Chapter 9. Palliative Care

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Abstract

Today, most people dying from cancer in low- and middle-income countries (LMICs) die in pain because they lack access to inexpensive opioid medicines—the bedrock of palliative care—that can provide relief in most cases. These medicines are absent not because of cost or the lack of other resources, but for lack of political will to ensure their provision in the face of concerns about diversion to illicit use. This chapter reviews the need for palliative
Introduction

Despite best efforts, one-third of patients diagnosed with cancer in high-income countries (HICs) die of the disease within a few years of diagnosis (National Cancer Institute 2009). The proportion of patients dying of cancer in low-income and middle-income countries (LMICs), which account for 70 percent of the worldwide cancer mortality burden, is much higher because most cancers are advanced when diagnosed and few people have access to effective cancer treatment. For rich and poor everywhere, cancer can be a painful way to die, especially when the pain is not treated with effective interventions, particularly opioid medicines. Even many of those who are cured of their disease live with the long-term effects of both the disease and the chemotherapy received; many of them live with pain. Patients for whom cures are not options, who are living with and dying from cancer, are the primary recipients of palliative care. Several types of intervention, including social and spiritual care, are included, but the bedrock of palliative care is pain control, which is the focus of this chapter.

Since 1990, the World Health Organization (WHO) and other bodies have offered definitions of palliative care that differ in specifics but share a common vision of care that emphasizes effective pain relief and a team approach to care throughout the course of the illness (Cleary and Carbone 1997; Foley and Gelband 2001; Morrison and Meier 2011; WHO 1990). The primary goal of palliative care is the improvement of the quality of life of patients and those around them—not the prolongation of life or the hastening of death. Access to pain relief has been declared a human right (Brennan, Carr, and Cousins 2007; Gwyther, Brennan, and Harding 2009; International Pain Summit of the International Association for the Study of Pain 2011; Lohman, Schleifer, and Amon, 2010).

From a global perspective, the growth of palliative care has been largely limited to HICs, which also rank high on the human development index (HDI). The availability of palliative care—using the availability of opioid medicines as a surrogate—is correlated with a country’s HDI. At the low end, the availability is almost nil, and repeated surveys have shown that this availability changed only marginally between 2006 and 2011 (Gilson, Maurer, and others 2013).

In the previous edition of Disease Control Priorities in Developing Countries, Foley and others (2006) documented the global problem of low access to adequate pain relief in LMICs. Since then, a few countries have improved access, but these accomplishments are sporadic; in many countries, the change is negligible. However, there is cause for optimism. Efforts to support leaders in reforming policy and clinical practice in LMICs have grown and provide a basis for future improvements (Cherny and others 2013; Cleary, Radbruch, Torode, and Cherny 2013).

This chapter describes the current state of pain relief in LMICs, consistent with the WHO’s use of opioid consumption as a surrogate for access to palliative care in the Global
Monitoring Framework for Noncommunicable Diseases (WHO 2013). We describe the gaps in pain control access across countries, analyze the barriers to improving its delivery, and describe the costs and benefits that might accrue from removing the barriers.

Evidence summarized in this chapter focuses on the modest costs and huge benefits of providing pain control supports increased efforts in the short term. Pain control and other aspects of palliative care can lead, rather than follow, increased efforts in cancer treatment.

Cancer Patients’ Need for Pain Control Medication
Patients with cancer may experience pain throughout their illness. Mild and moderate pain often can be controlled with commonly available analgesics, such as acetaminophen and ibuprofen, but progressively stronger medications are needed to control cancer pain as the illness progresses and pain becomes more severe. Opioids—such as codeine and morphine—are invariably needed toward the end of life. This progression is embodied in the WHO’s Three-Step Analgesic Ladder, developed in 1986 to guide clinicians (WHO 1986). More recently, the American Pain Society has advocated an approach based on the mechanism of pain together with its severity, but this group also emphasized that all patients with cancer should have access to opioids, as needed (Miaskowski and others 2005).

