with their treatment options, and the facts (why, how often, where to go) about follow-up care. Patients and their families are often overwhelmed by the complex administrative health structure, have difficulties organizing or claiming financial assistance, and are often unaware that such benefits exist. Management teams should be aware of the rules and regulations related to travel concessions and reimbursement policies and should enable patients to access

these benefits. To ensure patients have access to up-to-date information, programs should involve the following steps:

- Develop and make available appropriate, easy-to-understand printed materials in the local language.
- Orient staff at the facilities to provide information about administrative issues, available social assistance to increase compliance with treatment, and places to get medical assistance within a community or local health facility.
- Train health workers on interpersonal communication and counseling skills to improve their rapport with patients and their families.
- Engage community health care workers as communication agents.

Updating service providers and health care managers in prevention services

All cervical cancer prevention training programs should include a session on cervical cancer treatment, emphasizing diagnosis, treatment, and prognosis in relation to the stages of cervical cancer. The message that cervical cancer is often curable, if people have ready access to screening and treatment services, should be emphasized.

Strengthening health information systems, including cancer registries

It is vital to develop medical record systems to monitor and evaluate the effectiveness of cancer treatment. This process requires the following steps:

- Develop standardized medical records to document information on clinical findings, results of investigations, staging, treatment plans, treatment executed, and response to treatment. Records should also include findings at follow-up, such as date of examination, clinical findings, and disease status.
- Organize regular systematic clinical audits and medical record reviews to ensure complete documentation of clinical information, review management, and improve treatment as necessary.
- Organize hospital cancer registries to collect information on all cancer cases seen. Extract relevant information from the medical records and document it using an appropriate format on an ongoing basis.
- Organize population-based cancer registries to collect information on every person diagnosed with cancer in a defined population on an ongoing basis. The International Agency for Research on Cancer (IARC) provides technical assistance to set up cancer registries. Further information is available on the IARC website (www.iarc.fr). Appropriate personnel can be contacted as follows:

Descriptive Epidemiology Group
International Agency for Research on Cancer
150 cours Albert Thomas
Lyon 69008
France
Email: dep@iarc.fr

Decentralizing care of patients with incurable cancer

Health staff at primary- and secondary-level facilities can help patients with incurable cancer by treating the symptoms of advanced disease. They can also link with community health workers (CHWs) to assist in caring for and following up women with advanced cancer (palliative care is discussed in more detail later in this chapter).

Establishing and maintaining links to the community and to other health services

Cancer treatment requires coordination, using both inreach and outreach I&E strategies to ensure shared information across settings, between providers, and over time (i.e., from the initial patient contact onward) (WHO 1990). One of the management team's key responsibilities is to establish and maintain links among the various services within a facility—such as inpatient, outpatient, pharmacy, and screening and diagnostic units—and between service sites and other facilities in the community. Collaborating with nongovernmental and other community-based organizations that provide cancer services can offer useful resources to the management team.

Links to the community can be established and maintained by engaging CHWs trained to communicate with patients, accompany patients when they attend treatment, track patients needing follow-up care, and provide support to patients and their families. The principle of setting up links to the community and between other health services is discussed in detail in Chapter 6.

Community level

Many of the barriers to accessing cancer treatment are due to the prohibitive costs of treatment for patients and their families. The following suggestions to improve access at the community level may require policy-level decisions about funding, which may be outside the management team's mandate.

- Reimbursing patients' travel costs to and from cancer treatment facilities. In India, railway travel concession is provided to a cancer patient and an attendant.
- Providing no-cost or subsidized accommodation where patients can stay to complete treatment (because cancer treatment often requires multiple doses over several days).
- Providing supportive assistance to reduce the social and economic burden of the disease. Social services should be included as a component of oncology services.

Other community-level approaches to increasing access to cancer treatment services can include:

- Providing culturally appropriate services that take into account women's needs. Consider local languages, beliefs, and feelings of patients in service-delivery planning. Health workers should be familiar with the local demographic and social structure, as well as the potential cultural and social barriers to seeking treatment.

