Global State of Pain Treatment

Access to Palliative Care as a Human Right

HUMAN RIGHTS WATCH

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Access to Medicines and Palliative Care

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Key Terms in Palliative Care and Pain Treatment

Essential medicine: A medicine included in the World Health Organization's Model List of Essential Medicines.

Palliative care: Health care that aims to improve the quality of life of people facing life-limiting illnesses, through pain and symptom relief, and through psychosocial support for patients and their families. Palliative care can be delivered in tandem with curative treatment but its purpose is to care, not to cure.

Life-limiting illness: A broad range of conditions in which painful or distressing symptoms occur; although there may also be periods of healthy activity, there is usually at least a possibility of premature death.

Hospice: A specialist medical facility that provides palliative care. Hospices can be residential or outpatient facilities.

Chronic pain: As used in this report, pain that occurs over weeks, months, or years, rather than a few hours or a few days. Because of its duration, moderate to severe chronic pain should be treated with oral opioids rather than repeated injections, especially for children and people who are emaciated by diseases such as cancer and HIV/AIDS.

Opioid: Drugs derived from the opium poppy and similar synthetic drugs. All strong pain medicines, including morphine and pethidine, are opioids. Weaker opioids include codeine and tramadol.

Morphine: A strong opioid medicine, the gold standard for treatment of moderate to severe pain. Morphine is considered an essential medicine by the World Health Organization in its injectable, tablet, and oral solution formulations. Oral solution mixed from morphine powder is the cheapest formulation.

Basic pain medicines: Non-opioid pain medicines suitable for mild pain. These include paracetamol (also known as acetaminophen), aspirin, diclofenac, and ibuprofen.

Opioid dependence: Physical dependence experienced by a patient treated with opioids over time, such that withdrawal symptoms occur if the opioid is stopped abruptly. Physical dependence is treated by gradually reducing the opioid dose. It is distinct from addiction, a pattern of behaviors including compulsive use of drugs despite harm, which is uncommon in patients receiving opioid pain treatment.

Primary healthcare facility: A medical facility that a patient will usually attend first in a non-emergency situation, such as a clinic or healthcare center. Many patients globally only have access to primary-level health care.

Tertiary hospital: A large hospital at the peak of a hierarchy of hospitals. A tertiary hospital provides all of the major medical services available in a country and admits patients referred from smaller hospitals that provide fewer services.

Summary

Every year, tens of millions of people around the world with life-threatening illnesses suffer unnecessarily from severe pain and other debilitating symptoms because they lack access to palliative care, an inexpensive health service that aims to improve the quality of life of people with serious health conditions. As Human Rights Watch has documented, their suffering is often so intense they would rather die than live with their pain.

Although the World Health Organization (WHO) considers palliative care an integral component of cancer care and has urged countries to improve its availability, too often palliative care continues to be the neglected child of the health care family, receiving low priority from health policy makers and health care professionals and almost no funding. This is despite the fact that experts estimate that 60 percent of those who die each year in the developing world—a staggering 33 million people—need palliative care.[1] In part, this is because most cancer patients in developing countries are diagnosed when they have advanced disease and cannot be cured, so the only treatment option is palliative care.

Fifty years ago this year, the world community adopted the 1961 Single Convention on Narcotic Drugs, which stated that narcotic drugs are "indispensible for the relief of pain and suffering," a core function of palliative care. It also instructed states to make adequate provision to ensure their availability. Yet, today these essential pain relieving drugs continue to be so poorly available in most of the world that WHO estimates that each year tens of millions of people suffer untreated moderate to severe pain, including 5.5 million terminal cancer patients and 1 million patients in the last phases of HIV/AIDS.[2]

In 2009 and 2010 Human Rights Watch surveyed palliative care experts in 40 countries to map the barriers that impede the availability of palliative care and pain treatment worldwide. We asked them about the situation in their country in three areas that WHO has said are critical to the development of palliative care: health policy, education of healthcare workers, and drug availability. We also analyzed publicly available data from all countries on consumption of opioid medications that can be used to treat chronic pain and compared them to cancer and AIDS mortality data to assess how well the need for pain treatment is met.

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[1] J. Stjernsward & D. Clark, *Palliative Medicine: A Global Perspective*, in Derek Doyle et al., eds., *Oxford Textbook of Palliative Medicine* (Oxford: Oxford University Press, 3rd ed., 2003) pp. 1199-1222.

[2] "Briefing Note: Access to Controlled Medicines Program," *World Health Organisation Briefing Note*, February 2009, http://www.who.int/medicines/areas/quality_safety/ACMP_BrNoteGenrl_EN_Feb09.pdf (accessed August 6, 2010).

We found enormous unmet need for pain treatment. Fourteen countries reported no consumption of opioid pain medicines between 2006 and 2008, meaning that there are no medicines to treat moderate to severe pain available through legitimate medical channels in those countries. In a further eight countries that do not report their consumption of opioids, the situation is likely similar, as governments participating in the international drug control regime will not export opioids to those that do not. Thirteen other countries do not consume enough opioids to treat even one percent of their terminal cancer and HIV/AIDS patients. These countries are concentrated in Sub-Saharan Africa, but are also found in Asia, the Middle East and North Africa, and Central America.

Some of the world's most populous countries have very poor availability of opioids for pain relief. Consequently, in each of China, India, Indonesia, Nigeria, Russia, and South Africa, at least 100,000 people die from cancer or HIV/AIDS each year without access to adequate pain treatment. The combined suffering due to lack of opioid pain medicines worldwide is staggering. Our calculations confirm that more than 3.5 million terminal cancer and HIV/AIDS patients die each year without access to adequate pain treatment, a very conservative estimate that assumes that all opioids are used to treat this patient group. It should be considered merely an indicator of the enormous unmet need for pain treatment. In reality, the limited opioids that are available are used to treat patients suffering pain from other causes too. So the real number of terminal cancer and HIV/AIDS patients with untreated pain must be higher, and many other patients with non-terminal cancer, HIV/AIDS, and with other diseases are also suffering untreated pain.

In many of the 40 countries surveyed we found multiple barriers to palliative care in each of the three areas. Only 11 of the countries surveyed have a national palliative care policy, despite WHO's recommendation that countries put in place such policies. Most of the countries surveyed have inadequate opportunities for medical education in pain management or palliative care and in four of the countries surveyed–Cameroon, Ethiopia, Jordan, and Tanzania–no such education is available at all.

Thirty-three of the forty countries surveyed impose some kind of restrictive regulation on morphine prescribing that is not required by the international drug conventions. Thirty-one of the countries require that a special prescription form be used to prescribe morphine, and fourteen require doctors to have a special license to prescribe morphine. Although WHO has recommended that countries consider allowing nurses to prescribe morphine in order to

improve accessibility to this essential medicine, only three countries (the United States and Uganda) do so.[3]

Our survey also identified some bright spots. Countries like Colombia, Jordan, Romania, Uganda, and Vietnam have undertaken comprehensive reform programs to improve access to palliative care. In these countries, leaders from the medical community have worked with domestic and international NGOs and their own governments to assess what barriers are preventing patients from accessing pain treatment and to address these barriers through policy development, law reform, and improving medical education and drug supply.

Governments have an obligation to address the widespread and unnecessary suffering caused by the poor availability of palliative care worldwide. Under international human rights law, governments must ensure equal access to the right to health and take reasonable steps to protect all against inhuman and degrading treatment. This should mean that health policies address the needs of people who require palliative care services; that healthcare workers have at least basic palliative care knowledge and skills; that medications like morphine are available throughout the country; and that drug regulations do not impede the ability of patients facing severe pain to get appropriate treatment. Failure to take such steps will likely result in a violation of the right to health. In some cases, failure to ensure patients have access to treatment for severe pain will also result in violation of the prohibition of cruel, inhuman, and degrading treatment.

The international community should address the poor availability of palliative care with urgency. Although WHO has urged countries to ensure the availability of palliative care, its governing body, the World Health Assembly, has largely been silent on the issue, despite the large numbers of people who require palliative care and the great suffering lack of palliative care causes. It needs to urgently show leadership and instruct its members to take effective steps to improve palliative care.

In recent years, the UN drug policy bodies, the Commission on Narcotic Drugs (CND), the UN Office on Drugs and Crime (UNODC), and the International Narcotics Control Board (INCB), have significantly increased the amount of attention that they pay to the availability of strong pain medications. In 2010 CND adopted a resolution on the issue, and UNODC discussed it prominently in the World Drug Report, its flagship publication. In 2011 the INCB published a special supplement to its Annual Report devoted to this issue. Improving access

[3] In the United States, most, but not all states, allow nurses to prescribe morphine. In Cameroon nurses with training in palliative care prescribe morphine, but it is not clear whether the law authorizes this.

to essential medicines should be one aspect of a greater emphasis on promoting human rights within the UN drug policy bodies' work. To mark the 50th anniversary of the 1961 Single Convention on Narcotic Drugs, these UN bodies should build on this momentum and develop concrete plans to implement the CND resolution and the INCB's recommendation.

I. Background: Palliative Care and Pain Treatment

The Need for Palliative Care and Pain Treatment

Palliative care is a compassionate response to the suffering of patients with life-limiting illnesses like cancer or HIV/AIDS. It seeks to improve the quality of life of patients and their families facing life-limiting illness. Unlike curative health care, its purpose is not to cure a patient or extend his or her life, but rather to prevent and relieve pain and other physical, psychosocial, and spiritual problems. As Dame Cicely Saunders, founder of the first modern hospice and a lifelong advocate for palliative care, is widely reported to have said, palliative care is about "adding life to the days, not days to the life."

The World Health Organization recognizes palliative care to be an integral part of health care for cancer, HIV/AIDS, and various other health conditions, that should be available to those who need it.[4] While palliative care is often associated with cancer, a much wider circle of patients with health conditions that limit their ability to live a normal life can benefit from it, including those with dementia, heart, liver or renal disease, or chronic and debilitating injuries. Palliative care is often provided alongside curative care services.

WHO has emphasized that palliative care is particularly important in developing countries, where the burden of HIV/AIDS is greatest, treatment is not universally available, and many patients with cancer seek medical attention only when the disease is in an advanced stage, beyond cure but causing severe pain.[5] While palliative care providers may offer inpatient services at hospices or hospitals, their focus is frequently on home-based care for people who are terminally ill or have life-limiting conditions, thus reaching people who otherwise might not have any access to healthcare services, including pain management. WHO has urged countries with limited resources to focus on developing home-based palliative care services, which can be provided by a visiting nurse or community health worker under the supervision of a doctor, making them very cost-effective.[6]

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[4] WHO, "National Cancer Control Programmes: Policies and Managerial Guidelines, second edition," pp. 86-87.

[5] World Health Organization, "National Cancer Control Programs: Policies and Managerial Guidelines," 2002, http://www.who.int/cancer/media/en/408.pdf (accessed August 6, 2010) pp. 85-86.

[6] Ibid., pp. 85, 91.

Moderate to severe pain is a common symptom of cancer and HIV/AIDS, as well as of many other health conditions.[7] A recent review of pain studies in cancer patients found that more than 50 percent experience pain,[8] and research consistently finds that 60 to 90 percent of patients with advanced cancer experience moderate to severe pain.[9]

Although no population-based studies of AIDS-related pain have been published, multiple studies report that 60 to 80 percent of patients in the last phases of illness experience significant pain.[10] Increasing availability of antiretroviral treatment (ART) in middle and low-income countries is prolonging the lives of many people with HIV. While people receiving ART generally have less pain than people who are not able to obtain it, many continue to experience pain symptoms.[11] ART can itself be a cause of pain, especially neuropathic pain caused by damaged nerves.[12]

The Consequences of Untreated Pain and Lack of Palliative Care

Moderate to severe pain, as well as other physical and psychosocial symptoms, have a profound impact on quality of life. Pain can lead to reduced mobility and consequent loss of strength; compromise the immune system; and interfere with a person's ability to eat,

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[7] Pain is also a symptom in various other diseases and chronic conditions and acute pain is often a side effect of medical procedures. This paper, however, focuses primarily on chronic pain.

[8] M. van den Beuken-van Everdingen et al., "Prevalence of Pain in Patients with Cancer: A Systematic Review of the Past 40 Years," *Annals of Oncology*, vol. 18, no. 9 (2007) pp. 1437-1499.

[9] Charles S. Cleeland et al., "Multidimensional Measurement of Cancer Pain: Comparisons of U.S. and Vietnamese Patients," *Journal of Pain and Symptom Management* vol. 3, no. 1 (1988); Charles S. Cleeland et al., "Dimensions of the Impact of Cancer Pain in a Four Country Sample: New Information from Multidimensional Scaling," *Pain*, vol. 67, no. 2-3 (1996) pp. 267-73; Randall L. Daut & Charles S. Cleeland, "The Prevalence and Severity of Pain in Cancer," *Cancer* vol. 50, no. 9 (1982) p. 1913; Kathleen M. Foley, *Pain Syndromes in Patients with Cancer*, in Kathleen M. Foley et al., eds., *Advances in Pain Research and Therapy* (1979) pp. 59-75;Kathleen M. Foley, "Pain Assessment and Cancer Pain Syndromes," in Derek Doyle, Geoffrey W.C. Hanks and Neil MacDonald, *Oxford Textbook of Palliative Medicine* (Oxford: Oxford University Press, 2nd ed., 1999), pp. 310-331; J. Stjernsward & D. Clark, *Palliative Medicine: A Global Perspective*, in Derek Doyle et al., eds., *Oxford Textbook of Palliative Medicine* (Oxford: Oxford University Press, 3rd ed., 2003) pp. 1199-1222.

[10] K. Green, *Evaluating the Delivery of HIV Palliative Care Services in Out-Patient Clinics in Viet Nam, Upgrading Document*, London School of Hygiene and Tropical Medicine (2008); Kathleen M. Foley et al., "Pain Control for People with Cancer and AIDS," in Dean T Jamison et al., *Disease Control Priorities in Developing Countries* (Washington: World Bank Publications, 2nd ed. 2003), pp. 981-994; Francois Larue et al., "Underestimation and Under-Treatment of Pain in HIV Disease: A Multicentre Study," *British Medical Journal,* vol. 314 (1997) http://www.bmj.com/cgi/content/full/314/7073/23 (accessed August 6, 2010) p. 23; J. Schofferman & R. Brody, *Pain in Far Advanced AIDS*, in K. M. Foley et al*.*, eds.*, Advances in Pain Research and Therapy* (1990) pp. 379-386; E. J. Singer et al., "Painful Symptoms Reported by Ambulatory HIV-Infected Men in a Longitudinal Study," *Pain,* vol. 54 (1993) pp. 15-19.

[11] P. Selwyn & M. Forstein, "Overcoming the False Dichotomy of Curative vs. Palliative Care for Late-Stage HIV/AIDS," *Journal of the American Medical Association*, vol. 290 (2003) pp. 806-814.

[12] M. C. Dalakas, "Peripheral Neuropathy and Antiretroviral Drugs", *Journal of the Peripheral Nervous System*, vol. 6, no. 1 (2001) pp. 14-20; Several studies have found that between 29 and 74 percent of people who receive antiretroviral treatment experience pain symptoms: K. Green, *Evaluating the Delivery of HIV Palliative Care Services in Out-Patient Clinics in Viet Nam, Upgrading Document*, London School of Hygiene and Tropical Medicine (2008).

concentrate, sleep, or interact with others.[13] A WHO study found that people who live with chronic pain are four times more likely to suffer from depression or anxiety.[14] The physical and psychological effects of chronic pain can directly influence the course of disease and also reduce patients' adherence to treatment.[15]

Pain also has social consequences for patients and their caregivers, including inability to work, care for children or other family members, and participate in social activities.[16] At the end of life, pain can interfere with a patient's ability to bid farewell to loved ones and make final arrangements.

Impact of Palliative Care and Pain Management

Most suffering caused by pain is avoidable as medicines to treat pain are effective, safe, inexpensive, and generally easy to administer.[17] WHO's Pain Relief Ladder recommends the use of increasingly potent painkillers as pain becomes more severe, from basic pain medicines (such as acetaminophen, aspirin, or ibuprofen) to strong pain medicines such as morphine.[18]

Like morphine, all strong painkillers are opioids: extracts of the poppy plant or similar synthetic drugs. WHO's Model List of Essential Medicines includes morphine in oral tablet, oral solution, and injectable formulations.[19] For chronic pain management, WHO recommends oral morphine given at regular intervals around the clock.[20] Patients can easily take oral morphine in their own homes and prescribing it avoids the pain of regular injections, which is especially important for children and patients whose muscle tissue is emaciated by cancer or HIV/AIDS. Similarly, with relatively inexpensive interventions, palliative care providers can treat a variety of other

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[13] F. Brennan, D.B. Carr and M. Cousins, "Pain Management: A Fundamental Human Right," *Anesthesia & Analgesia,* vol. 105 (2007) pp. 205-221.