How prevalent is the need for pain relief among cancer patients in LMICs? Cancer deaths are rising throughout the world as progress is made against infectious diseases and as the world’s population ages. In 2012, 5.3 million people died of cancer in LMICs compared with 2.9 million in HICs. In Sub-Saharan Africa, 715,000 new cases and 542,000 cancer deaths occurred in 2008; that number is projected to nearly double by 2030 due to population growth and aging (Ferlay and others 2010). The consensus among researchers is that 60 percent to 90 percent of patients with advanced cancer experience moderate to severe pain (Cleeland and others 1988; Cleeland and others 1996; Daut and Cleeland 1982; Foley 1979, 1999; Stjernsward and Clark 2003). The intensity, degree of pain relief, and effect of pain vary according to the type of cancer, treatment, and personal characteristics, but both prevalence and severity of pain usually increase with progression of the disease.

Foley and colleagues (Foley and others 2006) estimated that about 80 percent of people dying of cancer would experience moderate or severe pain that requires opioid medication for relief for an average of 90 days before death. This estimate amounts to 425 million days of cancer pain that could be relieved by opioids in LMICs each year currently.

Status of Pain Control in LMICs
In an ideal world, palliative care and pain control would be one component of a cancer care system, but in nearly all LICs and for the rural poor in many MICs, palliative care—if it exists at all—is more likely to be independent of cancer services, and patients will receive little or no primary cancer treatment. Unfortunately, despite the inclusion of morphine and
codeine on the WHO's essential medicines list (2013), the programs to deliver them are likely to be undeveloped and patients go without relief.

In 2006, 66 percent of the world’s population lived in countries that had virtually no consumption of opioids, 10 percent in countries with very low consumption, 3 percent in countries with low consumption, and 4 percent in countries with moderate consumption (Seya and others 2011). Only 7.5 percent of the world’s population lived in countries with consumption levels defined as adequate. The level of adequacy of access for a country was highly correlated with its HDI ($R^2 = 0.7583$) (Seya and others 2011).

To what extent is the need for cancer pain relief met under these circumstances? Even with increases in certain areas, the starting levels are so low that the most recent levels are only a fraction of the per capita use in HICs (figure 9.1).

**Figure 9.1. Comparison of Opioid Consumption (Mg/Capita) in Morphine Equivalents without Methadone**

![Graph showing opioid consumption in morphine equivalents without methadone](image)

*Source: Cleary, Radbruch, Torode & Cherny 2013.*

This global assessment is supported by new data from sites in 26 countries representing all World Bank income levels. The International Association for Hospice and Palliative Care (IAHPC) conducted its first round of the Opioid Price Watch (OPW) (De Lima, Pastrana, and others 2014), which reports on availability of opioids, as well as the prices that consumers pay for those medicines. Surveyors visited the pharmacy closest to a public health facility
treated patients with life-threatening conditions. If that pharmacy had no opioids in stock or if the chief pharmacist did not wish to participate, the surveyors visited the next closest pharmacy; this process continued until at least one opioid was found or the surveyor concluded that none would be available anywhere. At least one opioid was available in the first pharmacy sampled in all seven HICs. In three of the eight low-income sites in six countries (including three sites in Tanzania), no opioids were found, even after visiting an average of 4.5 pharmacies; where they were found, many fewer kinds were available than in HICs. In three of the sample countries—Moldova, Nepal, and Sudan—opioids for outpatients were available only from hospital pharmacies with permission to dispense them, limiting access geographically. No information was available on consumption in Sudan or Moldova, and very low consumption was reported per capita in Nepal, suggesting that most cancer patients have no access.