- Supporting the patient and her family to provide adequate home care. Many physical problems can be prevented or managed by coordinating efforts among the patient, caregivers, and health workers.
- Mobilizing community-based mechanisms will be especially important in areas where there are few social workers. Patient associations or group meetings can be very useful for sharing information and generating advocacy for quality services and social-protection policies.
- Providing patients, their families, and CHWs with simple, precise guides on symptom care, backed up whenever possible with communication links enabling one to “cry for help” when needed.

There is evidence that greater awareness of cervical cancer among health workers and the public can increase early diagnosis of cervical cancer and access to basic treatment, both of which can improve survival (Jayant et al. 1995, Parkin and Sankaranarayanan 1999, Ponten et al. 1995). Trained CHWs can provide health education to individuals and groups, or a combination of both (see box below). Job aids with pictorials should be developed to help health workers provide health education.

Palliative Care

Palliative care aims to improve the quality of life of patients with terminal illness, through the prevention, early detection, and relief of distressing symptoms and psychosocial problems. It implies not only total care of a person with a debilitating disease not amenable to curative treatment, but also the needs of the family and of the health workers. The main characteristics of palliative care are listed below.

Characteristics of Palliative Care

Palliative care:

- Is applicable early in the course of illness, in conjunction with other therapies such as chemotherapy or radiation therapy, and includes tests needed to better understand and manage distressing clinical complications.
- Enhances quality of life, and may positively influence the course of the illness.
- Affirms life and regards dying as a normal process.
- Integrates the psychological and spiritual aspects of patient care.
- Offers support to help patients live as actively as possible until death.
- Provides relief from pain and other distressing symptoms.
- Offers support to help the family cope during the patient’s final illness and death and their bereavement.
- Uses a team approach to address the needs of patients and their families, including bereavement counseling.

Types of palliative care services

Palliative care varies from one person to the next, because there are many different stages of disease progression during which the needs of the patient and her family change. Palliative care services include inpatient management of advanced pain and other symptoms, home-based care, and support for family and other caregivers, including psychosocial and spiritual assistance. Thus, both the patient's family and a wide variety of personnel—primary health workers, primary care physicians, nurses, doctors, oncologists, CHWs, and social workers—have roles in providing comprehensive palliative care for the patient with advanced cancer.

Holistic management of patients with cervical cancer

An efficient palliative care program should recognize promptly the symptoms of advanced cervical cancer and take adequate measures to provide relief. There are three main components of managing advanced cancer symptoms: pain management, management of other symptoms, and assistance with psychosocial concerns inevitably associated with advanced cervical cancer.

Pain management Most women with advanced cervical cancer will experience pain, including severe backache. Pain control can be achieved in most patients with appropriate pain-relieving radiotherapy and/or drugs (see Appendix 10.3).

Management of other symptoms Other symptoms of advanced cervical cancer are vaginal bleeding, foul-smelling vaginal discharge, leg swelling, bowel obstruction, urinary and or fecal incontinence, and bedsores. Table 10.3 provides information on the common symptoms faced by patients, measures that can be used to provide relief, and where these services can be provided. Many symptoms can be managed through simple procedures performed by existing staff and using existing facilities. The management team's task is to determine who can provide these services, where they can provide them, and which clients need to be referred to other facilities or organizations.

Psychosocial concerns Assistance with psychosocial issues will require sensitivity to the local culture and the disruption of family life inherent in the patient's changed status. Caregivers must appreciate the philosophy of palliative care, which is briefly summarized in this chapter.

TABLE 10.3. Management of physical symptoms of advanced cervical cancer (information on pain relief is found in Appendix 10.2)

Symptoms	What can be done	Who can provide services	Where to provide services
Vaginal bleeding	<ul style="list-style-type: none"> Moderate bleeding: vaginal packs and oral sedatives to relieve anxiety; oral iron. Intractable bleeding: short courses of radiotherapy. Either brachytherapy or teletherapy may be used. 	<p>Any trained health worker</p> <p>Radiation oncologist</p>	<p>Primary, secondary, and tertiary facilities</p> <p>Tertiary facility</p>
Foul-smelling vaginal discharge	<ul style="list-style-type: none"> Periodic packing of the vagina with clean cloths soaked with a solution of water and bicarbonate of soda powder (1 Teaspoon in 500 ml water), or table vinegar (1 part vinegar to 4 parts water), or metronidazole solution (5 to 10 crushed 200-mg tablets in 500 ml water). Repeat two times a day for no more than a few hours at a time for five days. Douching can also be done with any of the solutions listed above. A course of antibiotics such as doxycycline (singly) or a combination of amoxicillin and metronidazole. 	Any trained health worker	Home care; primary, secondary, and tertiary facilities