[14] O. Gureje et al., "Persistent Pain and Well-Being: A World Health Organization Study in Primary Care", *Journal of the American Medical Association*, vol. 280 (1998) pp. 147-51. See also: B. Rosenfeld et al., "Pain in Ambulatory AIDS Patients. II: Impact of Pain on Psychological Functioning and Quality of Life," *Pain,* vol. 68, no. 2-3 (1996) pp. 323–28.

[15] B. Rosenfeld et al., "Pain in Ambulatory AIDS Patients. II: Impact of Pain on Psychological Functioning and Quality of Life," *Pain*, pp. 323 – 28.

[16] R. L. Daut et al., "Development of the Wisconsin Brief Pain Questionnaire to Assess Pain in Cancer and Other Diseases," *Pain*, vol. 17, no. 2 (1983) pp. 197 – 210.

[17] World Health Organization, "Achieving Balance in National Opioid Control Policy," 2000, http://apps.who.int/medicinedocs/en/d/Jwhozip39e/ (accessed August 6, 2010).

[18] World Health Organization, "WHO's Pain Ladder," 2010, http://www.who.int/cancer/palliative/painladder/en/ (accessed August 6, 2010). This has been developed for cancer but is also referred to for other conditions.

[19] World Health Organization, "Model List of Essential Medicines - 16th List," March 2009, http://www.who.int/selection_medicines/committees/expert/17/sixteenth_adult_list_en.pdf (accessed 6 August 2010).

[20] World Health Organization, *Cancer Pain Relief: a Guide To Opioid Availability* 14 (2nd ed. 1996).

symptoms that are common among people with life-threatening illnesses, including breathlessness, nausea, anxiety, and depression.

Numerous studies have shown that patients who receive palliative care enjoy greater quality of life, have fewer distressing physical symptoms, and a lower incidence of depression or anxiety. A recent study published in the New England Journal of Medicine found that, in addition to improving quality of life, when palliative care was started shortly after diagnosis in patients with metastatic lung cancer, they actually lived an average of three months longer than patients that did not have access to palliative care.[21]

The Palliative Care and Pain Treatment Gap

WHO and the INCB have repeatedly drawn attention to the enormous unmet need for pain treatment and called for countries to meet this need through low-cost palliative care services. WHO estimates that tens of millions of people each year suffer untreated moderate to severe pain, including 5.5 million terminal cancer patients and 1 million patients in the last phases of HIV/AIDS. The president of the INCB has stated that access to morphine and other strong pain medicines is "virtually non-existent in over 150 countries."[22]

In 2006 the International Observatory on End of Life Care published a study that found that no palliative care activity could be identified in 78 of 234 countries reviewed; in 41 countries it found some preparation for palliative care delivery but no actual services; and in 80 countries it found "localized provision" of palliative care by a small number of isolated services. In only 35 countries did the study find that palliative care was "approaching integration" into health services.[23]

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[21] Jennifer S. Temel, M.D., Joseph A. Greer, Ph.D., Alona Muzikansky, M.A., Emily R. Gallagher, R.N., Sonal Admane, M.B., B.S., M.P.H., Vicki A. Jackson, M.D., M.P.H., Constance M. Dahlin, A.P.N., Craig D. Blinderman, M.D., Juliet Jacobsen, M.D., William F. Pirl, M.D., M.P.H., J. Andrew Billings, M.D., and Thomas J. Lynch, M.D., Early Palliative Care for Patients with Metastatic Non–Small-Cell Lung Cancer N Engl J Med 2010; 363:733-742, August 19, 2010

[22] "Briefing Note: Access to Controlled Medicines Program," *World Health Organisation Briefing Note*, February 2009, http://www.who.int/medicines/areas/quality_safety/ACMP_BrNoteGenrl_EN_Feb09.pdf (accessed August 6, 2010); Sevil Atasoy, *Statement by Professor Sevil Atasoy President of the International Narcotics Control Board* (2009) http://www.incb.org/documents/President_statements_09/2009_ECOSOC_Substantive_Session_published.pdf p. 2; World Health Organization, "Model List of Essential Medicines - 16th List," March 2009, http://www.who.int/selection_medicines/committees/expert/17/sixteenth_adult_list_en.pdf (accessed August 6, 2010).

[23] Michael Wright and others, "Mapping levels of palliative care development: a global view," International Observatory on End of Life Care, Lancaster University, November 2006, www.eolc-observatory.net/global/pdr/world_map.pdf (accessed February 10, 2011).

Barriers to Palliative Care and Pain Treatment

There is no lack of information about the reasons why so many people who suffer from life-limiting illnesses do not have access to adequate pain treatment and palliative care. In dozens of publications spanning several decades, WHO, INCB, health care providers, academics and others have chronicled the barriers in great detail.[24] A common theme of many of these publications is the failure of many governments around the world to take reasonable steps to improve access to pain treatment and palliative care services.

Barriers can be divided into three areas: lack of health policies in support of palliative care development; lack of relevant training for healthcare workers; and poor availability of essential palliative care drugs. Within this latter category, there are a number of different common barriers, including the failure of states to put in place functioning drug supply systems, existence of unnecessarily restrictive drug control regulations and practices, fear among healthcare workers of legal sanctions for legitimate prescribing of opioid medications, and the unnecessarily high cost of pain medications. A more detailed discussion of these barriers can be found in Human Rights Watch's March 2009 report, *"Please do not make us suffer anymore…": Access to Pain Treatment as a Human Right*.

[24] Human Rights Watch, *"Please, do not make us suffer any more…": Access to Pain Treatment as Human Right*, March 2009, http://www.hrw.org/sites/default/files/reports/healtho309web_1.pdf.

II. Survey Findings: Global Overview of Barriers to Pain Treatment

Our survey mapped barriers to palliative care related to health policy, education of healthcare workers, and drug availability in 40 countries. We asked healthcare workers questions about a number of common barriers in each of these areas to understand how widespread they are. The questions are based on research that Human Rights Watch previously conducted for its March 2009 report, *"Please, do not make us suffer anymore…": Access to Pain Treatment as a Human Right*.[25]

The results of this survey confirm the general findings in that report but provide a more detailed picture of the specific barriers that exist in individual countries, as well as the prevalence of these barriers internationally. They provide a roadmap for individual countries and the international community for steps they need to take to improve palliative care availability. Our comparisons of consumption of opioid medications with mortality figures for cancer and HIV/AIDS demonstrate just how poor the availability of pain treatment is in many countries around the world.

We found enormous unmet need for pain treatment. Fourteen countries—Antigua and Barbuda, Bolivia, Cameroon, Comoros, Djibouti, Gambia, Guinea, Guinea-Bissau, Kiribati, Honduras, Swaziland, Solomon Islands, Tanzania and Tuvalu—reported no consumption of opioid pain medicines between 2006 and 2008, meaning that there are no medicines to treat moderate to severe pain available through legitimate medical channels in those countries.

In a further eight countries that do not report opioid consumption to the International Narcotics Control Board—Afghanistan, Belize, Equatorial Guinea, Fiji, Liberia, Niue, Somalia, and Timor-Leste—the situation is likely similar, as countries that participate in the international drug control regime undertake not to export opioids to these countries. Thirteen other countries—Burkina Faso, Burundi, Cambodia, Central African Republic, Chad, Cote d'Ivoire, Ethiopia, Haiti, Malawi, Mali, Niger, Nigeria, and Rwanda—do not consume enough opioids to treat even one percent of their terminal cancer and HIV/AIDS patients.

Of course, this means that in all of these countries, each year tens of thousands of patients suffer unnecessary pain. For example in Nigeria, more than 173,000 people with terminal cancer and HIV/AIDS patients need treatment for moderate to severe pain each year, but all the

[25] Human Rights Watch, *"Please, do not make us suffer any more…": Access to Pain Treatment as Human Right*, March 2009, http://www.hrw.org/sites/default/files/reports/healtho309web_1.pdf. See Appendix 2 for survey questions.

opioids consumed in Nigeria could treat just 274 such patients. In Ethiopia, more than 85,000 such patients need treatment, but there are drugs for less than 500. Less populous Cambodia still has more than 14,000 terminal cancer and HIV/AIDS patients suffering pain each year but drugs to treat just 91 of them. In addition to Nigeria, China, India, Indonesia, and Russia all have poor availability of opioids for pain relief and more than 100,000 patients who die from cancer or HIV/AIDS each year without access to adequate pain treatment.

The combined suffering due to lack of opioid pain medicines worldwide is staggering. Our calculations confirm that more than 3.5 million terminal cancer and HIV/AIDS patients die each year without access to adequate pain treatment. This includes at least 1.7 million terminal cancer and HIV/AIDS patients in Asia, 1.2 million in sub-Saharan Africa, 480,000 in Europe, 180,000 in the Middle East and North Africa, and 100,000 in the Americas. It must be emphasized that these are very conservative estimates, which assume that all opioids are used to treat this patient group. This is why it is lower than WHO's estimate that each year 5.5 million terminal cancer patients and 1 million patients in the last phases of HIV/AIDS suffer without pain treatment.[26]

Our calculations focus on patients with terminal cancer and HIV/AIDS because their need is great and because mortality data is available for these causes for most countries but not for many other diseases that cause immense pain. In reality, the limited opioids that are available are used to treat patients suffering pain from other causes, so the real number of terminal cancer and HIV/AIDS patients with untreated pain must be higher, and many other patients with non-terminal cancer, HIV/AIDS, and with other diseases are also suffering untreated pain. Consequently, the unmet need of terminal cancer and HIV/AIDS patients must be considered merely an indicator of even greater unmet need for pain treatment.

Availability of Policies that Promote Palliative Care and Pain Treatment

WHO has stressed the importance of comprehensive strategies to improve access to palliative care.[27] Without such policies, it is difficult to ensure that all relevant government and nongovernment agencies act in a coordinated fashion to address all barriers that impede the development of palliative care simultaneously. Under the right to health,

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[26] "Briefing Note: Access to Controlled Medicines Program," *World Health Organisation Briefing Note*, February 2009, http://www.who.int/medicines/areas/quality_safety/ACMP_BrNoteGenrl_EN_Feb09.pdf (accessed August 6, 2010).

[27] World Health Organization, *Cancer Pain Relief: a Guide To Opioid Availability*, (2nd ed. 1996). The need for a comprehensive palliative care policies is also stressed by academic experts: Stjernsward, J. & D. Clark, *Palliative Medicine: A Global Perspective*, in Derek Doyle et al., eds., *Oxford Textbook of Palliative Medicine* (Oxford: Oxford University Press, 3rd ed. 2003) pp. 1199-1222; DFID Health Resource Center, *Review of Global Policy Architecture and Country Level Practice on HIV/AIDS and Palliative Care* (2007).

countries are obliged to develop health policies that address the needs of the entire population, including people facing life-threatening illnesses.[28]

In our survey, we sought information about the availability of national palliative care policies; whether palliative care was addressed in national cancer and HIV control policies or plans; and whether oral and injectable morphine were included on national essential medicines lists.

National Palliative Care Policies: Of the 40 countries surveyed, 29 did not have a national palliative care policy. Those that did are Argentina, Brazil, Indonesia, France, the Philippines, Poland, South Korea, Turkey, Uganda, the UK, and Vietnam. Although survey respondents were not directly asked about implementation, in two of these countries, Argentina and Brazil, the respondents told Human Rights Watch that the governments were not actually implementing the palliative care policies.[29] In Indonesia, survey respondents said that policies were only partially implemented.[30]

National Cancer Control Policies and Plans: National cancer control policies and plans of 24 of the 40 countries surveyed make reference to pain management or palliative care. Eight countries do not have a national cancer control policy or plan at all. In some countries, like India, the reference to palliative care is essentially rhetorical as it is not backed up by an action plan, targets, or budget allocation.[31] It is not clear in how many of the other countries surveyed that is the case.

National HIV/AIDS Control Policies and Plans: In 23 countries surveyed, national AIDS control policies did not make reference to palliative care, including three high-burden countries—Cameroon, Ethiopia, and Kenya.[32] AIDS control policies in 11 countries surveyed made reference to palliative care, including a number of high burden countries like South Africa, Tanzania, Nigeria, and Uganda. Four of the countries surveyed do not have a national AIDS control policy at all.

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[28] UN Committee on Economic, Social and Cultural Rights, "Substantive Issues Arising in the Implementation of the International Covenant on Economic, Social and Cultural Rights," General Comment No. 14, The Right to the Highest Attainable Standard of Health, E/C.12/2000/4 (2000), http://www.unhchr.ch/tbs/doc.nsf/(Symbol)/40d009901358b0e2c1256915.

[29] Human Rights Watch email correspondence with Dr Roberto Wenk, Argentina, October 18, 2010; Human Rights Watch email correspondence with Dr Roberto Bettega, Brazil, December 10, 2010.

[30] Human Rights Watch interviews with Indonesian doctors who requested anonymity, January 19, 2010, and November 5, 2010.

[31] Human Rights Watch, *Unbearable Pain: India's Obligation to Ensure Palliative Care,* October 2009, http://www.hrw.org/en/reports/2009/10/28/unbearable-pain-0.

[32] "High-burden" is defined as adult HIV prevalence greater than 5%; data from UNAIDS, *Report on the Global AIDS Epidemic*, 2010, http://www.unaids.org/globalreport/ (accessed March 11, 2011).

The fact that palliative care was mentioned in more than twice as many cancer policies may reflect the fact that palliative care has long been associated with cancer control. For example, WHO has made extensive recommendations on developing palliative care as part of cancer control programs but has said little about its importance for patients with other diseases.[33] Palliative care and pain treatment have often been neglected in national and international responses to HIV/AIDS, despite significant prevalence of pain and other symptoms in people living with HIV/AIDS.[34]

National Essential Medicines Lists: WHO considers injectable and oral morphine essential medicines for the treatment of pain that should be available to all people who need them.[35] Of the countries surveyed, only South Korea did not have injectable morphine on its essential medicines list; six had not included oral morphine: South Korea, Tanzania, Egypt, Iran, Ukraine and Georgia. Three countries–Germany, the United Kingdom (UK), and the United States (US)—do not have an essential medicines list.

Training for Healthcare Workers

One of the largest obstacles to the provision of good palliative care and pain treatment services in many countries is the lack of training for healthcare workers. Many do not have an adequate understanding of palliative care, do not know how to provide it and subscribe to various myths about morphine and other opioid analgesics. Key informants from 16

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[33] World Health Organization, *Cancer Pain Relief: a Guide To Opioid Availability*, (2nd ed. 1996); World Health Organization, "National Cancer Control Programs: Policies and Managerial Guidelines," 2002, http://www.who.int/cancer/media/en/408.pdf (accessed August 6, 2010), pp. 86.

[34] K. Green, *Evaluating the Delivery of HIV Palliative Care Services in Out-Patient Clinics in Viet Nam, Upgrading Document*, London School of Hygiene and Tropical Medicine (2008); Kathleen M. Foley et al., "Pain Control for People with Cancer and AIDS," in Dean T Jamison et al., *Disease Control Priorities in Developing Countries* (Washington: World Bank Publications, 2nd ed. 2003), pp. 981-994; Francois Larue et al., "Underestimation and Under-Treatment of Pain in HIV Disease: A Multicentre Study," *British Medical Journal,* vol. 314 (1997) http://www.bmj.com/cgi/content/full/314/7073/23 (accessed August 6, 2010) p. 23; J. Schofferman & R. Brody, *Pain in Far Advanced AIDS*, in K. M. Foley et al., eds., *Advances in Pain Research and Therapy* (1990) pp. 379-386; E. J. Singer et al., "Painful Symptoms Reported by Ambulatory HIV-Infected Men in a Longitudinal Study," *Pain,* vol. 54 (1993) pp. 15-19; P. Selwyn & M. Forstein, "Overcoming the False Dichotomy of Curative vs. Palliative Care for Late-Stage HIV/AIDS," Journal of the American Medical Association, vol. 290 (2003) pp. 806-814; Richard Harding et al., "Does Palliative Care Improve Outcomes for patients with HIV/AIDS: A systematic review of the evidence," Sexually Transmitted Infections , vol. 81 (2005), pp. 5-14; Justin Amery et al., "The Beginning of Children's Palliative Care in Africa: Evaluation of a Children's Palliative Care Service in Africa," Journal of Palliative Medicine, vol. 12 (2009), pp. 1015-1021.