 Availability of Broadly Defined Palliative Care Services

The level of palliative care services available to cancer patients was assessed in 2007 by the International Observatory of End of Life Care (the International Observatory) (Clark and others 2007) and again in 2011 (Lynch, Connor, and Clark 2013). Four categories were defined in 2007 and two subcategories were added in 2011:

1. No known hospice-palliative care activity
2. Capacity building activity
3a. Isolated palliative care provision
3b. Generalized palliative care provision
4a. Hospice-palliative care services at a stage of preliminary integration into mainstream service provision
4b. Hospice-palliative care services are at a stage of advanced integration into mainstream service provision.

Palliative care was in stage 4a or 4b primarily in HICS, with only a handful of LMICs (mainly MICs) in the highest category. In 2011, most countries still had no services, were in a capacity-building mode, or had only isolated services (Map 9.1).
Barriers to Pain Control in LMICs

The near-total lack of access to opioid drugs for pain relief in most LICs and many MICs is best understood by examining the barriers to their supply (Cherny and others 2013; Foley and others 2006; Sloan and Gelband 2007). Modern palliative care, including access to opioid medicines and other methods of pain control, has developed in HICs often as an adjunct to cancer care programs. In LICs and many MICs, the same pattern has been difficult to follow because care programs simply do not exist in most places and is one of the reasons palliative care has also been neglected. However, cancer control programs are not the only things that are absent, sparse, or overstretched. Medical and pharmacy resources are lacking in numbers and in quality; medicines are costly and are most often paid for out of pocket. Patients in some places are reluctant to use addictive drugs even in the last stages of illness, and clinicians who have received little training on appropriate prescribing for cancer patients may reinforce this reluctance.

The greatest and most widespread barrier, however—by far—comes from regulations to control the non-medical use of narcotics that make it difficult or impossible for clinicians to prescribe and patients to obtain opioids for relief of cancer pain. These regulations were put in place in response to the Single Convention on
Narcotic Drugs of 1961 (International Narcotics Control Board 1961), amended by the 1972 Protocol. The Single Convention is an international treaty to ensure their availability for medical and scientific needs while preventing the illicit production of, trafficking in, and nonmedical use of narcotic drugs. The INCB, established in 1968 by the Single Convention, is an independent, quasi-judicial organization that implements the Single Convention.

The Single Convention requires that all governments (even nonsignatories) estimate the amounts of opioids needed for medical and scientific purposes and report annually on imports, exports, and distribution to the retail level (consumption). It also sets out the following principles on which countries can base their own policies and regulations:

- Individuals must be authorized to dispense opioids by virtue of their professional license or be specially licensed to do so.
- Opioids may be transferred only between authorized parties.
- Opioids may be dispensed only with a medical prescription.
- Security and records are required.

Despite the Convention’s recognition of the need for opioid use in pain control, the concern over illegal narcotics has tipped the scale against the legitimate medical needs of patients. Many countries have established regulations that go well beyond those required by the Convention. Overzealous drug controllers or policy makers and poorly considered laws and regulations to restrict the diversion of medicinal opioids into illicit markets profoundly interfere with the medical availability of opioids for the relief of pain. Often, the logistics of pain treatment with opioids is so burdensome or complex for physicians, nurses, and pharmacists that they assume it is an impossible task and do not pursue it. This problem has been recognized since the 1980s by the INCB, the WHO, the Council of Europe, and by Human Rights Watch (Cherny and others 2010).

In 2000, the WHO, in collaboration with the INCB, developed guidelines for national authorities to scrutinize their regulatory systems for barriers that could impede access (WHO 2000). The movement to diagnose barriers to access has led to several exemplary national reforms. It appears that the very act of diagnosing regulatory impediments to opioids for cancer pain is a strong first step toward reform.

The international organizations that have collaborated in the Global Opioid Policy Initiative (GOPI) have published a detailed country-specific analysis in five regions of the world of both the availability and regulatory restrictions on seven opioid analgesic formulations (Cleary, De Lima, and others 2013; Cleary, Powell, and others 2013; Cleary, Radbruch, and others 2013).

- Codeine
- Immediate-release morphine (liquid or tablet)
- Controlled release oral morphine
- Injectable morphine
- Oxycodone
- Transdermal fentanyl
Immediate release methadone.