Symptoms	What can be done	Who can provide services	Where to provide services
Leg swelling (lymph edema)	<ul style="list-style-type: none"> • Raise the legs or wrap with an elastic crepe bandage (not tightly applied). • If leg is inflamed, a course of antibiotics (penicillin or erythromycin and anti-inflammatory drugs such as ibuprofen or diclofenac). 	Any trained health worker	Home care; primary, secondary, and tertiary facilities
	<ul style="list-style-type: none"> • Short course of radiotherapy to the enlarged lymph nodes or chemotherapy. 	Radiation oncologist	Tertiary facility
Severe, colicky abdominal pain with vomiting and abdominal distention due to bowel obstruction	<ul style="list-style-type: none"> • Surgical management most effective. 	General surgeon	Secondary or tertiary facility
Urinary and/or fecal incontinence due to vesicovaginal and/or rectovaginal fistula	<ul style="list-style-type: none"> • Catheterization of bladder and vaginal packing. • Surgical management by diverting colostomy and colostomy bags will provide temporary relief. 	Any trained health worker Surgeon	Primary, secondary, or tertiary facility Secondary or tertiary facility
Severe anemia	<ul style="list-style-type: none"> • Oral iron. • Blood transfusion. 	Any trained health worker Health workers (doctors, nurses)	Home care; primary, secondary, or tertiary facility Secondary or tertiary facility

Symptoms	What can be done	Who can provide services	Where to provide services
Bed sores	<ul style="list-style-type: none"> • Best to prevent by frequently changing position of the patient to relieve specific pressure points on the skin. Daily baths. • Bed sores already developed: have patient lie on a soft mattress and cushion areas with pillows or folded cloth below pressure points. Wash bedsores every day with 2% hydrogen peroxide or povidone iodine. Dust sores with antibiotic powder. Antibiotic courses may be useful. 	<p>Caregiver: family, community member</p> <p>Any trained health worker</p>	<p>Home</p> <p>Primary, secondary, or tertiary facility</p>

Home care

Family members can act as the primary caregivers, providing palliative care in the patient's own home. In many cases, it is the only option for women living in remote areas. Home care can fail, however, if the informal network becomes too stressed due to disease progression, treatment intensity, or depletion of resources. Thus, providing emotional, social, and instrumental support to families and caregivers is a vital component of palliative care. A CHW can be trained to assess the patient and can promise to be accessible whenever the need arises, visit the patient at home regularly, and provide care, practical help, and emotional support. CHWs can also support those providing palliative care at home, including teaching family members to administer medicines and to use simple techniques to improve the patient's comfort and well-being. Health workers can organize educational sessions on symptom management with patients, families, and other caregivers.

Psychosocial and spiritual support

Psychological distress is to be expected as patients confront the implications of cancer: pain, dependence on others, disability, disfiguring changes of the body, loss of function, and death—all of which change and sometimes threaten her relationships with others. In many cases, patients experience fear, shock, despair, anger, anxiety, and depression. These feelings can negatively influence the patient's perception of symptoms and her ability to deal with them. Providing emotional, psychosocial, and spiritual support can ease these feelings and improve the patient's quality of life.

Ethical issues of providing palliative care

Due to advances in medical technology, the cancer patient's family may be confronted with deciding whether or not to pursue aggressive and expensive treatments (e.g., palliative chemotherapy) to prolong the patient's life. Treatment decisions should always be made with informed consent. Wherever possible, the patient, together with her family and other caregivers, should make these decisions.