[35] World Health Organization, "Model List of Essential Medicines - 16th List," March 2009, http://www.who.int/selection_medicines/committees/expert/17/sixteenth_adult_list_en.pdf (accessed August 6, 2010), includes the following opioid analgesics: Codeine Tablet: 30 mg (phosphate); Morphine Injection: 10 mg (morphine hydrochloride or morphine sulfate) in 1-ml ampoule; Oral liquid: 10 mg (morphine hydrochloride or morphine sulfate)/5 ml., Tablet: 10 mg (morphine sulfate); Tablet (prolonged release): 10 mg; 30 mg; 60 mg (morphine sulfate).

countries surveyed told us when asked whether healthcare workers feared potential legal repercussions when using opioid medications that the bigger problem was that healthcare workers in their countries were reluctant to use opioid medications because of exaggerated fears that they would cause dependence syndrome or respiratory distress in patients.[36]

To overcome these obstacles, WHO has recommended that countries provide training on palliative care to healthcare workers.[37] Under the right to health, countries are obliged to ensure that healthcare workers at least receive training in the basics of palliative care.[38] Given that almost all doctors will encounter patients in need of palliative care and pain treatment, instruction in these disciplines should be a standard part of undergraduate medical curriculum and postgraduate training in medical disciplines that routinely deal with patients who require palliative care.

In our survey, we sought information on the availability of instruction on palliative care in undergraduate and postgraduate medical studies as well as continuing medical education. We also asked key informants whether palliative care instruction in undergraduate studies was mandatory.

> **Undergraduate Medical Studies:** Instruction in pain management (whether or not as part of instruction in palliative care) was available in all undergraduate programs in just five countries surveyed (France, Kenya, Poland, Uganda, and the United Kingdom). It was compulsory for undergraduate medical students in four of them: France, Poland, Uganda, and the United Kingdom. In Germany, compulsory instruction in palliative care in undergraduate medical studies will gradually be introduced starting in 2014.[39] In 33 of 40 countries instruction in pain management is available in some undergraduate medical programs.
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> **Postgraduate Medical Studies:** In the majority of surveyed countries—31 of 40—survey respondents reported that there are opportunities for postgraduate training in pain management (either as part of palliative care instruction or separately). In Ethiopia, Tanzania, Cameroon, Guatemala, Iran, Jordan, and China there is no postgraduate training in palliative care available at all. Many respondents,

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[36] Such fears were mentioned by healthcare workers from Bangladesh, Brazil, Cambodia, Cameroon, China, Colombia, the Dominican Republic, Ethiopia, Guatemala, Nepal, Philippines, South Africa, South Korea, Tanzania, Thailand, and Vietnam.

[37] World Health Organization, *Cancer Pain Relief: a Guide To Opioid Availability* (2nd ed. 1996).

[38] See Chapter IX for more detail on governments' obligation to ensure that healthcare workers receive education in palliative care.

[39] Human Rights Watch interview with Professor Lucas Radbruch, Germany, February 4, 2010.

particularly in Africa and Asia, stated that healthcare workers who wanted to specialize in palliative care completed postgraduate training by correspondence or in foreign countries.

Drug Availability

Because of their potential for abuse, morphine and all other strong pain medicines are regulated under the Single Convention on Narcotic Drugs and national drug-control laws and regulations.[40] This means that their manufacture, import and export, distribution, prescription, and dispensation can only occur with government authorization, overseen by a body created by the Single Convention, the International Narcotics Control Board.

The fact that morphine and other strong analgesics are controlled medications has given rise to a host of problems related to their availability, as countries have struggled to put in place functioning supply and distribution systems; their accessibility, as many countries have enacted drug control laws that make it difficult for doctors to prescribe the medications and for patients to receive them; and their cost, as control measures and other factors have unnecessarily driven up the price of these medications, which can be produced at very low cost.

WHO has urged countries to put in place functioning supply and distribution systems and to ensure that drug control measures do not unnecessarily impede their availability and accessibility.[41] Under the UN drug conventions, countries are obliged to ensure the "adequate provision" of controlled medications while preventing their misuse or diversion.[42] Under international human rights law, countries are obliged to ensure the availability and accessibility of essential medications like morphine.[43]

In our survey, we sought information to assess the quality of countries' supply and distribution systems for opioid analgesics, their drug regulations, and the cost of opioid analgesics.

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[40] Single Convention on Narcotic Drugs, United Nations, *Single Convention on Narcotic Drugs* (1961) http://www.incb.org/pdf/e/conv/convention_1961_en.pdf (accessed August 6, 2010).

[41] World Health Organization, *Cancer Pain Relief: a Guide To Opioid Availability* (2nd ed. 1996).

[42] Single Convention on Narcotic Drugs, United Nations, *Single Convention on Narcotic Drugs* (1961) http://www.incb.org/pdf/e/conv/convention_1961_en.pdf (accessed August 6, 2010), preamble.

[43] UN Committee on Economic, Social and Cultural Rights, "Substantive Issues Arising in the Implementation of the International Covenant on Economic, Social and Cultural Rights," General Comment No. 14, The Right to the Highest Attainable Standard of Health, E/C.12/2000/4 (2000), http://www.unhchr.ch/tbs/doc.nsf/(Symbol)/40d009901358b0e2c1256915 para. 43.

Supply and Distribution System for Opioid Analgesics

As the import, production, and distribution of controlled medicines are under exclusive government control, they will simply not be available without government action to put in place effective supply systems. Governments need to provide annual estimates to the INCB for the amounts of morphine and other opioid medications needed. They must also approve production or import of such medications; provide licenses to health care providers and pharmacies before these can stock and dispense them; and authorize movements between producers, pharmacies, and health facilities.

In our survey, we sought to establish how widely available morphine is in different types of healthcare facilities in countries as a way of measuring the effectiveness of the supply and distribution systems governments have put in place. In particular, we asked about the availability of injectable morphine in hospitals and oral morphine in tertiary hospitals, other hospitals, pharmacies, health centers, hospices, and AIDS clinics. We also asked whether, in the experience of the key informants, morphine was harder to access outside major cities and whether health care providers were involved in developing their government's estimates of its need for opioid medications.

Injectable Morphine: Key informants reported that injectable morphine is available in all hospitals in just 10 of the 40 countries surveyed: France, Georgia, Iran, Japan, Poland, Russia, Thailand, Turkey, the UK, and the US. In a further 12 countries, it was reported to be available in most hospitals. Key informants said that injectable morphine was available only in "some" hospitals in the remaining 18 countries.

Oral Morphine: Two countries surveyed, Ukraine and Iran, do not have oral morphine at all. In Ukraine, despite recommendations by WHO to the contrary, injectable morphine is used to treat chronic pain, while in Iran a weaker oral opioid, Tramadol, is used. Table 1 contains an overview of the data on availability of oral morphine in the various healthcare settings.

Table 1: Availability of Oral Morphine in Different Healthcare Settings in Countries Surveyed

Health facility	None	Few	Some	Most	All	Don't know	N/A
Tertiary hospitals	3	-	19	6	12	-	-
Other hospitals	6	3	14	9	4	4	-
Pharmacies	6	5	24	3	2	-	-
Health centers	22	5	10	3	-	-	-
Hospices	5	1	8	7	13	-	6
AIDS clinics	17	1	7	3	3	5	4

The table demonstrates that oral morphine is generally most widely available in tertiary hospitals and hospices; somewhat less available in pharmacies and smaller hospitals; and least likely to be available in health centers or AIDS clinics. In other words, patients with pain often need to be referred to larger health facilities, making pain treatment less accessible and more costly for them.

Poor availability of oral morphine in smaller healthcare facilities also compounds access problems for people who live far from major cities, where larger health facilities are likely to be located. In many developing countries, distance and the cost of travel make it very difficult for people living in rural areas to reach any health facility, but their closest facility is likely to be a small clinic or health centre or perhaps a pharmacy or small hospital. As oral morphine and other opioids are less likely to be available in these settings than in larger hospitals, rural patients' barriers to accessing pain treatments are compounded.[44]

A key component of a functioning supply and distribution system is a robust process to estimate the need for opioid medications. WHO has recommended that the government involve healthcare workers in developing such estimates.[45] In 23 of the countries surveyed, healthcare workers, who were mostly leading palliative care or pain management specialists, were not aware of any such consultations.[46] In several other countries, survey respondents

[44] For more discussion of this problem in one particular country, Kenya, see Human Rights Watch, *Needless Pain: Government Failure to Provide Palliative Care for Children in Kenya*, September 2010, http://www.hrw.org/en/reports/2010/09/09/needless-pain-0.

[45] WHO, Cancer Pain Relief: with a guide to opioid availability, 2nd ed. (Geneva: World Health Organization, 1996), http://whqlibdoc.who.int/publications/9241544821.pdf (accessed February 20, 2011), p. 49.

[46] Argentina, Bangladesh, Cambodia, Cameroon, China, Ecuador, Egypt, El Salvador, Ethiopia, Germany, Guatemala, India, Indonesia, Iran, Kenya, Nepal, Pakistan, Philippines, South Africa, South Korea, Thailand, the United Kingdom and the United States. In Germany, South Korea, the United Kingdom and the United States, survey respondents commented that as there is good availability of opioids and complete consumption data is available to the government, such consultations are probably unnecessary.

reported occasional consultations that were thought to be inadequate or have no real affect on the estimates process.[47]

Unsurprisingly, industrialized countries like Germany, France, the United Kingdom, and the United States had widespread availability of oral morphine across these settings. Besides Iran and Ukraine, which have no oral morphine, other countries that stood out as having particularly poor accessibility across the various health settings were scattered throughout the regions and included Bangladesh, Cameroon, Ethiopia, Georgia, Guatemala, Morocco, and Pakistan.

Drug Regulations

The Single Convention on Narcotic Drugs lays out three minimum criteria that countries must observe when developing national regulations governing the handling of opioids. First, individuals must be authorized to dispense opioids by their professional license to practice or be specially licensed to do so. Secondly, movement of opioids may only occur between institutions or individuals so authorized under national law. Finally, a medical prescription is required before opioids may be dispensed to a patient. Governments may, under the convention, impose additional requirements if deemed necessary.[48] But WHO has observed that the right to impose additional requirements "must be continually balanced against the responsibility to ensure opioid availability for medical purposes."[49]

Many countries have adopted regulations that go well beyond the requirements of the Single Convention, often creating complex procedures for procurement, stocking, and dispensing of controlled medications that impede their accessibility for patients with a legitimate medical need. Under the UN drug conventions and international human rights law, countries must balance their efforts to prevent the misuse of controlled substances against the obligation to make them available to patients who need them.[50] Drug control regulations that have a

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[47] France, Jordan, Morocco, Nigeria, Ukraine, and Vietnam.

[48] United Nations, *Single Convention on Narcotic Drugs* (1961). http://www.incb.org/incb/convention_1961.html (accessed August 6, 2010).

[49] WHO, Cancer Pain Relief: with a guide to opioid availability, 2nd ed. (Geneva: World Health Organization, 1996), http://whqlibdoc.who.int/publications/9241544821.pdf (accessed February 20, 2011), p. 56.

[50] Single Convention on Narcotic Drugs, United Nations, Single Convention on Narcotic Drugs (1961) http://www.incb.org/pdf/e/conv/convention_1961_en.pdf (accessed August 6, 2010), preamble; UN Committee on Economic, Social and Cultural Rights, "Substantive Issues Arising in the Implementation of the International Covenant on Economic, Social and Cultural Rights," General Comment No. 14, The Right to the Highest Attainable Standard of Health, E/C.12/2000/4 (2000), http://www.unhchr.ch/tbs/doc.nsf/(Symbol)/40d009901358b0e2c1256915005090be?Opendocument (accessed January 17, 2010), para. 43; WHO, Cancer Pain Relief: with a guide to opioid availability, 2nd ed. (Geneva: World Health Organization, 1996), http://whqlibdoc.who.int/publications/9241544821.pdf (accessed February 20, 2011), p. 56; Human Rights Watch, "Please, do not make us suffer any more…": Access to Pain Treatment as Human Right, March 2009, http://www.hrw.org/sites/default/files/reports/healtho309web_1.pdf.

disproportionately negative effect on availability and accessibility of controlled medications will violate both drug conventions and human rights treaties.

In our survey, we collected information about three types of regulations that are commonly reported to limit the accessibility of controlled medicines: special licensing requirements for healthcare workers; use of special prescription forms and other special prescription requirements; and limits on the amount of morphine that can be prescribed using one prescription or the length of time that a prescription can cover. We also asked key informants whether, in their experience, doctors were reluctant to prescribe opioid medications because of worries about potential legal scrutiny.

Special Licensing Requirements: The Single Convention on Narcotic Drugs requires that people who handle opioid medications be licensed to do so. The convention does not require a special license and in many countries healthcare workers are licensed to handle such medications by virtue of their professional license. Yet many countries require a special license and some allow only certain types of doctors to prescribe opioid medications. WHO has recommended that "physicians, nurses and pharmacists should be legally empowered to prescribe, dispense and administer opioids to patients in accordance with local needs."[51] As patients who suffer pain have a right to access essential medicines including morphine, the right to the highest attainable standard of health requires that limits on which healthcare workers can prescribe opioids be no more restrictive than is reasonably necessary to prevent their diversion to misuse.[52]

Fourteen of the forty countries surveyed require doctors to obtain a special license or registration in order to prescribe controlled medications. Survey respondents in some countries, such as the United States, said that the process for obtaining this special license is simple and almost all doctors have one.[53] Others said that obtaining the necessary license requires considerable paperwork or even invasive screening of the doctor. For example, the Philippines requires doctors applying for a license to submit urine for drug tests.[54] In Ukraine, doctors must obtain certificates from the police department and drug treatment clinic that they do not have a

[51] World Health Organization, *Cancer Pain Relief: a Guide To Opioid Availability* 10 (2nd ed. 1996).

[52] See Chapter VII for more detail on governments' obligation to make pain medicines available under the right to the highest available standard of health.

[53] Human Rights Watch interview with Don Schumacher, president and CEO, National Hospice and Palliative Care Association, United States of America, February 8, 2010.

[54] Human Rights Watch interview with Dr Francis Javier, Director, Pain Management Centre, Philippines, August 26, 2009.

criminal record or are not registered as drug users. Survey respondents from Morocco and the Philippines stated that, as a result of complex licensing procedures, very few doctors have a license to prescribe opioids.[55]

Egypt, Ukraine, and Georgia limit the right to prescribe opioids to doctors practicing in certain specialties, commonly oncology, pain management, or anesthesiology.[56] In Russia, physicians who do not work in the government health care system cannot prescribe opioids.[57]

Only 2 of 40 countries, Uganda and the United Kingdom, allow nurses to prescribe controlled medicines in certain circumstances. In a third country, the United States, most but not all states allow nurses to prescribe. In South Africa, efforts to introduce nurse-prescribing are underway.[58] Nurse-prescribing is essential in resource-limited settings where doctor-patient ratios are very low and many people never see a doctor in their lifetime.[59] The INCB has commended Uganda for introducing nurse-prescribing.[60]

Special Prescription Requirements: The Single Convention does not require prescriptions for controlled medicines to be written on special prescription forms but does explicitly permit this practice. WHO has observed that special multiple-copy prescription requirements "typically reduce prescribing of covered drugs by 50 percent or more."[61] While the use of special prescription forms and procedures is not by definition inconsistent with the right to health, they must be easily accessible for healthcare workers and not add cost to the medicines.

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[55] Ibid.; Human Rights Watch interviews with Professor Mhamed Harif and Dr Maati Nejmi, Morocco, January 21, 2010.

[56] Human Rights Watch email correspondence with an Egyptian pain management specialist who requested anonymity, Egypt, October 7, 2010; Nathan I. Cherney et al., "Formulary Availability and Regulatory Barriers to Accessibility of Opioids for Cancer Pain in Europe: A Report from the ESMO/EAPC Opioid Policy Initiative," *Annals of Oncology*, vol. 21, no. 3 (2010).

[57] Human Rights Watch email correspondence with a Russian doctor who requested anonymity, December 12, 2010.