The IAHPC deems these essential for treatment of pain in palliative care (DeLima and Doyle 2007).

Respondents commonly reported that these opioids were included in national formularies. The reality, however, was substantial variation in true availability and many regulatory barriers to access. Table 9.1 describes the experience in some countries in overcoming these and related barriers.

<table>
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<tr>
<th>Domains</th>
<th>Country examples</th>
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<tbody>
<tr>
<td>1. Acquisition/Cost</td>
<td>A government-owned pharmaceutical company agreed to formulate, register, and distribute, free of charge, oral morphine solution to be supplied in strengths of 5, 20, 30, and 50 mg/5 ml concentrations in 125 ml bottles (Ethiopia 2010)</td>
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<td>Distributed domestically-manufactured 10 mg immediate-release morphine tablets, which were less than 20 percent of the cost of the morphine tablets previously available (Jordan 2004)</td>
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<td>Eliminated a tax on oral morphine powder, making it more affordable for hospices and palliative care programs (Kenya 2010)</td>
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<td>Procured the first-ever shipment of morphine powder for the only hospice, involving the development of record-keeping databases and written procedures on the safe handling of morphine (Sierra Leone 2008)</td>
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<td>Established domestic production of two formulations of immediate-release morphine tablets and began importing sustained-release morphine (Vietnam 2009)</td>
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<td>2. Education/Training</td>
<td>Ministry of Health recognized palliative medicine as a medical specialty (Ethiopia 2011)</td>
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<td>Medical Council of the Central Government approved new physician specialty of palliative medicine, and also approved the Postdoctoral Certificate Course in Pain Management (India 2010)</td>
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<td>Provided clinical training for health care practitioners and medical students on the appropriate use of opioids to treat pain (Kenya 2011)</td>
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<td>Provided informational sessions for regional health officials and drug regulators about changes in opioid prescribing policies (Vietnam 2009)</td>
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<td>3. National/State Policy Improvement</td>
<td>Developed a National Pain Management Guideline reflecting awareness of and commitment to pain relief (2007), while the National Drug Control Authority created a policy environment promoting pain management by issuing two national guidelines: Guideline to Control and Promote Proper</td>
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Table 9.1 Examples of Activities to Improve Opioid Availability in Countries with Low or Medium Human Development Index

Ministries of Public Health and Sanitation and of Medical Services developed the first National Cancer Control Strategy, which includes pain relief and palliative care as one of seven key interventions and identifies the need for essential pain relieving medicines (Kenya 2011)

Created a National Association for Palliative Care to develop national palliative care policy, develop clinical tools to improve pain management, and sponsor trainings for health care workers in palliative care and pain assessment (Nepal 2009)

Created a National Palliative Care Policy that recognizes the need for the government to ensure the availability of essential palliative care medicines, particularly oral opioids and other related medicines at all levels of the health system (Rwanda 2010)

b. Guidelines for medication distribution

State Health Secretary-appointed task force changed policy to exempt approved palliative care programs from a state rule requiring a drug license to dispense morphine, enabling the development of three times as many palliative care clinics stocking oral morphine for patients in rural and remote areas (India 1999)

Developed guidelines to clarify requirements for transporting opioids from the distributor to health facilities and between health care institutions, encouraging a secure flow of opioids through the supply system for medical purposes (Jamaica 2011)

Ministry of Health developed a Policy for Patient Access, and the Safe Management of Controlled Drugs, including guidelines for distributing controlled drugs in both public and private sectors (Jamaica 2010)

c. Prescribing laws

Ministry of Health decree changed laws to do the following:
- Lengthen the maximum duration of prescribing opioids from three to seven days
- Expand the number of patients able to receive opioid prescriptions from only those with very advanced cancer to those with acute and chronic conditions
- Allow physicians to prescribe who pass a training course rather than limiting it only to those approved by a three-person commission (Georgia 2008)