Strategies to establish and maintain palliative care services

Overcoming barriers to implementing palliative care

Providing quality palliative care is challenging in most regions of the world, due to problems associated with availability of medication, deficient health infrastructure, lack of training for providers, lack of counseling skills, discomfort in discussing the diagnosis and management with patients, and lack of community awareness of palliative care options. For example, health workers and policymakers are often unaware that there are inexpensive, effective ways to relieve advanced cancer symptoms.

Over the last few years, however, the role of palliative care has received wide acceptance as an integral part of cancer management early in the course of a fatal disease. Such recognition has improved the lives of millions of patients with chronic, unrelieved pain and with other physical or psychosocial problems. Still, much remains to be done to further improve matters. Where available, specific therapies (e.g., radiotherapy, chemotherapy, pain-relieving drugs) must be used for palliative care

because they have an important role in improving the patient’s quality of life. It is also important to work in conjunction with other existing community-based programs. This section describes the key interventions needed to increase access to palliative care in developing countries.

Policymakers’ and health workers’ lack of knowledge and attitudes are major barriers to providing effective palliative care. Management teams can play an important role in organizing advocacy to ensure that pain medications are accessible (in terms of availability and cost) to women with terminal cancer, particularly those living in remote areas. Table 10.4 describes other barriers to effective pain management.

TABLE 10.4. Barriers to cancer pain management

Service provider barriers	Patient barriers
<p>Health system</p> <ul style="list-style-type: none"> • Low priority given to cancer pain treatment • Restrictive regulation of controlled substances • Unavailability of treatment • Prohibitive drug costs <p>Health professionals</p> <ul style="list-style-type: none"> • Inadequate knowledge of pain management • Poor assessment of pain • Concern about regulation of controlled substances • Fear of patient addiction • Concern about side effects of analgesics • Concern about patients becoming tolerant to analgesics 	<ul style="list-style-type: none"> • Concern about distracting physicians from treatment of underlying disease • Concern about not being a “good patient” • Inability to pay for pain treatment • Reluctance to report pain • Reluctance to take analgesics or narcotics • Fear that pain means disease is worse • Concern about becoming tolerant to analgesics • Fear of addiction or of being considered an addict • Concerns about unmanageable side effects

Interventions to improve access to pain management

Interventions to improve access to pain management care can be considered at both the policy and management levels.

Policy interventions

Policymakers and health administrators have an important role to play in advocating for an appropriate pain management legislative framework. First, the country’s national drug policy should incorporate WHO’s essential drug list (WHO 1992), which includes analgesics (pain relievers) appropriate for palliative care. Second, appropriate and fair pricing should be established, along with social legislation to support distribution systems and other mechanisms to ensure access to pain treatment for all patients. In addition, it is vital that regulations are in place permitting physicians, nurses, and pharmacists to prescribe, dispense, and administer opioids to patients according to local needs (WHO 1996).

Management interventions

WHO publications and guidelines for cancer pain relief and other aspects of palliative care are useful sources of information for organizing pain relief services (WHO 1990, WHO 1996, WHO 1998a, WHO 1998b, WHO 2002a, WHO 2002b). The following are key requisites for health care managers to carry out:

- Ensure the availability of commonly used analgesics. In this respect it is important to allocate resources for procuring, distributing and resupplying appropriate analgesics. Refer to Appendix 10.3 for the list of commonly used analgesics to relieve cancer pain.
- Promote methods to assist health workers in assessing the severity of pain and deciding on treatment, as well as to assess response to pain relief measures. Simple methods such as numbers, words, or visual analogues can be used—for example, using coins of different sizes to prompt patients to categorize the intensity of their pain. Regular documentation of the severity of pain during the course of treatment assists in evaluating analgesic therapy. Figure 10.1 is an example of a visual analogue.