[58] Human Rights Watch interview with Don Schumacher, February 8, 2010; Human Rights Watch interview with Dr. Bill Noble, Macmillan Senior Lecturer in Palliative Medicine, Sheffield University, United Kingdom, December 14, 2009; Human Rights Watch interview with Dr Liz Gwyther, CEO, Hospice Palliative Care Association of South Africa, South Africa, October 6, 2010; Human Rights Watch interview with Dr Henry Ddungu, advocacy manager, African Palliative Care Association, Uganda, August 10, 2009.

[59] J. Jagwe and A. Merriman, "Uganda: Delivering Analgesia in Rural Africa: Opioid Availability and Nurse-prescribing," *Journal of Pain and Symptom Management*, vol. 33 no. 5 (2007), p. 547.

[60] International Narcotics Control Board, "Report of the International Narcotics Control Board for 2004," E.05.XI.3, 2005, http://www.incb.org/pdf/e/ar/2004/incb_report_2004_full.pdf (accessed October 28, 2010), para. 196.

[61] World Health Organization, *Cancer Pain Relief: a Guide To Opioid Availability* 10 (2nd ed. 1996).

Our survey found that 30 of the 40 countries surveyed require special prescription forms. In two countries, Germany and Morocco, survey respondents mentioned that doctors have to apply to receive the forms; in the Philippines they have to pay for them.[62] Survey respondents in three countries, El Salvador, Turkey, and Ukraine, mentioned problems accessing enough special prescription forms.[63]

In three countries, Russia, Ukraine and—for longer prescriptions—Turkey, prescriptions for morphine must be approved by more than one doctor. In Ukraine, such prescriptions must be made by a group of three doctors, one of whom must be an oncologist, and approved by the chief doctor of the hospital.[64]

Prescription Limitations: WHO has recommended that "decisions concerning the type of drug to be used, the amount of the prescription and the duration of therapy are best made by medical professionals on the basis of the individual needs of each patient, not by regulation."[65] Yet, many countries have regulations that unnecessarily constrict these medical decisions, in violation of patients' right to the highest attainable standard of health.[66]

Our survey found that 25 of the 40 countries surveyed impose limits of these kinds. Some countries, including Ukraine and Turkey, limit the daily dose of morphine that can be prescribed and others, including Germany, Egypt, and Russia, limit the amount that can be prescribed in one prescription, and others, including the Philippines, set a maximum monthly dose. Other countries limit the number of days that a morphine prescription can cover. In our survey, the shortest daily limits were seven days in Cambodia, Egypt, Morocco, and Georgia, and ten days in Argentina, Russia, and Ukraine. Jordan imposes a limit of ten

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[62] Human Rights Watch interview with Dr Maati Nejmi, January 21, 2010; Human Rights Watch interviews with Professor Lucas Radbruch, Palliative Medicine, Aachen University, Germany, February 4, 2010, Professor Rolf-Detlef Treede, president of the German Pain Society, Germany, October 12, 2009, and Dr Henry Lu, immediate past president of the Pain Society of the Philippines, Philippines, September 2, 2009.

[63] Human Rights Watch interview with Professor Serdar Erdine, chairman, Department of Pain Management, Istanbul University, president of the Turkish Society of Pain Management, Turkey, November 19, 2009; Human Rights Watch Interviews with Dr Larin Lovo and Dr Carlos Eduardo Rivas, El Salvador, 2010; Human Rights Watch interview with Viktoria Tymoshevska, International Palliative Care Initiative, Ukraine, September 24, 2010; Human Rights Watch interview Nathan I. Cherney et al., "Formulary Availability and Regulatory Barriers to Accessibility of Opioids for Cancer Pain in Europe: A Report from the ESMO/EAPC Opioid Policy Initiative," *Annals of Oncology*, vol. 21, no. 3 (2010), p. 620.

[64] The Ministry of Health of Ukraine: Order No. 356; Human Rights Watch interview with Victoria Tymosnevska, Ukraine, September 24, 2010.

[65] World Health Organization, *Cancer Pain Relief: a Guide To Opioid Availability* 10-11 (2nd ed. 1996).

[66] See Chapter VIII for more detail on governments' obligation to make pain medicines available under the right to the highest available standard of health.

days for cancer patients and just three days for other patients. In China, the limit varies according to the morphine formulation, fifteen days for immediate release morphine tablets, seven days for slow release tablets, and just three days for injectable morphine.[67]

Fourteen of the countries surveyed do not impose a time limit on the number of days one prescription can cover: the United States, Germany, Turkey, the United Kingdom, Pakistan, Nigeria, Uganda, Tanzania, Nepal, India, Ethiopia, Indonesia, Kenya, and South Korea. Another 15 of the countries maintained a limit of 28 to 30 days.

Fears of Legal Sanction: Regulations that contain ambiguous standards regarding medical prescription and handling of opioids, or punish mishandling harshly, can chill legitimate prescribing. The INCB has said the "vast majority of health professionals exercise their activity within the law and should be able to do so without unnecessary fear of sanctions for unintended violations."[68] Criminalizing unintentional mistakes in opioid prescription is not consistent with the right to health.[69] Countries must ensure that regulations are unambiguous and that complete information about them is readily available for health care providers, so that they do not unreasonably chill opioid prescribing, denying patients pain treatment.

Key informants from 34 of 40 countries said that doctors were hesitant to prescribe opioids because of fear of legal sanction for mishandling them, such as criminal sanctions or professional sanctions such as license revocation. Only key respondents from Thailand, France, Romania, Japan, Colombia, and Cameroon felt that healthcare workers have no fears of legal sanction sufficient to deter prescribing such medications.

Cost of Opioid Medications

Basic oral morphine in powder or tablet form is not protected by any patent and can be produced very cheaply. In India, basic morphine tablets are sold for as little as US$0.017

[67] Human Rights Watch interviews with doctors in China, February, October, and November, 2010.

[68] International Narcotics Control Board, *Demand for and Supply of Opiates for Medical and Scientific Needs*, 15 (1989).

[69] See Chapter VII for more detail on governments' obligation under the right to health to ensure that regulation of morphine prescribing does not unreasonably make pain medicines unavailable under the right to the highest available standard of health.

or about US$0.12 for a typical daily dose.[70] Yet, the actual cost of morphine is much higher in many countries due to a variety of factors that drive up the price, including government regulation, licensing and taxation, poor distribution systems, low demand, large overhead of local production, and price regulation by some industrialized governments.[71] In some countries, the promotion of non-generic and costly forms of opioid analgesics has resulted in pharmaceutical companies withdrawing inexpensive formulations.[72] Paradoxically, morphine is often more expensive in low- and middle-income countries than in industrialized countries.[73]

The International Association for Hospice and Palliative Care recommends that "no government should approve modified release morphine … without also guaranteeing widely available normal release oral morphine."[74] Under the right to health, governments are obliged to ensure that both immediate release and slow release morphine tablets are available, as both are included in the WHO's Model List of Essential Medicines.[75] They must also explore ways to ensure that morphine is available at the lowest cost and is affordable to all people who need it, including by taking steps to ensure that government regulation does not disproportionately affect cost and considering subsidies for poor patients.[76]

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[70] Scott Burris & Corey S. Davis, A *Blueprint for Reforming Access to Therapeutic Opioids: Entry Points for International Action to Remove the Policy Barriers to Care*, Centers for Law and the Public's Health: A Collaborative at Johns Hopkins and Georgetown Universities, 2008, http://www.painpolicy.wisc.edu/internat/DCAM/Burris_Blueprint_for_Reform.pdf, (accessed November 2, 2010) p. 18; In low and middle-income countries a typical daily dose of morphine for patients in palliative care programs is 60 to 75 milligrams per day: Kathleen M. Foley et al., "Pain Control for People with Cancer and AIDS," in Dean T Jamison et al., *Disease Control Priorities in Developing Countries* (Washington: World Bank Publications, 2nd ed. 2003), pp. 981-994. The average daily dose in industrialized countries tends to be higher. This is due, among other reasons, to longer survival of patients and the development among patients of tolerance to opioid analgesics—based on Human Rights Watch e-mail correspondence with Dr. Kathleen M. Foley, January 23, 2009.

[71] Liliana De Lima et al., "Potent Analgesics Are More Expensive for Patients in Developing Countries: A Comparative Study," *Journal of Pain and Palliative Care Pharmacotherapy*, vol. 18, no. 1, (2004), p. 63.

[72] Ibid; David E. Joransen, M.R. Rajagopal and Aaron M. Gilson, "Improving Access to Opioid Analgesics for Palliative Care in India," *Journal of Pain and Symptom Management*, vol. 24, no. 2 (2002), pp. 152-59.

[73] Liliana De Lima et al., "Potent Analgesics Are More Expensive for Patients in Developing Countries: A Comparative Study," *Journal of Pain and Palliative Care Pharmacotherapy*, vol. 18, no. 1, (2004), p. 63.

[74] International Association for Hospice and Palliative Care, IAHPC List of Essential Medicines for Palliative Care, undated, http://www.hospicecare.com/resources/pdf-docs/iahpc-essential-meds-en.pdf (accessed November 2, 2010).

[75] UN Committee on Economic, Social and Cultural Rights, "Substantive Issues Arising in the Implementation of the International Covenant on Economic, Social and Cultural Rights," General Comment No. 14, The Right to the Highest Attainable Standard of Health, E/C.12/2000/4 (2000), http://www.unhchr.ch/tbs/doc.nsf/(Symbol)/40d009901358b0e2c1256915005090be?Opendocument (accessed January 17, 2010), para. 43.

[76] See Chapter VIII for more detail on governments' obligation to make pain medicines available under the right to the highest available standard of health.

Few of the healthcare workers surveyed were able to provide comprehensive information about the cost of morphine in their countries, but various healthcare workers did discuss the following matters:

Availability of Expensive Formulations: Survey respondents in Bangladesh, Thailand, Ecuador, South Africa, and South Korea reported that inexpensive immediate release oral morphine was not available while more costly slow-release oral morphine tablets were.

Subsidies: Subsidies can help ensure the affordability of pain medications. Survey respondents in Colombia, Egypt, Russia, and Uganda reported that their governments provide at least one formulation of morphine free of charge to all patients. Respondents from 13 countries –France, Georgia, China, Germany, Japan, Kenya, Mexico, Poland, Romania, South Africa, South Korea, Thailand, and the United Kingdom—said governments offered at least partial subsidies in some circumstances. In some of these countries, morphine was subsidized only for patients with low incomes or for hospital inpatients but not for outpatients, an approach that is inconsistent with WHO's recommendation that countries prioritize developing home-based palliative care.[77] In France, Georgia, Poland, and Romania, there are greater subsidies for cancer patients than other patients. This reflects the reality, discussed above, that WHO has made extensive recommendations on developing palliative care as part of cancer control programs but has said little about its importance for patients with other diseases.[78] This approach could violate governments' obligations to uphold the right to the highest attainable standard of health and specifically to provide essential medicines without discrimination on the basis of health status.[79]

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[77] World Health Organization, "National Cancer Control Programs: Policies and Managerial Guidelines," 2002, http://www.who.int/cancer/media/en/408.pdf (accessed August 6, 2010), pp. 85, 91.

[78] World Health Organization, *Cancer Pain Relief: a Guide To Opioid Availability*, (2nd ed. 1996); World Health Organization, "National Cancer Control Programs: Policies and Managerial Guidelines," 2002, http://www.who.int/cancer/media/en/408.pdf (accessed August 6, 2010), pp. 86.

[79] UN Committee on Economic, Social and Cultural Rights, "Substantive Issues Arising in the Implementation of the International Covenant on Economic, Social and Cultural Rights," General Comment No. 14, The Right to the Highest Attainable Standard of Health, E/C.12/2000/4 (2000), http://www.unhchr.ch/tbs/doc.nsf/(Symbol)/40d009901358b0e2c1256915005090be?Opendocument (accessed January 17, 2010), paras. 18-19, 43.

Best Practices: Addressing Barriers to Pain Treatment and Palliative Care through Comprehensive Reform

In most low and middle-income countries, an assessment of barriers to access to morphine and the development of a plan of action must be the first step in a comprehensive effort to address those barriers. To be successful, reforms must address both supply and demand for morphine simultaneously; improving supply chains to increase morphine stocks will not improve patient access unless doctors are also adequately trained in pain treatment and palliative care, and vice-versa. In undertaking these reforms, governments can draw upon the expertise of the INCB and WHO. There are several nongovernmental organizations (NGOs) that work to improve the availability of medicines in developing countries, including Supply Chain Management Systems, the IDA Foundation, and Health Action International.[80] On the whole, these NGOs have yet to turn their efforts to the availability of opioid pain medicines, but they have considerable relevant expertise that governments could draw upon.

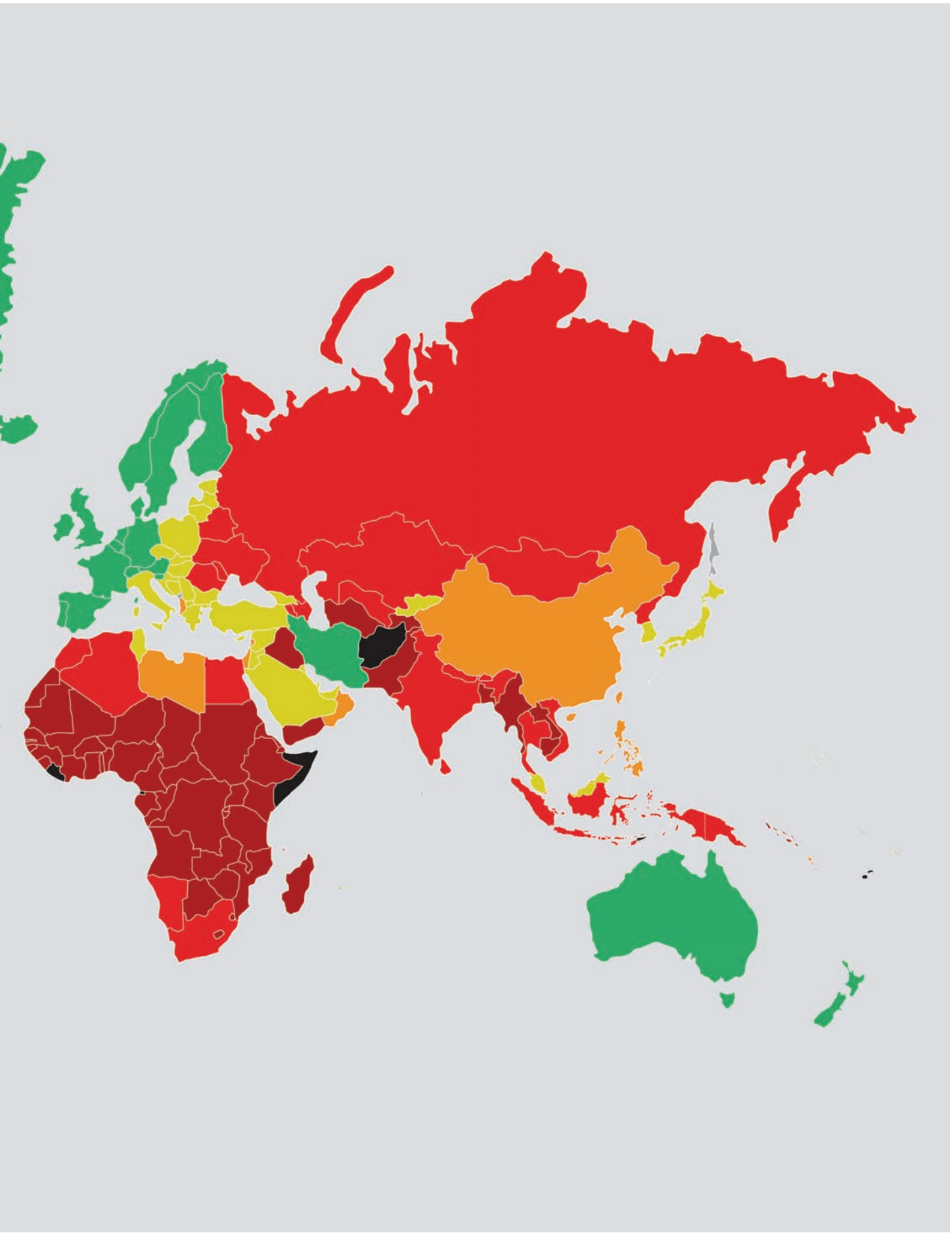
A number of countries have begun comprehensive reform efforts aimed at improving access to pain treatment and palliative care, with support from international organizations and have had some initial success. Such efforts in Uganda, Vietnam, Jordan, Colombia, and Romania are profiled in this report.