Modified prescribing regulations from allowing the prescribing of only a three-day supply of injectable morphine to a maximum of 10 ampules, to prescribing up to a seven-day supply of the amount of opioid necessary (including tablets) to control patients pain (Mongolia 2004)
Passed an amendment to the National Drug Policy and Authority statute allowing specially trained palliative care nurses and clinical officers to prescribe morphine, greatly expanding the number of health care professionals able to prescribe morphine and allowing patients in rural areas to receive pain relief in their homes (Uganda 2004)

Repealed the daily maximum dose of opioid and allowed all patients, rather than only those with cancer and AIDS, to receive an opioid prescription for up to seven days per prescription (Vietnam 2008)

Source: (Gilson and others 2013) Permission pending

Economics of Palliative Care in LMICs

We consider economics from two perspectives: the health care system and the patients. In countries with comprehensive, publicly funded healthcare, the governments pay for all or most of the services and commodities needed for palliative care. The patients pay either nothing or a predetermined copay.

In settings in which the public sector does not yet provide or subsidize the cost of services, patients may be responsible for all costs. The costs may be mainly market-driven, but they also may include taxes, tariffs, and other government add-ons. In the case of palliative care, the cost of pain control medications is most important. Patients everywhere inevitably bear other costs, including transportation and the opportunity costs of family caregivers who miss work. How high a barrier these costs impose varies with the economic situation of the families and the support available.

Health System Perspective

Evaluating the costs and effectiveness of palliative care in LMICs presents challenges of the most basic kind. No single model of palliative care delivery can be implemented across all countries; each country presents with a unique constellation of health care resources and challenges.

Studies comparing the costs of organized palliative care programs for patients with cancer with care delivered in the absence of such programs are limited to HICs, where conventional cancer care is already well organized. Researchers reviewing such studies have concluded that organized palliative care tends to save health care costs compared with usual cancer care because it lowers hospitalization rates for patients who are terminally ill (Simoens and others, 2010). No specific model of palliative care appears to be superior to any other (García-Pérez, Linertová, Martín-Olivera, Serrano-Aguilar, & Benítez-Rosario, 2009).

An important difference exists in the availability of pain relief in HICs and LMICs, however. Even when palliative care programs do not exist in HICs, medications for pain relief are usually available to patients with cancer through conventional medical care. Patients in LMICs are often unable to obtain such medications in any health care setting. Yet, it is
telling that even when pain medications are readily available through conventional cancer care, organized programs for palliative care can both enhance the effectiveness of pain control and lower the costs to the medical care system. Health care providers who focus on and are trained in cancer pain relief can reduce health care costs (at least in HICs) and improve the quality of life for patients and their caregivers (Amery, Rose, Holmes, Nguyen, & Byarugaba, 2009).

In settings in which pain medicines are provided through publicly funded health care or public insurance, government funders are often more sensitive to the delivered price (which includes importation costs, where applicable) and any additional costs incurred to make the medicine available to patients.

Most patients in LICs and LMICs, and many in MICs, do not routinely receive care for cancer in hospitals; many receive no cancer-specific care at all. Where this is the case, improving access to pain relief at the end of life may increase health care costs, because adding care to a baseline of little or no care clearly involves new costs. For the minority of cancer patients who receive end-of-life care in hospitals, improving the availability of pain medicine through dismantling regulatory barriers, educating professionals, and integrating palliative care programs may reduce health care costs as such measures have done in HICs.

A useful first step in assessing the cost of palliative care to a health system is to assess the cost of the most basic oral opioid medicine—oral morphine. Foley and colleagues estimated the cost of oral morphine (and medicines for the treatment of side effects) sufficient for pain relief in the last three months of life in three countries—Chile, Romania, and Uganda—at between US$0.48 and US$0.98 per day (US$ 2004) (Foley and others 2006).