FIGURE 10.1. Visual tool for evaluating pain



- Adopt WHO's three-step analgesic ladder as the treatment protocol. The first step is to use simple, non-opioid analgesics, such as paracetamol or aspirin. If pain is not relieved by a non-opioid analgesic, go to the next step and add a weak opioid, such as codeine or dihydrocodeine. If this fails to relieve the pain, a strong opioid, such as morphine, should be used as the third step. Additional drugs (adjuvants), such as amitriptyline, are used to treat neuropathic or musculoskeletal pain. Anti-inflammatory drugs, such as ibuprofen or diclofenac, are added when the disease affects the bones.
- Ensure that providers are oriented to the pain management protocols and regulatory framework for the use of analgesics. Protocols should emphasize the important principles of use of analgesics for cervical cancer pain relief: providing oral administration of analgesics, using WHO's three-step analgesic ladder to prescribe pain relief, administering analgesics regularly (by the clock), tailoring the dose to meet the patient's needs, and providing clear instructions on the regimen to the patient and her family. In terminal cancer, concerns about addiction are irrelevant. Opioid doses generally increase due to increasing pain as the disease progresses, not because patients develop a tolerance to or a psychological dependence on the medicine.

- Ensure that clear written or pictorial instructions on the drug regimen are developed to give to the patient, her family, and other caregivers.

Other interventions

Ensuring management of other physical symptoms

Table 10.3 provides information on the measures that can be used to provide relief from other physical symptoms of cervical cancer and where these services can be provided. Where available, palliative radiotherapy can be used to relieve symptoms such as severe bleeding, bone pain due to metastases, and swelling of the legs. Palliative radiotherapy is particularly effective in relieving pain from bone metastases. Radiotherapy departments may reserve special days in the week to provide palliative radiotherapy in order to ensure access for advanced cancer patients. PATH and EngenderHealth’s field manuals on the essentials of palliative care are useful sources of reference for all health workers (see Further Reading).

Improving health workers’ counseling skills

It is important that palliative care providers have good communication skills. Training health workers in interpersonal communication and counseling skills to help them discuss cancer and death with patients and their families should be an essential part of all cervical cancer training programs. Training in counseling is essential to help health workers respond effectively to the complex needs of patients for whom a cure is no longer possible.

Many patients have fears and beliefs that make it difficult for them to accept the end of curative care. They feel abandoned and isolated because the medical system has “given up” on them. Health workers should be aware of their important role in giving psychological and emotional support to the patient and her family in this situation. They also have the important role of empowering patients to seek and to accept pain management.

Home care: steps to support patients, families, and caregivers

Management teams can play an important role in supporting home care for cancer patients by taking the following steps:

- Train and engage community health care workers to provide home-based palliative care and psychosocial support to patients and their families. These types of care should be an essential component of the training provided to CHWs involved in prevention activities. To enable CHWs to provide appropriate care it is important to provide them with job aids, access to essential supplies, mentoring and supervision, and links with staff at appropriate facilities.
- Organize educational sessions on symptom management for patients, families, and other caregivers.
- Organize social networks to help patients, families, and other caregivers cope with the social, emotional, and economic burden of cervical cancer treatment, including regular group meetings to share information and to provide social and psychological support.

- Provide information about available community resources and information on remuneration of transport costs. Useful written information can be accessed from the International Association for Hospice and Palliative Care's web site at www.hospicecare.com.

Strategies to support psychosocial and spiritual aspects

This support can take many forms, depending on the social and cultural context.

- Group meetings of women with advanced disease are useful because groups encourage emotional learning, relieve anxiety by enabling patients to see how others are coping with the same problems, and encourage the expression of feelings without fear of being ridiculed.
- If available, psychotherapy should be offered as part of the treatment.
- Spiritual counseling is meaningful for many patients as they turn to their religion during the existential crisis brought on by cancer.

For further information on strengthening palliative care services, refer to WHO's *National Cancer Control Programmes: Policies and Managerial Guidelines*, 2nd edition, and *Community Home-Based Care in Resource-Limited Settings: A Framework for Action* (and see Further Reading).

Conclusion

Cervical cancer prevention services should be linked with cervical cancer treatment and palliative care services. From the experience of the ACCP, collaborators, and in-country partners, two overall strategies can be described to reduce the burden of disease from cervical cancer.

For countries with no radiotherapy, radical surgery, or chemotherapy, the focus should be to:

- Establish and strengthen cervical cancer prevention services to reduce the future need for resource-intensive treatment services.
- Establish and strengthen palliative care services at all levels of health facilities, including community care.
- Plan and start investing in centralized basic treatment services for cervical cancer.