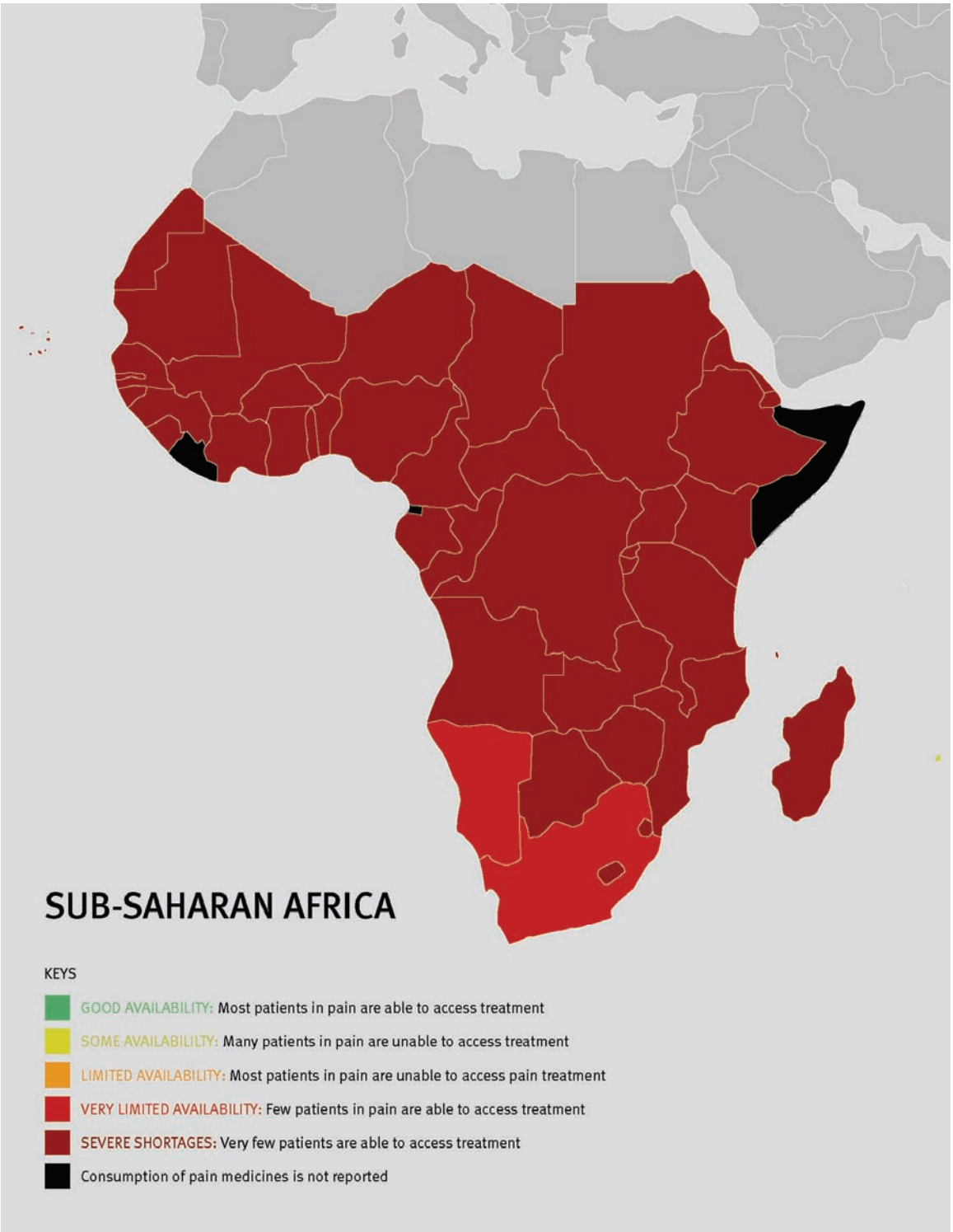
[80] Supply Chain Management Solutions, http://scms.pfscm.org/scms (accessed December 1, 2010); IDA Foundation, http://www.idafoundation.org/we-are.html (accessed December 1, 2010); Health Action International, http://www.haiweb.org/ (accessed December 1, 2010).

AVAILABILITY OF MEDICINES FOR MODERATE TO SEVERE PAIN

KEYS

- GOOD AVAILABILITY: Most patients in pain are able to access treatment
- SOME AVAILABILILTY: Many patients in pain are unable to access treatment
- LIMITED AVAILABILITY: Most patients in pain are unable to access pain treatment
- VERY LIMITED AVAILABILITY: Few patients in pain are able to access treatment
- SEVERE SHORTAGES: Very few patients are able to access treatment
- Consumption of pain medicines is not reported




SUB-SAHARAN AFRICA
KEYS
GOOD AVAILABILITY: Most patients in pain are able to access treatment
SOME AVAILABILILTY: Many patients in pain are unable to access treatment
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Consumption of pain medicines is not reported

III. Sub-Saharan Africa

Table 2: Opioid Consumption and Percentage of Terminal Cancer and AIDS Patients Each Country Can Treat

Country	Annual Cancer and AIDS Deaths (2004)	Estimated Number of Terminal Cancer and AIDS Patients Who		
		Could be Treated with all Strong Opioids Consumed (2006-2008 Average)	Are not Receiving Adequate Pain Treatment (minimum number)	Could be Treated with all Strong Opioids Consumed (percentage)
Angola	25,591	1,130	24,461	6.7%
Benin	8,845	127	8,718	2.1%
Botswana	16,777	348	16,429	4.0%
Burkina Faso	20,705	58	20,647	0.4%
Burundi	18,548	109	18,439	1.0%
Cameroon	57,019	0	57,019	0.0%
Cape Verde	259	70	189	33.9%
Central African Republic	14,297	41	14,256	0.5%
Chad	19,870	62	19,808	0.5%
Comoros	324	0	324	0.0%
Congo	9,909	84	9,825	1.5%
Cote d'Ivoire	69,630	127	69,503	0.3%
Democratic Republic of the Congo	121,311	832	120,479	1.1%
Equatorial Guinea	1,576	Not reported	Unknown	Unknown
Eritrea	4,278	82	4,196	3.0%
Ethiopia	144,264	494	143,770	0.6%
Gabon	4,142	0	4,142	0.0%
Gambia	1,707	0	1,707	0.0%
Ghana	37,766	1,976	35,791	8.4%
Guinea	10,547	0	10,547	0.0%
Guinea-Bissau	2,027	0	2,027	0.0%
Kenya	164,048	4,035	160,014	4.6%
Lesotho	17,585	128	17,458	1.4%
Liberia	4,306	Not reported	Unknown	Unknown
Madagascar	12,233	92	12,141	1.0%
Malawi	83,467	415	83,052	0.9%
Mali	15,568	41	15,527	0.4%
Mauritania	2,700	94	2,606	4.7%
Mauritius	1,019	8,042	0	994.8%

Country	Annual Cancer and AIDS Deaths (2004)	Estimated Number of Terminal Cancer and AIDS Patients Who		
		Could be Treated with all Strong Opioids Consumed (2006-2008 Average)	Are not Receiving Adequate Pain Treatment (minimum number)	Could be Treated with all Strong Opioids Consumed (percentage)
Mozambique	91,527	656	90,871	1.3%
Namibia	11,081	855	10,225	14.7%
Niger	15,274	79	15,196	0.7%
Nigeria	285,434	247	285,187	0.1%
Rwanda	27,174	45	27,130	0.3%
Sao Tome and Principe	114	142	0	156.0%
Senegal	11,309	96	11,213	1.1%
Seychelles	93	57	37	77.5%
Sierra Leone	8,028	53	7,975	1.0%
South Africa	358,735	58,363	300,373	30.3%
Swaziland	9,963	0	9,963	0.0%
Togo	12,599	93	12,506	1.2%
Uganda	121,789	4,877	116,913	7.4%
United Republic of Tanzania	158,359	0	158,359	0.0%
Zambia	91,383	674	90,708	1.4%
Zimbabwe	190,720	1,365	189,356	1.4%

Table Legend

GOOD AVAILABILITY: Most patients in pain are able to access treatment

SOME AVAILABILITY: Many patients in pain are unable to access treatment

LIMITED AVAILABILITY: Most patients in pain are unable to access pain treatment

VERY LIMITED AVAILABILITY: Few patients n pain are able to access treatment

SEVERE SHORTAGES: Very few patients are able to access treatment

Consumption of pain medicines is not reported

Regional Overview

> "Before I came [to Kenyatta National Hospital], I couldn't eat or breathe well [because of the pain]. Now that I have been given medicine [morphine], I can eat and breathe. I couldn't sit down, but now I can. I had pain for more than a month. I told the doctor and nurses [at another hospital] that I had pain. It took too long to get pain treatment… Here I got it immediately and started feeling well again."
> – Christine L., an 18 year-old woman with Breast Cancer, Nairobi, Kenya.

> "We have no pethidine, no DF-118 (dihydrocodeine) and no morphine.... We have children here with advanced HIV; some are in severe pain. The pain management for children with advanced HIV is not enough."
> – Nurse, Bondo District Hospital, Kenya.

Sub-Saharan Africa has the lowest consumption of opioid analgesics worldwide. As shown in Table 2, 37 sub-Saharan African countries consume so few opioid medications that even if they were used exclusively to treat pain in patients with terminal cancer and HIV, fewer than 10 percent of those patients could receive adequate pain treatment. Eighteen countries could not treat even one percent of this group of patients, and eight countries reported no consumption of opioids at all during 2006 to 2008.

Healthcare workers who must treat patients in facilities with no pain medications understandably express frustration. When Human Rights Watch visited a Kenyan hospital that had no opioid pain medicines a nurse showed us a child who had suffered severe burns, and said: "If we had diclofenac [a weak non-opioid pain reliever] we would give it, but we don't have it here."[81]

Consequently, at least 1.2 million people in sub-Saharan Africa die from cancer or HIV/AIDS without adequate pain treatment each year. This is a very conservative estimate, which assumes that all opioids are used to treat this patient group. It should be considered merely an indicator of the enormous unmet need for pain treatment. In reality, the limited opioids that are available are used to treat patients suffering pain from other causes too. So the real number of terminal cancer and HIV/AIDS patients with untreated pain must be higher, and

[81] Human Rights Watch interview with head nurse, Bondo District Hospital, Kenya, March 1, 2010.

many other patients with non-terminal cancer and HIV/AIDS and with other diseases are also suffering untreated pain.

While the challenging economic environment and poor health care infrastructure undoubtedly are a major reason for this situation, our survey findings suggest that government failure to take reasonable, low-cost steps to improve availability of opioid analgesics is a significant contributing factor in many countries.

The African countries we surveyed have inadequate government policies to promote palliative care, inadequate medical education in pain treatment and palliative care, and very poor availability of morphine across different healthcare settings, indicating poor supply and distribution systems for opioids. African countries surveyed imposed few of the regulatory restrictions covered in this survey, but in all but one of the countries surveyed respondents reported that physicians' fears about possible legal sanctions are a barrier to prescribing opioids.

The survey findings highlight that even poor countries can make significant progress in delivering palliative care. Concerted efforts by Uganda's government and civil society to improve access to palliative care have resulted in the removal of many of the barriers discussed in this survey. During 2006 to 2008 Uganda could already treat a significantly higher portion of its terminal HIV/AIDS and cancer patients than neighboring Kenya (Uganda: 7.4 percent; Kenya: 4.6 percent), even though Kenya's GDP is significantly higher than Uganda's. The ongoing process of improving access to palliative care in Uganda, discussed below, means that Uganda's consumption of opioids has likely increased subsequent to 2008, so that more patients care receive treatment.

Policy

As Table 3 shows, there is little government support for palliative care in the seven African countries we surveyed, with Uganda the only country that has a national palliative care policy. Only two of the countries have cancer control policies that reference palliative care; four do not have such policies at all. Four countries surveyed had HIV policies that referred to palliative care but, despite high HIV/AIDS mortality levels, the HIV policies in three countries did not. More positively, most countries have included oral morphine in their essential medicines list although, as discussed below, it's availability in practice is often very limited.

Survey respondents from Ethiopia and Kenya reported that those countries are currently developing cancer control strategies. Kenya's strategy is expected to include palliative care.

Table 3: Pain Treatment and Palliative Care Policies in Sub-Saharan Africa

Country	Palliative Care and Pain Management Policy			Status of Morphine		
	National Palliative Care Policy	Reference in National Cancer Control Policy	Reference in National AIDS Policy	Oral Morphine a Registered Medicine	Essential Medicines List	
					Oral Morphine	Injectable Morphine
Ethiopia	No	N/A	No	Yes	Yes	Yes
South Africa	No	Yes	Yes	Yes	Yes	Yes
Tanzania	No	N/A	Yes	Yes	No	Yes
Kenya	No	N/A	No	Yes	Yes	Yes
Nigeria	No	Yes	Yes	Yes	Yes	Yes
Cameroon	No	No	No	Yes	Yes	Yes
Uganda	Yes	N/A	Yes	Yes	Yes	Yes

Education

The availability of education in pain management varied greatly in the African countries surveyed. As Table 4 shows, in three of the seven countries surveyed—Cameroon, Ethiopia, and Tanzania—no instruction in pain management is available at all for physicians. On the other hand, in Uganda, palliative care instruction is compulsory in all undergraduate medical programs and available in postgraduate medical education.

Doctors from several of the African countries surveyed mentioned that some healthcare workers had received post-graduate education in palliative care from foreign institutions in other African countries and Europe through distance learning or programs run jointly between African and non-African institutions. This was the case in countries that had some domestic opportunities for post-graduate training, as well as those that did not. While these programs make an important contribution to building African expertise in palliative care, domestic programs are essential to adequately train sufficient numbers of healthcare workers in pain treatment and palliative care.

Table 4: Availability of Education in Pain Management in Sub-Saharan Africa

Country	Available in Undergraduate Medical Programs	Compulsory in Undergraduate Medical Programs	Available in Post-Graduate Medical Education
Ethiopia	None	None	No
South Africa	Most	Some	Yes
Tanzania	None	None	No
Kenya	All	None	Yes
Nigeria	Some	Some	Yes
Cameroon	None	None	No
Uganda	All	All	Yes

Drug Availability

Supply and Distribution

Weak supply and distribution systems are a key reason for the low consumption of morphine in Africa. As Table 5 shows, respondents in all seven countries surveyed said that injectable morphine was not available in all hospitals, although it is available in most hospitals in Uganda and South Africa. While oral morphine is available at all tertiary hospitals in Kenya, South Africa, and Uganda, it is only available in some tertiary hospitals in Ethiopia, Nigeria, and Tanzania. In Africa, most health care is provided in a primary healthcare setting such as a health care center or clinics. In four countries surveyed, no health centers have oral morphine. In two countries, even hospices do not have oral morphine. Overall, availability of morphine was best in South Africa and Uganda and worst in Ethiopia and Cameroon.[82]

While all countries surveyed have some availability of oral morphine, many other African countries do not. According to Anne Merriman, founder of Hospice Africa Uganda, several dozen countries in sub-Saharan Africa, including all 31 Francophone countries except Cameroon, do not have this essential medicine.[83]

[82] Note that we asked what facilities usually stock morphine. Stock-outs are common in many African countries. In 2010, Kenya and Uganda both faced interruptions of morphine supply.

[83] Email correspondence with Anne Merriman, director of policy and international programs, Hospice Africa Uganda, June 22, 2010.

Table 5: Accessibility of Morphine in Different Healthcare Settings in Sub-Saharan Africa

Country	Injectable Morphine in Hospitals	Accessibility of Oral Morphine					
		Tertiary Hospitals	Other Hospitals	Pharmacies	Health Centers	Hospices	AIDS Clinics
Ethiopia	Few	Some	None	Some	None	None	None
South Africa	Most	All	Most	Most	Most	Most	Most
Tanzania	Some	Some	Some	None	None	Some	Some
Kenya	Some	All	Some	Few	None	All	None
Nigeria	Some	Some	Some	Some	Some	Some	Some
Cameroon	Some	Most	Some	None	None	None	None
Uganda	Most	All	Most	Few	Few	All	Some

Drug Regulations

Our survey found relatively few restrictive drug regulations in African countries surveyed. None of the countries surveyed impose arbitrary dose limits on prescriptions or restrict prescribing rights to certain types of physicians. None of the countries require a special license for physicians to be allowed to prescribe opioid medications; although Ethiopian drug legislation in a UNODC database states a special license is required, survey respondents said the provision is not enforced in practice.[84] Only two of the seven countries, Ethiopia and Cameroon, require a special prescription form. Cameroon and South Africa cap the number of days a prescription for opioid medications can cover at 30 days; other countries surveyed did not impose any limit. Key informants from Tanzania reported that while the country's regulations do not require a special prescription form or impose a limit on the time that prescriptions can cover, some individual medical institutions do impose these.