In the United States, the average community pharmacy’s acquisition cost of immediate-release oral morphine tablets sufficient for three days at 60 mcg per day was US$1.20 in 2014. More sophisticated dosing forms may cost more to manufacture; new, patented formulations include in their price a premium for intellectual property. A fentanyl patch, for example, compares at US$4.09 for similar pain relief. Costs vary widely by country, depending on such factors as whether medicines can be produced within the country or must be imported; whether they face import duties; and the nature of the existing medicine distribution system. An unfortunate circumstance is that the factors that make opioids more expensive tend to be prevalent in LMICs.

In some cases, making more effective pain relief medications available to patients with cancer by removing regulatory barriers would involve no costs other than the cost of the medicine itself. Where oral morphine is already available and affordable, for example, the additional cost of providing other medicines deemed essential for palliative care by the IAHPC would be limited largely to the drug costs alone, since the care delivery and narcotics control mechanisms would already be in place. The training for professional staff in the appropriate use of palliative medicines would be an ongoing cost, but that cost would be spread across the population of patients with cancer who are served.
In areas with no effective access to any opioids for these patients, getting the most appropriate medicine to patients is likely to involve additional clinic or home visits with trained personnel, as well as new controls to secure the medicines from theft or abuse.

Since 1993, Hospice Africa Uganda's (HAU) model program has offered palliative care to patients with cancer or AIDS. The service provides palliative care to inpatients at the national children's oncology ward, to outpatients at the HAU site in Kampala, and to children's homes through a community outreach service. The service is nurse-led, with physician backup. It includes basic needs support (food, clothing, blankets, and transport costs); pain and symptom control, including morphine; and other support services. HAU estimated that adding a children's palliative care program at a hospital for children and at HAU’s clinic costs was approximately US$75 (US$ 2007) per child per year. About one-third of that cost was for medicines and pharmacy consumables (Amery and others 2009).

**Patients’ Perspective**

For patients, the most serious problem is that opioids are not available for any price, even if prescribed. Where they are available, price is the next consideration, but reliable information on the price of pain medicines to consumers has been lacking in LMICs. This deficit was the impetus for the IAHPC to begin the OPW, an availability and price survey, using methodology routinely utilized in surveys conducted by HAI. HAI surveys have not, however, included pain medicines.

The OPW pilot took place in a sample of 26 countries, stratified by World Bank income status: low, lower-middle, upper-middle, and high-income (De Lima and others 2014). The endpoints were the availability and price of opioids to the consumer on a single day in each site.

The surveyors—IAHPC members chosen randomly after the countries were stratified into the four income categories—were given a list of five opioids (13 formulations), including those on the WHO’s List of Essential Medicines (17th edition) and additional medicines on the IAHPC list of essential palliative care medicines not on the WHO list:

- Fentanyl: transdermal patch
- Hydromorphone: injectable, oral liquid, oral solid immediate release, oral solid sustained release
- Methadone: oral liquid, oral solid
- Morphine: injectable, oral liquid, oral solid
- Oxycodone: oral solid immediate release, oral solid sustained release.

The price of opioids, when available at all, was highest, in absolute terms, in the poorest countries, except in certain LMICs where they are free to patients; however, these are countries with extremely low consumption, meaning effectively no availability. In the OPW sample, these were Nepal (LIC), Sudan (LMIC), and Romania (UMIC).

The least expensive drug globally, according to the international buyer reference price, was the immediate-release morphine oral solid; this was not the least expensive formulation.
(standardized to a 30-day average dose) in many countries. Fentanyl patches were less expensive in China (Chengdu), Germany, Guatemala, India, Iran, Norway, Poland, Spain, the Philippines, and the United Kingdom, suggesting that these governments subsidize at least some of these medicines and do so differentially.

Conclusion
There is no palliative care without pain control. The benefits of opioid medicines for pain relief to patients with cancer and their families, regardless of their whereabouts, are real and universally observable. This has been known for decades, yet the vast majority of those dying in pain cannot get these medicines, even though the basic forms are inexpensive, oral, and relatively easy to administer at home. The movement to declare pain relief a human right reflects the recognition that its benefits extend to the core of human dignity. The question becomes not whether pain relief with opioids is worth its cost, but what steps will most quickly and efficiently facilitate access to these medications for those who need them.