For countries with limited cervical cancer treatment services, the focus should be to:

- Establish and strengthen cervical cancer prevention services to reduce the future need for resource-intensive treatment services.
- Establish and strengthen palliative care services at all levels of health facilities, including community care.
- Strengthen and increase the availability of radical surgery, if such potential exists.
- Strengthen and increase access to available radiotherapy services.

Further Reading

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Useful websites

The Edmonton Palliative Care Program: www.palliative.org/

McGill Cancer Nutrition—Rehabilitation Program: www.mcgill.ca/cnr

WHO Palliative Care: www.who.int/cancer/palliative/en

Appendix 10.1. Technical and Programmatic Aspects of Treatment Options for Cervical Cancer

Features	Radical surgery	Radiotherapy		Chemotherapy
		Intracavitary (brachytherapy)	External beam (teletherapy)	
Description	Major surgical procedure performed under general anesthesia. Involves removal of cervix, uterus (with or without ovaries), parametrial tissue, upper part of the vagina, and lymph nodes in the pelvis. Requires careful dissection of both ureters.	<p>Involves delivery of radiation using radioactive sources in special applicators placed in the cervical canal and vaginal fornices.</p> <ul style="list-style-type: none"> Two types: low dose-rate, e.g., Cesium-137 (treatment takes 1–3 days) and high dose-rate, e.g., Iridium-192 (treatment takes a few minutes) 	<ul style="list-style-type: none"> Involves delivery of a radiation beam to the cancer from an external source, i.e., the teletherapy machine. Telecobalt machines or linear accelerators can be used to deliver external beam radiotherapy. 	<ul style="list-style-type: none"> The most common agents are Cisplatin or Carboplatin given as intravenous (IV) infusions.
Indication	Early stages (Stage I and selected cases of stage IIA).	<ul style="list-style-type: none"> All stages, including palliative care. 	<ul style="list-style-type: none"> All stages, including palliative care. 	<ul style="list-style-type: none"> Advanced stages (in combination with radiotherapy). Palliative care. Recurrent disease.
Level of facility	Treatment for cancer is centralized and provided in tertiary-level facilities. Radical surgery is possible in some secondary-level hospitals.			

Features	Radical surgery	Radiotherapy		Chemotherapy
		Intracavitary (brachytherapy)	External beam (teletherapy)	
Personnel required (treatment for cancer is best provided by a multidisciplinary team)	Gynecologists experienced in radical pelvic surgery, anesthesiologists, pathologists, nurses experienced in a wide range of oncology care, counselors and social workers experienced in psychosocial counseling.	Radiation oncologists, physicists, radiotherapy technicians, nurses experienced in radiation sciences, and oncology care, counselors and social workers experienced in psychosocial counseling.	Physicians and nurses experienced in providing chemotherapy, counselors and social workers experienced in psychosocial counseling.	
Cost of setting up and maintaining services	An operating theater with necessary equipment and surgical instruments to perform radical surgery can cost about US\$15,000.	<p>Cost of low dose-rate brachytherapy machines (less commonly available) with sources lasting 15–20 years can range from US\$80,000 to US\$300,000. A single machine has a capacity to treat 100 cervical cancer patients per year.</p> <p>High dose-rate brachytherapy machines (more commonly available), including a 5-year supply of sources at 4-month intervals, cost about US\$250,000. Thereafter US\$35,000 is required annually. Each machine can treat up to 1,000–2,000 patients per year making them more cost-effective in a centralized service.</p>	<p>Telecobalt equipment can cost about US\$350,000, and the source needs to be changed every 5–7 years at a cost of US\$80,000. During its 20–25-year lifespan, each machine can treat 20,000–25,000 patients.</p> <p>Linear accelerators are more expensive to purchase and maintain (cost about US\$1,000,000 to purchase depending upon the energy range and availability of electrons). In addition, it requires sophisticated maintenance (service contract costs US\$100,000/year) and calibration.</p>	Costs of chemotherapeutic drugs vary from country to country. An entire course of treatment (consisting of 5 cycles of administration at weekly intervals) may cost between US\$200 and US\$1,000 per patient in many developing countries.