While our survey found few regulatory barriers, key informants from all African countries surveyed except for Cameroon reported that healthcare workers fear legal sanctions for prescribing opioid medications and identified this fear as a barrier to prescribing them.

Although Uganda is leading the world by developing a program to train nurses to prescribe opioids, most of the African countries surveyed still do not allow nurse-prescribing. Because of low numbers of doctors and large populations living great distances from the nearest doctor or unable to afford the transport to travel to a doctor that is relatively close, allowing trained nurses to prescribe morphine is essential for increasing access to opioids in Africa. At present,

[84] Proclamation No. 176/1999 a Proclamation to provide for Drug Administration and Control, s 26(1) available at United Nations Office of Drugs and Crime Legal Library: http://www.unodc.org/enl/showDocument.do?documentUid=2720&country=ETH (accessed January 13, 2011).

only Uganda allows specially trained nurses and clinical officers to prescribe morphine. South Africa is considering changing its regulations to allow nurses to prescribe. Human Rights Watch researchers have previously learned that nurses in some African countries give patients opioids when no doctor is available to do so, although this is contrary to the law.

Table 6: Restrictive Regulation of Morphine Prescribing in Sub-Saharan Africa

Country	Prohibition on Prescribing Morphine for Home Use	Morphine Prescription Form Differs from Regular Forms	Signature of More Than One Doctor Required	Right to Prescribe Morphine Limited to Doctors in Certain Specialties	Special License Required to Prescribe Morphine	Limitation on Length of Morphine Prescription	Dose Limits
Ethiopia	No	Yes	No	No	Yes	No	No
South Africa	No	No	No	No	No	30 days	No
Tanzania	No	No	No	No	No	No	No
Kenya	No	No	No	No	No	No	No
Nigeria	No	No	No	No	No	No	No
Cameroon	No	Yes	No	No	No	30 days	No
Uganda	No	No	No	No	No	No	No

Cost

Most of the African countries surveyed use oral liquid mixed from morphine powder, which can be prepared for just a few cents per dose. Nonetheless, for many Africans who subsist on less than US$1 per day, the cost remains prohibitive. Healthcare workers reported that many hospices and hospitals subsidize the cost of morphine for all their patients or for their poorest patients. The Ugandan government's comprehensive effort to improve access to palliative care has included providing morphine free-of-charge.

Doctors in Tanzania reported that weak supply chains make the real cost of providing morphine a burden upon health care services, because staff must travel long distances to collect oral morphine solution, incurring travel expenses and lost staff time. When they are available, other morphine formulations are often significantly more expensive than the lowest price at which they can be purchased internationally, probably due to low demand and weak supply chains.

Best Practice and Reform Efforts: Uganda

In the last 10 years, Uganda has led the African continent in efforts to improve access to palliative care, making significant progress on a number of fronts. The Ugandan government

has worked with WHO and religious and nongovernmental organizations to systematically address barriers to access to palliative care.

In its five-year Strategic Health Plan for 2000-2005, Uganda became the first African country to state that palliative care was an essential clinical service for all citizens. Since then, the government has worked to improve the availability of narcotic medications. It added liquid morphine to its essential drug list and adopted a new set of Guidelines for Handling of Class A Drugs for health care practitioners, also a first in Africa. The Ministry of Health also started importing oral morphine powder and providing oral morphine solution to public health facilities at no cost. Since 2000 opioid consumption in morphine equivalence has increased four-fold from less than 0.2 mg per person to almost 0.8 mg per person in 2008.[85]

The government's efforts have not been limited to improved drug provision. In 2004 Ugandan law was amended to allow nurses and clinical officers, once they have completed a nine-month palliative care course, to prescribe morphine.[86] More than 80 nurses and clinical officers have since graduated from Hospice Africa Uganda's Clinical Palliative Care Course. In its 2004 report the INCB commended Uganda's efforts to improve access to pain treatment, including reforming Uganda's narcotics control laws so that specially trained nurses could prescribe morphine.[87]

In recent years, Uganda has significantly boosted its capacity for palliative care. There are now at least 50 facilities providing palliative care services, including morphine.[88] In order to reach more patients in need, community services for home-based palliative care have been greatly strengthened. The current strategic plan states that all hospitals and health centers should provide palliative care, that necessary medicines should be available, and that palliative care should be integrated into the curriculum of health training institutions. It also emphasizes the need to strengthen referral systems and community-based palliative care.[89]

Uganda's significant progress demonstrates the potential for government leadership to rapidly scale up access to palliative care through reforming laws and regulations, increasing drug provision, and encouraging education in palliative care. Many of the Ugandan

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[85] International Narcotics Control Board, "Narcotic Drugs: Estimated World Requirements for 2010: Statistics for 2008," 2010, http://www.incb.org/incb/en/narcotic_drugs_reports.html (accessed 27 October 2010).

[86] Jagwe and Merriman, "Uganda: Delivering Analgesia in Rural Africa," *Journal of Pain and Symptom Management*.

[87] INCB, *Report of the International Narcotics Control Board for 2004* (New York: United Nations, 2005), pp. 32-33.

[88] Palliative Care Association of Uganda (PCAU), "Audit Report of Palliative Care Services in Uganda," April 2009, http://www.theworkcontinues.com/document.asp?id=1386&pageno= (accessed March 27, 2010), pp. 7 and 12.

[89] Jack Jagwe and Anne Merriman, "Uganda: Delivering Analgesia in Rural Africa: Opioid Availability and Nurse-prescribing," *Journal of Pain and Symptom Management*, vol. 33, no. 5 (May 2007); Stjernsward, "Uganda: Initiating a Government Public Health Approach to Pain Relief and Palliative Care," *Journal of Pain and Symptom Management*.

government's reforms were carried out in cooperation with NGO representatives and WHO. Government, NGO, and WHO representatives met at a conference to discuss drug treatment availability in 1998, where they made commitments to taking specific measures to improve drug treatment availability. These plans and commitments have translated to many of the country's achievements today.[90]

Despite progress, many challenges remain in ensuring access to palliative care throughout Uganda. Some of the nurses trained in palliative care are not using their training because morphine is not available where they work or because hospital administrators are not supporting their efforts, for example, by failing to assign them to care for patients with life-limiting disease. District health departments do not have defined palliative care budgets and inadequate distribution systems for morphine remain a problem.[91] There is an ongoing need to ensure the availability of oral morphine throughout Uganda; to keep it affordable; prevent stock-outs; and train all relevant healthcare workers.

[90] Jan Stjernsward, "Uganda: Initiating a Government Public Health Approach to Pain Relief and Palliative Care," *Journal of Pain and Symptom Management*, vol. 24, no. 2 (August 2002).

[91] PCAU, "Audit Report of Palliative Care Services in Uganda," p. 8.


THE AMERICAS
KEYS
GOOD AVAILABILITY: Most patients in pain are able to access treatment
SOME AVAILABILITY : Many patients in pain are unable to access treatment
LIMITED AVAILABILITY: Most patients in pain are unable to access pain treatment
VERY LIMITED AVAILABILITY: Few patients in pain are able to access treatment
SEVERE SHORTAGES: Very few patients are able to access treatment
Consumption of pain medicines is not reported

IV. The Americas

Table 7: Opioid Consumption and Percentage of Terminal Cancer and AIDS Patients Each Country Can Treat

Country	Annual Cancer and AIDS Deaths (2004)	Estimated Number of Terminal Cancer and AIDS Patients Who Could Be Treated with All Strong Opioids Consumed	Estimated Minimum Number of Patients Who Are Not Receiving Adequate Pain Treatment	Estimated Percentage of Terminal Cancer and AIDS Patients Who Could Be Treated with All Strong Opioids Consumed
Antigua and Barbuda	150	0	150	0.0%
Argentina	64,674	65,277	0	127.5%
Bahamas	508	609	0	174.4%
Barbados	499	964	0	255.6%
Belize	278	Not reported	Unknown	Unknown
Bolivia	13,921	0	13,921	0.0%
Brazil	218,361	206,079	12,282	121.6%
Canada	70,049	3,169,908	0	5670.6%
Chile	22,574	21,134	1,440	117.9%
Colombia	42,396	40,055	2,342	124.4%
Costa Rica	4,286	3,422	864	101.0%
Cuba	19,282	4,770	14,512	31.0%
Dominica	120	62	58	67.4%
Dominican Republic	15,529	1,256	14,274	11.4%
Ecuador	12,978	2,681	10,297	26.8%
El Salvador	5,819	3,005	2,814	70.9%
Grenada	174	84	90	62.9%
Guatemala	10,945	2,102	8,844	25.8%
Guyana	1,275	92	1,183	11.0%
Haiti	14,569	68	14,501	0.8%
Honduras	8,122	0	8,122	0.0%
Jamaica	4,577	1,147	3,430	34.7%
Mexico	80,175	62,110	18,065	99.2%
Nicaragua	4,188	920	3,268	28.1%
Panama	3,604	1,614	1,991	61.6%
Paraguay	5,914	683	5,231	15.0%
Peru	37,043	6,031	31,012	21.3%

Country	Annual Cancer and AIDS Deaths (2004)	Estimated Number of Terminal Cancer and AIDS Patients Who Could Be Treated with All Strong Opioids Consumed	Estimated Minimum Number of Patients Who Are Not Receiving Adequate Pain Treatment	Estimated Percentage of Terminal Cancer and AIDS Patients Who Could Be Treated with All Strong Opioids Consumed
Saint Kitts and Nevis	55	Not reported	Unknown	Unknown
Saint Lucia	200	192	7	122.1%
Saint Vincent and the Grenadines	173	63	110	51.2%
Suriname	595	73	522	17.1%
Trinidad and Tobago	2,064	1,012	1,052	69.7%
United States of America	617,820	31,797,701	0	6488.8%
Uruguay	8,156	2,939	5,217	45.4%
Venezuela	20,808	8,073	12,735	49.9%

Table Legend

GOOD AVAILABILITY: Most patients in pain are able to access treatment

SOME AVAILABILITY: Many patients in pain are unable to access treatment

LIMITED AVAILABILITY: Most patients in pain are unable to access pain treatment

VERY LIMITED AVAILABILITY: Few patients n pain are able to access treatment

SEVERE SHORTAGES: Very few patients are able to access treatment

Consumption of pain medicines is not reported

Regional Overview

> "Cancer is killing us. Pain is killing me because for several days I have been unable to find injectable morphine in any place. Please, Mr. Secretary of Health, do not make us suffer any more."
> – A classified ad placed in *El País* newspaper in Cali, Colombia, on September 12, 2008, by the mother of a woman with cervical cancer.

> "[In the United States there is a] widely publicized chilling effect of physician prosecution on physicians concerned with legal scrutiny over prescribing opioids…regulators and law enforcement may do well to improve how they craft their public messages to physicians and how they handle routine investigations of medical practice."
> – Goldenbaum et al., "Physicians Charged with Opioid Analgesic-Prescribing Offenses," *Pain Medicine, v*ol. 9, no. 6, 2008.

Consumption of opioid analgesics varies greatly in the Americas from some of the highest levels in the world in the United States and Canada to very low levels in Central America and the Caribbean. At least 100,000 terminal cancer and HIV/AIDS patients die without adequate pain treatment in the Americas each year, although the real number is probably much higher.

In Central America and the Caribbean, about half of the countries consume so few opioid medications that even if all were used exclusively to treat patients with terminal cancer and HIV for pain, less than a third of them could receive adequate treatment (Belize, El Salvador, Honduras, Nicaragua, Saint Kitts and Nevis, Trinidad and Tobago, Jamaica, Dominican Republic, and Haiti). Bolivia, Antigua and Barbuda, and Honduras reported no consumption of opioids for 2006 to 2008, and Haiti could treat pain in less than 1 percent of its terminal cancer and HIV/AIDS patients.

In South America, consumption levels are generally significantly higher than in Central America and the Caribbean countries, but still far lower than in North America or Western Europe. Several South American countries, such as Bolivia, Ecuador, Peru, and Suriname, significantly lag behind their neighbors. In these countries, even if all opioid medications were used exclusively to treat chronic pain, fewer than 40 percent of patients could be treated adequately.

Policy

As Table 7 shows, policy support for palliative care is very limited in the countries surveyed in the Americas. Five of eight countries do not have national palliative care policies; survey participants in two countries that do have such policies, Argentina and Brazil, said that they are not implemented in practice.[92] A positive exception is Mexico, which recently adopted a policy on management of terminal patients. None of the countries surveyed have HIV policies that refer to palliative care and only two countries, Brazil and Colombia, address pain management in their national cancer control policies. More positively, oral morphine is a registered medicine in all countries surveyed, and most have it on their essential medicines lists.

Table 8: Pain Treatment and Palliative Care Policies in the Americas

Country	Palliative Care and Pain Management Policy			Status of Morphine		
	National Palliative Care Policy	Reference in National Cancer Control Policy	Reference in National AIDS Policy	Oral Morphine a Registered Medicine	Essential Medicines List	
					Oral Morphine	Injectable morphine
Brazil	Yes	Yes	No	Yes	Yes	Yes
Argentina	Yes	N/A	No	Yes	Yes	Yes
Colombia	No	Yes	N/A	Yes	Yes	Yes
USA	No	N/A	N/A	Yes	N/A	N/A
Mexico	Yes	Conflicting responses	No	Yes	Conflicting responses	Conflicting responses
El Salvador	No	No	No	Yes	Yes	Yes
Ecuador	No	No	No	Yes	Yes	Yes
Guatemala	No	Conflicting responses	No	Yes	Yes	Yes

Education

Availability of undergraduate education in pain management and palliative care is very scarce in the countries surveyed in the Americas. In two countries, Mexico and El Salvador, instruction on palliative care is altogether unavailable in undergraduate programs, while in most other countries it is available only in a few or some such programs. Instruction on palliative care is compulsory only in some undergraduate medical programs in the United States and in a few in Guatemala. All of the region's larger countries have opportunities for post-graduate medical

[92] Human Rights Watch email correspondence with Dr Roberto Wenk, Argentina, October 18, 2010; Human Rights Watch email correspondence with Dr Roberto Bettega, Brazil, December 10, 2010.

education in pain treatment or palliative care, but these are lacking in the less-populous countries, such as Guatemala and possibly El Salvador.

Table 9: Availability of Education in Pain Management in the Americas

Country	Instruction in Pain Management		
	Available in Undergraduate Medical Programs	Compulsory in Undergraduate Medical Programs	Available in Post-Graduate Medical Education
Brazil	Some	None	Yes
Argentina	Few	None	Yes
Colombia	Some	None	Yes
USA	Some	Some	Yes
Mexico	None	None	Yes
El Salvador	None	None	Conflicting responses
Ecuador	Few	None	Yes
Guatemala	Few	Few	No

Drug Availability

Supply and Distribution

The United States, the country with by far the highest opioid consumption of countries surveyed, has the greatest availability of morphine across clinical settings, followed by Brazil. Guatemala had the poorest, with morphine available in only some pharmacies and tertiary hospitals. Throughout Latin America, only some pharmacies stock oral morphine. Its availability in health centers and HIV/AIDS clinics is even poorer. Survey respondents in all countries said that it is harder to access opioids outside major cities.