In 2007, a committee of experts at the Institute of Medicine declared:

At the heart of change invariably is a small core of motivated, dedicated, and charismatic leaders who champion palliative care and hospice services. Often, these are health care professionals who have been burdened with the care of patients dying in unrelieved pain. Progress usually depends on links to expertise and partners from inside and outside the country to assist with a variety of unfamiliar tasks. These include expertise in setting up nongovernmental organizations, creating an inclusive platform for advocacy, and training and mentoring enough people to reach the critical mass needed to begin providing services. Technical, financial, and motivational assistance to local leaders can make these tasks manageable. These same local leaders also become involved in the advocacy work necessary to obtain opioid pain medications and to address the barriers to patient access. (Sloan & Gelband 2007; p 244)

The GOPI recently reported on the current status and next steps required to improve access to pain relief (Cleary, Radbruch, and others 2013). That group identified the cornerstone trinity: medication availability, education, and policy reform. Although this chapter has focused on the cost of medications themselves, the investment in leadership required to reform national and regional policies is a real cost that must be supported. Such costs are front-loaded; once policies supporting the widespread availability of pain medications to patients with cancer are in place, they will need only routine monitoring.

The GOPI report is encouraging. Many international and regional organizations are focusing on palliative care. Efforts are underway to find, train, and support the leaders in each country or area who are the key ingredients to progress in finding the pathways to
greater access for all. Collaboration among international, regional, and national organizations focused on palliative care is increasing. Major donor organizations are supporting the training of clinical leaders through the International Pain Policy Fellowship in 26 countries at present. Most hopeful is the addition of continued technical and financial support for those leaders within their home countries to improve opioid availability and thereby palliative care. The GOPI's census of national and regional regulations governing palliative care medicines may help those leaders and others throughout the world to achieve the requisite political and organizational breakthroughs to move more LMIC countries closer to the goal of providing adequate cancer pain relief as a fundamental right.

References


Sloan, F. A., & Gelband, H. (2007). *Cancer control opportunities in low-and middle-income countries. Cancer Control*. Natl Academy Pr. Retrieved from http://books.google.com/books?hl=en&amp;lr=&amp;id=rJ6LAD7l8nMC&amp;oi=fnd&amp;amp;pg=PA1&amp;amp;dq=Cancer+Control+Opportunities+in+Low+-+Middle+income+countries&amp;ots=lypmpWQGQf&amp;sig=1DGx__xZ_SLYTB5fxNsRS2T1IPM


ENDNOTES

1 African Organisation for Research and Training in Cancer (AORTIC), African Palliative Care Association (APCA), Asia Pacific Hospice Palliative Care Network (APHN), Chinese Society of Clinical Oncology (CSCO), Foundation Akbaraly, Madagascar, Help the Hospices, Indian Association of Palliative Care (IAPC), International Association for Hospice & Palliative Care
(IAHPC), Japanese Society of Medical Oncology (JSVO), Latin American and Caribbean Society of Medical Oncology (SLACOM), Latin American Association for Palliative Care (ALCP), Malaysian Oncology Society (MOS), Middle East Cancer Consortium (MECC), Multinational Association of Supportive Care in Cancer (MASCC), Myanmar Oncology Society, Open Society Foundations (OSF), Worldwide Palliative Care Alliance (WPCA)

2 Sources: Prices obtained from the April 9, 2014, Survey of Drug Acquisition Costs Paid by Retail Community Pharmacies, http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Benefits/Prescription-Drugs/Survey-of-Retail-Prices.html. Equivalent daily doses are based on data provided by the Ventura County Health Care Agency at http://www.vchca.org/docs/hospitals/fentanyl-patch-protocol-(1).pdf?sfvrsn=0.