Features	Radical surgery	Radiotherapy		Chemotherapy
		Intracavitary (brachytherapy)	External beam (teletherapy)	
Hospital stay/ treatment duration	Inpatient stay of 10–14 days.	<p>Low dose-rate brachytherapy usually requires a single hospital admission for 2–3 days.</p> <p>Requires operating room for the placement of intrauterine catheter and ovoids under general anesthesia.</p> <p>High dose-rate brachytherapy is done as an outpatient procedure, usually requiring no general anesthesia.</p>	<p>Performed as an outpatient procedure for patients living near the facility. Daily treatment takes about 10–15 minutes. About 20–25 treatments are delivered over 4–5 weeks (5–6 treatments per week).</p> <p>Clear instructions on skin care are given to avoid the most common acute reaction, but some patients may require admission near the end of treatment for skin reactions.</p>	Can be administered as an outpatient/ambulatory procedure, in weekly cycles over 5 weeks. Patients will require prophylaxis against severe vomiting.

Appendix 10.2. Commonly Used Analgesics for Cancer Pain Relief

Category	Drug*
WHO Step 1 (Mild pain)	<ul style="list-style-type: none"> • Paracetamol • Aspirin • Ibuprofen • Diclofenac • Naproxen • Piroxicam
WHO Step 2 (Moderate pain)	<ul style="list-style-type: none"> • Codeine • Dihydrocodeine • Oxycodone
WHO Step 3 (Severe pain)	<ul style="list-style-type: none"> • Morphine (immediate release) • Morphine (sustained release)
Adjuvant drugs for: Neuropathic and musculoskeletal pain. Malignant bone and nerve pain and to relieve spinal cord compression. Paroxysmal burning/electric shock-like neuropathic pain. Pain due to bowel obstruction.	<ul style="list-style-type: none"> • Amitriptyline • Dexametasone/Prednisone • Carbamazepine/valproic acid • Octreotide

* For doses, refer to PATH and EngenderHealth 2003.

Appendix 10.3. FIGO Staging Classification for Cervical Cancer

Stage I

Stage I is carcinoma strictly confined to the cervix; extension to the uterine corpus should be disregarded. The diagnosis of both Stages IA1 and IA2 should be based on microscopic examination of removed tissue, preferably a cone, which must include the entire lesion.

Stage IA: Invasive cancer identified only microscopically. Invasion is limited to measured stromal invasion with a maximum depth of 5 mm and no wider than 7 mm.

Stage IA1: Measured invasion of the stroma no greater than 3 mm in depth and no wider than 7 mm diameter.

Stage IA2: Measured invasion of stroma greater than 3 mm but no greater than 5 mm in depth and no wider than 7 mm in diameter.

Stage IB: Clinical lesions confined to the cervix or preclinical lesions greater than Stage IA. All gross lesions, even with superficial invasion, are Stage IB cancers.

Stage IB1: Clinical lesions no greater than 4 cm in size.

Stage IB2: Clinical lesions greater than 4 cm in size.

Stage II

Stage II is carcinoma that extends beyond the cervix, but does not extend to the pelvic wall. The carcinoma involves the vagina, but not as far as the lower third.

Stage IIA: No obvious parametrial involvement. Involvement of up to the upper two-thirds of the vagina.

Stage IIB: Obvious parametrial involvement, but not to the pelvic sidewall.

Stage III

Stage III is carcinoma that has extended to the pelvic sidewall. On rectal examination, there is no cancer-free space between the tumor and the pelvic sidewall. The tumor involves the lower third of the vagina. All cases with hydronephrosis or a nonfunctioning kidney are Stage III cancers.

Stage IIIA: No extension to the pelvic sidewall, but involvement of the lower third of the vagina.

Stage IIIB: Extension to the pelvic sidewall or hydronephrosis or nonfunctioning kidney.

Stage IV

Stage IV is carcinoma that has extended beyond the true pelvis or has clinically involved the mucosa of the bladder and/or rectum.

Stage IVA: Spread of the tumor into adjacent pelvic organs.

Stage IVB: Spread to distant organs.