Table 10: Accessibility of Morphine in Different Healthcare Settings in the Americas

Country	Injectable Morphine In Hospitals	Oral Morphine Available					
		Tertiary Hospitals	Other Hospitals	Pharmacies	Health Centers	Hospices	AIDS Clinics
Brazil	Most	Most	Most	Some	Some	All	Some
Argentina	Some	Some	Uncertain	Some	None	Most	N/A
Colombia	Some	Some	Some	Some	Some	N/A	None
USA	All	All	All	Most	Some	All	Some
Mexico	Some	Some	Uncertain	Some	None	Some	None
El Salvador	Some	Some	Uncertain	Some	Some	Some	Uncertain
Ecuador	Most	Some	Uncertain	Some	None	Most	None
Guatemala	Some	Some	None	Some	None	N/A	None

Drug Regulations

All countries surveyed in the Americas require special prescription forms and four require physicians to obtain a special license to be allowed to prescribe opioid medications. Guatemala, the country with the lowest opioid consumption of those surveyed, also imposed the most types of restrictive regulation, including dose limits. Most of the American countries surveyed, with the exception of the United States and El Salvador, also impose a limit on the number of days that a morphine prescription can cover. Five countries have a relatively generous 30-day limit. In Argentina, however, a prescription can cover just 10 days. In El Salvador, all doctors can prescribe a limited, one-time dose of opioids to treat acute pain, but a different prescription form is needed to prescribe opioids for chronic pain, and those prescriptions must be authorized by the secretary of the health facility and the chief of the narcotics control agency. Survey respondents from all countries except Colombia said that healthcare workers fear legal sanction for mishandling opioids and that this was a deterrent to prescribing them. None of the Latin American countries surveyed allows nurse-prescribing. In most US states, some types of nurses can prescribe morphine. In a few states physician assistants or pharmacists can also prescribe but others impose dose limits.

Table 11: Restrictive Regulation of Morphine Prescribing in the Americas

Country	Prohibition on Prescribing Morphine for Home Use	Morphine Prescription Form Differs from Regular Forms	Signature of More Than One Doctor Required	Right to Prescribe Morphine Limited to Doctors in Certain Specialties	Special License Required to Prescribe Morphine	Limitation on Length of Morphine Prescription	Dose Limits
Brazil	No	Yes	No	No	Yes	30 Days	No
Argentina	No	Yes	No	No	No	10 Days	No
Colombia	No	Yes	No	No	No	30 Days	No
USA	No	Yes	No	No	Yes	No	Some state laws do
Mexico	No	Yes	No	No	No	30 Days	No
El Salvador	No	Yes	Yes	No	Yes	No	Yes
Ecuador	No	Yes	No	No	Yes	30 Days	Yes
Guatemala	No	Yes	No	No	No	30 Days	No

Cost

Key informants in four countries—Argentina, Brazil, Colombia, and Mexico—said that the government subsidizes the cost of morphine in some circumstances. In Colombia, inexpensive oral liquid morphine is available, but in most countries surveyed in South America, most available morphine formulations are much more expensive, priced up to

several dollars for a daily dose. In Ecuador, El Salvador, and Guatemala, the three countries with the lowest opioid consumption of those surveyed, inexpensive immediate release oral morphine is unavailable although costly sustained release tablets are, making the price of morphine unnecessarily high.

Best Practice and Reform Efforts: Colombia

In Colombia, intensive engagement between the government, NGOs, and academics has led to recent progress in improving access to palliative care and pain management services. In the last five years, the government has undertaken significant regulatory reforms to remove unnecessary barriers to accessing pain treatment and improve access to opioid medicines. In 2006 the government increased the maximum number of days allowed for the prescription of opioids from 10 to 30 days,[93] easing access for patients who need opioid therapy for extended periods of time. Revised regulation for regional drug procurement has also been put in place with the aim of improving opioid availability. The new regulation mandates all 32 Colombian states to have at least one place where opioids are guaranteed to be in stock at all times.[94] Morphine consumption has increased following these efforts to improve availability. Between 2006 and 2009, the government reported a 42 percent increase in units of morphine sold.[95]

Modest gains have also been made in the field of education. The country's first mandatory course in palliative care for undergraduate medical students was implemented at the Universidad de la Sabana in Bogota and could serve as a model for other universities.[96] Continuing education for primary health workers in palliative care is also available to a limited extent.[97]

Columbia's progress has resulted from several years of close engagement between the government and national and international NGOs and academic institutions. In 2006 members of the Universidad de la Sabana, the International Association for Hospice and Palliative Care, the Pain and Policy Study Group, and the University of Wisconsin developed an action plan for improving access to palliative care and pain management services in

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93 Colombian Minister of Health 001478 Resolution of 2006, https://www.alcaldiabogota.gov.co/sisjur/normas/normal.jsp.old (accessed January 27, 2011).

94 Leon, Marta et al. "Integrating palliative care in public health: The Colombian experience following an International Pain Policy Fellowship" *http://www.painpolicy.wisc.edu/publicat/11pallmed/LeonIPPF2011.pdf* (accessed April 24, 2011).

95 Ibid.

96 Ibid.

97 Ibid.

Colombia and later organized a workshop with members of the governments and the private health sector to identify barriers to accessing palliative care and solutions to these barriers.[98] These efforts have largely guided Columbia's reform efforts.

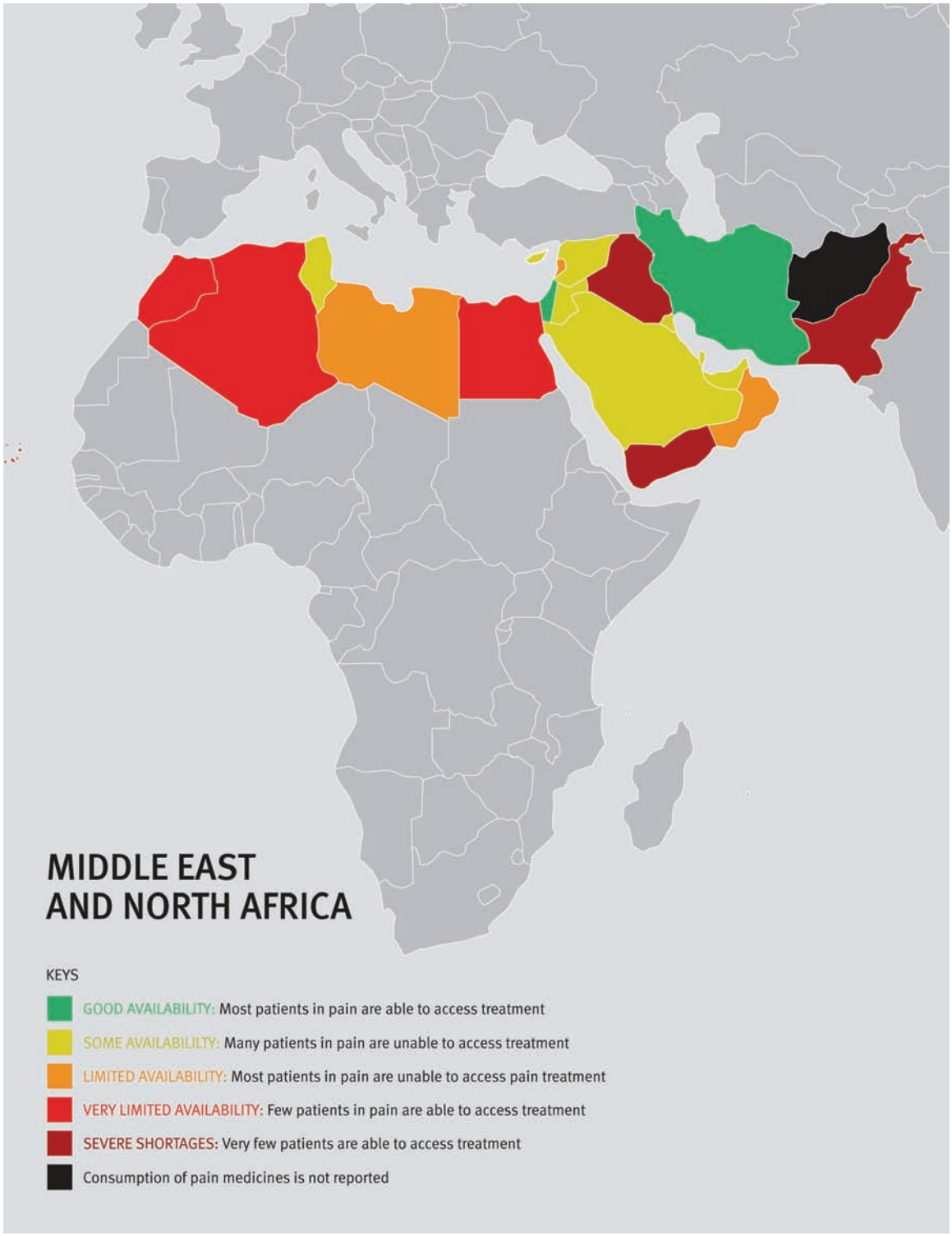
Though Colombia still has far to go in guaranteeing access to pain treatment and palliative care for all who need it, greater progress may be on the horizon. The inclusion of three new opioid formulations in the country's essential medicines list is being debated by the Regulatory Commission of Health.[99] In addition, a proposed law that would seek to improve access to controlled medicines, quality of palliative care services, and education for healthcare workers was drafted by two senators with input from several Colombian palliative care experts and organizations.[100] At time of writing, the senate had discussed the Bill but not yet voted on it.[101]

[98] Leon, Marta Ximena et al. Improving Availability of and Access to Opioids in Colombia: Description and Preliminary Results of an Action Plan for the Country.

[99] Ibid.

[100] Ibid.

[101] Congresso Visible, http://www.congresovisible.org/proyectos-de-ley/mediante-la-cual-se-regulan/1080/ (accessed April 1, 2011).


MIDDLE EAST
AND NORTH AFRICA
KEYS
GOOD AVAILABILITY: Most patients in pain are able to access treatment
SOME AVAILABILILTY: Many patients in pain are unable to access treatment
LIMITED AVAILABILITY: Most patients in pain are unable to access pain treatment
VERY LIMITED AVAILABILITY: Few patients in pain are able to access treatment
SEVERE SHORTAGES: Very few patients are able to access treatment
Consumption of pain medicines is not reported

V. The Middle East and North Africa

Table 12: Opioid Consumption and Percentage of Terminal Cancer and AIDS Patients Each Country Can Treat

Country	Annual Cancer and AIDS Deaths (2004)	Estimated No. of Terminal Cancer and AIDS Patients Who Could be Treated with All Strong Opioids Consumed	Estimated minimum No. of Patients Who Are Not Receiving Adequate Pain Treatment	Estimated % of Terminal Cancer and AIDS Patients Who Could Be Treated with All Strong Opioids Consumed
Afghanistan	22,443	Not reported	Unknown	Unknown
Algeria	20,006	2,890	17,116	18.2%
Bahrain	414	761	0	234.2%
Djibouti	1,391	0	1,391	0.0%
Egypt	45,720	11,342	34,377	31.1%
Iran	48,269	1,243,749	0	3266.6%
Iraq	25,395	755	24,640	3.7%
Israel	10,048	8,030	148,101	1844.4%
Jordan	3,731	5,025	0	168.9%
Kuwait	635	1,317	0	260.1%
Lebanon	3,418	2,411	1,007	89.9%
Libya	3,226	1,891	1,335	76.3%
Morocco	14,805	3,090	11,715	26.6%
Oman	1,214	584	630	61.0%
Pakistan	98,082	1,726	96,356	2.2%
Qatar	228	484	0	286.6%
Saudi Arabia	11,890	15,072	0	158.9%
Somalia	8,172	Not reported	Unknown	Unknown
Sudan	53,049	501	52,548	1.4%
Syria	5,918	5,287	631	111.7%
Tunisia	4,556	5,260	0	146.0%
United Arab Emirates	792	2,438	0	397.7%
Yemen	11,527	586	10,942	6.4%

Table Legend

GOOD AVAILABILITY: Most patients in pain are able to access treatment

SOME AVAILABILITY: Many patients in pain are unable to access treatment

LIMITED AVAILABILITY: Most patients in pain are unable to access pain treatment

VERY LIMITED AVAILABILITY: Few patients n pain are able to access treatment

SEVERE SHORTAGES: Very few patients are able to access treatment

Consumption of pain medicines is not reported

Regional Overview

> "Doctors are fearful of everything to do with opioids."
> – Oncologist, Jordan.

> "[The prescription limitation of] seven days is not enough. It makes our work harder and forces patients to travel long distances to have access to morphine"
> – Professor of Oncology, Morocco.

The Middle East and North Africa region is characterized by vast differences in resources, containing some very poor and some very wealthy countries. These differences are clearly reflected in the availability of opioid analgesics. Four countries in the region—Iraq, Pakistan, Sudan, and Yemen—consume so few opioid medicines that even if all were used only to treat patients with terminal cancer and HIV/AIDS for pain, less than 10 percent of those patients could receive adequate pain treatment. Afghanistan and Somalia do not report opioid consumption to the INCB, and Djibouti reported no consumption for 2006 to 2008.

A number of oil-rich nations, such as Bahrain, Kuwait, Saudi Arabia, Qatar, and United Arab Emirates, also consume relatively few opioid medications. Iran stands out in the region for its high consumption of opioids, particularly methadone, but a significant proportion is used for treating drug dependence, not pain. In all, at least 180,000 patients in the region will die of cancer or HIV/AIDS each year without adequate pain treatment.

Policy

None of the countries surveyed from the region has a national palliative care policy, although survey respondents in Morocco expect one to be adopted soon. While the cancer control policies of four of the five countries surveyed include references to pain treatment or palliative care, HIV policies, where they exist, do not. Egypt and Iran are among just six of the forty countries surveyed that have not included oral morphine in their essential medicines list.[102] In fact, Iran is one of two of the forty countries surveyed where oral morphine is not a registered medicine and thus not available at all. Although

[102] A further three countries (the United States, the United Kingdom, and Germany) reported that they do not have an essential medicine list, and there were conflicting responses from survey respondents in Mexico.

an article in a peer-reviewed medical journal states that Iran's cancer control policy covers palliative care, Iranian key informants we surveyed were unaware of this.[103]

Table 13: Pain Treatment and Palliative Care Policies in the Middle East and North Africa

Country	Palliative Care and Pain Management Policy			Status of Morphine		
	National Palliative Care Policy	Reference in National Cancer Control Policy	Reference in National AIDS Policy	Oral Morphine a Registered Medicine	Essential Medicines List	
					Oral Morphine	Injectable morphine
Pakistan	No	No	No	Yes	Yes	Yes
Egypt	No	Yes	Uncertain	Yes	No	Yes
Iran	No	Yes	No	No	No	Yes
Morocco	No	Yes	N/A	Yes	Yes	Yes
Jordan	No	Yes	No	Yes	Yes	Yes

Education

As shown in Table 14, Egypt is the only country surveyed in the region to have any compulsory instruction on palliative care as part of undergraduate medical programs. Morocco and Jordan do not have any instruction on palliative care available in such programs. In Iran and Jordan, no post-graduate instruction on palliative care exists.

Table 14: Availability of Education in Pain Management in the Middle East and North Africa

Country	Available in Undergraduate Medical Programs	Compulsory in Undergraduate Medical Programs	Available in Post-Graduate Medical Education
Pakistan	Few	None	Yes
Egypt	Some	Some	Yes
Iran	Some	None	No
Morocco	None	None	Yes
Jordan	None	None	No

Drug Availability

Supply and Distribution

While injectable morphine is available in most or all hospitals in Egypt, Iran, and Morocco, this is only the case in some hospitals in Jordan and Pakistan. The availability of oral

[103] "Implementation of Comprehensive National Cancer Control Program in Iran: an experience in a developing country" *Annals of Oncology*, Vol. 19, No.2, February 2008. p. 399.

morphine is particularly poor in the countries surveyed in the region. As mentioned above, in Iran it is altogether unavailable. In Pakistan, oral morphine is not available in any hospices and only in few pharmacies and health centers. In Jordan, while available in all hospices, no health centers have morphine and only few pharmacies. Of the countries surveyed, Egypt has the best availability of oral morphine, with the medication available in all hospices, most tertiary hospitals, and some pharmacies and health centers. Survey respondents from all countries surveyed said that it is harder to access morphine outside of major cities.

Table 15: Accessibility of Morphine in Different Healthcare Settings in the Middle East and North Africa

Country	Injectable Morphine In Hospitals	Oral Morphine Accessibility					
		Tertiary Hospitals	Other Hospitals	Pharmacies	Health Centers	Hospices	AIDS Clinics
Pakistan	Some	Some	Few	Few	Few	None	None
Egypt	Most	Most	Some	Some	Some	All	N/A
Iran	All	None	None	None	None	None	None
Morocco	Most	Some	Few	Some	None	N/A	None
Jordan	Some	Some	Few	Few	None	All	N/A

Drug Regulations

All countries surveyed in the region, except Pakistan, require special prescription forms for morphine. Survey respondents in Pakistan reported that some hospitals require the use of special prescription forms, even though they are not legally required. Four of the countries surveyed have limits on the length of time that a prescription can cover, again, all but Pakistan. In Iran, the limit is relatively generous at 30 days, but there are much shorter limits in Egypt (7 days), Jordan (10 days for cancer, 3 days for other patients), and Morocco (7 days).

Regulations also restrict who can prescribe morphine and to whom. In Iran, morphine can only be prescribed for home use for cancer patients. In Egypt, most doctors can only prescribe up to 14 morphine tablets. Only oncologists and pain specialists can prescribe more. In Morocco, general practitioners must obtain a license to prescribe morphine, while other doctors working in hospitals or larger clinics are covered by that facility's license. In all of the counties surveyed, at least one respondent felt that fear of legal sanction was a deterrent to prescribing opioids. None of the countries surveyed allow nurse prescribing.

Table 16: Restrictive Regulation of Morphine Prescribing in the Middle East and North Africa

Country	Prohibition on Prescribing Morphine for Home Use	Morphine Prescription Form Differs from Regular Forms	Signature of More Than One Doctor Required	Right to Prescribe Morphine Limited to Doctors in Certain Specialties	Special License Required to Prescribe Morphine	Limitation on Length of Morphine Prescription	Dose Limits
Pakistan	No	No	No	No	No	No	No
Egypt	No	Yes	No	Yes	No	7 days	14 tablets
Iran	Yes (except for cancer patients)	Yes	No	No	No	30 days	No
Morocco	No	Yes	No	No	Yes	7 Days	No
Jordan	No	Yes	No	No	No	10 days for cancer patients; 3 days for non-cancer patients	No

Cost

In the Middle East and North Africa, poor accessibility does not appear to be attributable to the cost of morphine. Respondents in all those countries surveyed reported that the morphine formulations available are generally inexpensive.

Developing Palliative Care: Jordan

Jordan is one country in this region that has made significant strides in the last decade in developing palliative care. Between 2001, when the reform efforts began, and 2008, the last year for which data is available, consumption of morphine increased 2.5 times. In 2004 the Jordanian government partially reformed drug regulations, removing a provision that limited morphine prescribing rights to oncologists and slightly increasing the number of days a prescription for cancer patients can cover from 3 to 10 days (although it remains 3 days for non-cancer patients). That same year, a local pharmaceutical company began producing low cost immediate release morphine tablets, leading to a significant decline in the costs of the medication and an increase in the number of formulations available.[104]

Although there is still no instruction on palliative care available in undergraduate or post-graduate medical programs in Jordan, some progress has been made in educating health professionals. Through international fellowships, a handful of physicians have received in-

[104] Jan Stjernswärd et al., "Jordan Palliative Care Initiative: A WHO Demonstration Project," *Journal of Pain and Symptom Management*, vol. 33, no. 5 (2007), p. 631.

depth training. These physicians are now conducting palliative care training in other major oncology units in Amman and elsewhere.[105]

Jordan's progress demonstrates how much is possible with government leadership and a coordinated effort by government agencies, healthcare workers, UN agencies, and civil society.

In 2001 the Jordanian government, WHO, healthcare workers, civil society, and the pharmaceutical industry came together and decided to establish the Jordan Palliative Care Initiative (JCPI), which was tasked with developing palliative care in the country and was designated a WHO Demonstration Project.[106] In November that year, the Jordanian Ministry of Health and WHO agreed to work together to better integrate palliative care into the Jordanian health system.[107] This lead to a joint workshop in 2003 to develop a national action plan and a National Palliative Care Committee.[108]

These achievements should embolden Jordan's government to raise palliative care availability to the next level by developing and implementing a national palliative care policy, expanding availability of morphine to more health facilities, further reforming its drug regulations, and introducing palliative care instruction into undergraduate and postgraduate medical and nursing curricula.

[105] Amanda Bingley and David Clark, "A Comparative Review of Palliative Care Development in Six Countries Represented by the Middle East Cancer Consortium (MECC)," *Journal of Pain and Symptom Management,* vol. 37, no. 3 (2009) p. 291.

[106] Jan Stjernswärd et al., "Jordan Palliative Care Initiative: A WHO Demonstration Project," *Journal of Pain and Symptom Management*, vol. 33, no. 5 (2007), p. 629.

[107] Ibid., p. 630

[108] Ibid.


EUROPE
KEYS
GOOD AVAILABILITY: Most patients in pain are able to access treatment
SOME AVAILABILILTY: Many patients in pain are unable to access treatment
LIMITED AVAILABILITY: Most patients in pain are unable to access pain treatment
VERY LIMITED AVAILABILITY: Few patients in pain are able to access treatment
SEVERE SHORTAGES: Very few patients are able to access treatment
Consumption of pain medicines is not reported

VI. Europe

Table 17: Opioid Consumption and Percentage of Terminal Cancer and AIDS Patients Each Country Can Treat

Country	Annual Cancer and AIDS Deaths (2004)	Estimated Number of Terminal Cancer and AIDS Patients in Moderate to Severe Pain	Estimated Number of Terminal Cancer and AIDS Patients Who Could be Treated with All Strong Opioids Consumed	Estimated Minimum Number of Patients Who Are Not Receiving Adequate Pain Treatment	Estimated Percentage of Terminal Cancer and AIDS Patients Who Could be Treated with All Strong Opioids Consumed
Albania	4,604	3,680	2,526	1,154	68.6%
Andorra	195	155	718	0	464.4%
Armenia	6,549	5,217	599	4,618	11.5%
Austria	19,701	15,744	513,347	0	3260.7%
Azerbaijan	7,987	6,387	1,372	5,016	21.5%
Belarus	20,076	15,821	2,854	12,967	18.0%
Belgium	29,540	23,611	552,415	0	2339.6%
Bosnia and Herzegovina	6,201	4,957	20,424	0	412.0%
Bulgaria	16,422	13,131	41,054	0	312.7%
Croatia	12,585	10,067	82,780	0	822.3%
Cyprus	974	779	1,782	0	228.8%
Czech Republic	29,645	23,715	98,090	0	413.6%
Denmark	16,012	12,800	413,601	0	3231.1%
Estonia	3,634	2,900	12,038	0	415.0%
Finland	10,703	8,560	154,722	0	1807.6%
France	170,195	135,810	1,734,086	0	1276.8%
Georgia	3,894	3,114	4,980	0	159.9%
Germany	215,312	172,086	5,300,362	0	3080.1%
Greece	27,535	22,023	169,908	0	771.5%
Hungary	32,904	26,319	99,931	0	379.7%
Iceland	565	452	7,326	0	1622.5%
Ireland	9,101	7,272	190,643	0	2621.7%

Country	Annual Cancer and AIDS Deaths (2004)	Estimated Number of Terminal Cancer and AIDS Patients in Moderate to Severe Pain	Estimated Number of Terminal Cancer and AIDS Patients Who Could be Treated with All Strong Opioids Consumed	Estimated Minimum Number of Patients Who Are Not Receiving Adequate Pain Treatment	Estimated Percentage of Terminal Cancer and AIDS Patients Who Could be Treated with All Strong Opioids Consumed
Italy	163,308	130,381	1,104,943	0	847.5%
Kazakhstan	24,125	19,220	2,293	16,926	11.9%
Kyrgyzstan	4,203	3,356	5,927	0	176.6%
Latvia	5,873	4,694	7,453	0	158.8%
Lithuania	7,796	6,234	16,601	0	266.3%
Luxembourg	1,039	830	15,043	0	1812.9%
Macedonia	3,659	2,926	13,189	0	450.8%
Malta	749	598	7,601	0	1270.4%
Moldova	5,579	4,455	1,877	2,578	42.1%
Monaco	71	56	Not reported	Unknown	Unknown
Netherlands	41,463	33,142	507,144	0	1530.2%
Norway	11,652	9,314	191,312	0	2054.1%
Poland	96,802	77,399	273,683	0	353.6%
Portugal	25,687	20,322	302,407	0	1488.1%
Romania	43,315	34,577	15,936	18,641	46.1%
Russia	287,330	226,189	34,894	191,295	15.4%
San Marino	86	69	Not reported	Unknown	Unknown
Serbia and Montenegro	23,205	18,546	39,127	0	211.0%
Slovakia	11,840	9,471	60,043	0	634.0%
Slovenia	5,492	4,393	73,617	0	1675.7%
Spain	106,174	84,413	1,850,392	0	2192.1%
Sweden	21,025	16,812	270,389	0	1608.3%
Switzerland	16,817	13,414	470,536	0	3507.9%
Tajikistan	2,661	2,096	58	2,037	2.8%
Turkey	59,814	47,817	93,610	0	195.8%

Country	Annual Cancer and AIDS Deaths (2004)	Estimated Number of Terminal Cancer and AIDS Patients in Moderate to Severe Pain	Estimated Number of Terminal Cancer and AIDS Patients Who Could be Treated with All Strong Opioids Consumed	Estimated Minimum Number of Patients Who Are Not Receiving Adequate Pain Treatment	Estimated Percentage of Terminal Cancer and AIDS Patients Who Could be Treated with All Strong Opioids Consumed
Turkmenistan	3,081	2,449	149	2,300	6.1%
Ukraine	98,524	75,795	21,675	54,120	28.6%
United Kingdom	163,370	130,632	1,569,345	0	1201.3%
Uzbekistan	11,652	9,299	1,184	8,115	12.7%

Table Legend

GOOD AVAILABILITY: Most patients in pain are able to access treatment

SOME AVAILABILITY: Many patients in pain are unable to access treatment

LIMITED AVAILABILITY: Most patients in pain are unable to access pain treatment

VERY LIMITED AVAILABILITY: Few patients n pain are able to access treatment

SEVERE SHORTAGES: Very few patients are able to access treatment

Consumption of pain medicines is not reported

Regional Overview

There is a clear pattern in opioid consumption in Europe: Western European countries all consume at least 10 times as many opioids as is necessary to treat their terminal cancer and HIV/AIDS patients; Eastern European countries consume less but generally several times more than is necessary to treat their terminal cancer and HIV/AIDS patients.

A handful of Eastern European and Central Asian countries—Armenia, Azerbaijan, Belarus, Kazakhstan, Russia, Ukraine, and Uzbekistan—consume only enough opioids to treat less than 30 percent of their terminal cancer and HIV/AIDS patients. Two central Asian countries, Tajikistan and Turkmenistan, can treat less than 10 percent of these patients. As a result, at least 480,000 terminal cancer and HIV/AIDS patients die in Europe each year without access to adequate pain treatment.

As mentioned, Western European countries all consume at least 10 times as many opioids as is necessary to treat their terminal cancer and HIV/AIDS patients, and some Western European countries—Austria, Denmark, Germany, and Switzerland—consume more than thirty times more. These medicines are necessary to treat the many other patients that suffer pain, and this demonstrates that comparing actual opioid consumption to that which is necessary to treat terminal cancer and HIV/AIDS patients only gives an indicator of a country's relative ability to meet its patients' needs for pain relief.

In countries where most people have access to the medicines they need most of the time, consumption is much higher than that which is necessary to treat terminal cancer and HIV/AIDS patients. Countries who can treat only those patients (i.e. those that score around 100 percent in these tables, such as Chile, Costa Rica, Mexico, Syria, Lebanon, and Uzbekistan) still have a very long way to go to ensure all patients in need can access essential pain medicines.

Our survey results indicate that the marked contrast between opioid consumption in Eastern and Western Europe is not solely attributable to differences in economic development or medical infrastructure. The Eastern European countries surveyed have fewer policies to support pain treatment and palliative care, fewer opportunities for education in pain management and palliative care, more restrictive regulation on prescribing, and poorer accessibility of morphine across a range of healthcare settings.

Policy

Governments in four of the nine countries surveyed in Europe provide strong policy support for palliative care: France, Poland, Turkey, and the United Kingdom all have national palliative

care policies and cancer control policies that include palliative care. The first three also have national HIV policies that reference palliative care. There has been recent progress in Georgia, where a national palliative care policy and a cancer policy that includes a palliative care development plan have been submitted to parliament for adoption, but the HIV policy makes no reference to palliative care. Other countries surveyed provide less policy support. Germany does not have a national palliative care policy nor a national cancer or HIV control policy or an essential medicines list. Romania, Russia, and Ukraine do not have national palliative care policies but do provide for palliative care in national cancer control plans.

Ukraine stands out as the only country surveyed in Europe where oral morphine is not a registered medicine. Ukraine and Georgia are the only countries surveyed that have essential medicines lists but have not included oral morphine.

Table 18: Pain Treatment and Palliative Care Policies in Europe

Country	Palliative Care and Pain Management Policy			Status of Morphine		
	National Palliative Care Policy	Reference in National Cancer Control Policy	Reference in National AIDS Policy	Oral Morphine a Registered Medicine	Essential Medicines List	
					Oral Morphine	Injectable Morphine
Germany	No	N/A	N/A	Yes	N/A	N/A
Romania	No	Yes	No	Yes	Yes	Yes
Poland	Yes	Yes	Yes	Yes	Yes	Yes
Turkey	Yes	Yes	Yes	Yes	Yes	Yes
UK	Yes	Yes	No	Yes	N/A	N/A
France	Yes	Yes	Yes	Yes	Yes	Yes
Russia	No	Yes	Uncertain	Yes	Yes	Yes
Ukraine	No	Yes	Yes	No	No	Yes
Georgia	No	No	No	Yes	No	Yes

Education

The European countries surveyed have the most extensive availability of training in pain management of any region. In France, Poland, and the United Kingdom, training in palliative care is compulsory for all undergraduate medical students. In 2009 Germany introduced legislation that will make training in palliative care compulsory for all undergraduate medical students by 2014. In all other countries surveyed, with the exception of Russia, palliative care instruction was available in at least some undergraduate medical programs. In Russia

such instruction is available only in a few such programs. Survey respondents from all countries said that training in palliative care is available in post-graduate medical education.

Table 19: Availability of Education in Pain Management in Europe

Country	Available in Undergraduate Medical Programs	Compulsory in Undergraduate Medical Programs	Available in Post-Graduate Medical Education
Germany	Most	Few	Yes
Romania	Some	None	Yes
Poland	All	All	Yes
Turkey	Some	Some	Yes
UK	All	All	Yes
France	All	All	Yes
Russia	Few	Few	Yes
Ukraine	Some	Some	Yes
Georgia	Some	Some	Yes

Drug Availability

Supply and Distribution

Our survey findings show a large gap between availability of morphine in Western and Eastern Europe. Availability was best in France, Germany, and the United Kingdom, with oral and injectable morphine available in most or all hospitals and pharmacies. In Poland and Turkey, the medications are available in most or all hospitals but only in some pharmacies. Survey respondents in Romania and Russia said injectable morphine was available in most hospitals but oral morphine only in some hospitals and pharmacies. Georgia and Ukraine reported the most problematic situations, with oral morphine altogether unavailable in Ukraine and only available in some tertiary hospitals, pharmacies, and hospices in Georgia. In most countries surveyed, except Germany, Poland, and France, survey respondents reported that it is harder to access morphine outside of major cities.

Table 20: Accessibility of Morphine in Different Healthcare Settings in Europe

Country	Injectable Morphine In Hospitals	Oral Morphine Available in					
		Tertiary Hospitals	Other Hospitals	Pharmacies	Health Centers	Hospices	AIDS Clinics
Germany	Most	All	Most	Most	Most	All	Uncertain
Romania	Most	Some	Some	Some	None	All	None
Poland	All	All	Most	Some	None	All	None
Turkey	All	Most	All	Some	Most	N/A	Conflicting Response
UK	All	All	All	All	Some	All	Uncertain
France	All	All	All	All	Few	N/A	All
Russia	All	Some	Some	Some	None	Some	Uncertain
Ukraine	Some	None	None	None	None	None	None
Georgia	All	Some	None	Some	None	Some	None

Drug Regulations

Significant differences between regulations in Western and Eastern Europe are apparent from the survey, with Georgia, Russia, and Ukraine imposing both greater numbers of and more severe restrictive prescription requirements than other countries surveyed. Four of five European Union countries require special prescription forms but do not impose other problematic regulatory restrictions.

Turkey requires special prescription forms, as well as signatures from multiple doctors for long-term opioid prescriptions, and imposes a 200 mg daily dose limit for morphine, which is likely to be insufficient for significant numbers of patients. Georgia, Russia, and Ukraine require special prescription forms but doctors must also get special licenses to be allowed to prescribe morphine, and these counties impose low limits on the number of days a prescription can cover. Russia and Ukraine also require that multiple doctors sign prescriptions and impose limits on daily doses, with Ukraine's limits particularly low, lower than the average daily dose for a patient with terminal cancer of HIV/AIDS.[109] Georgia and Ukraine also limit the right of prescription of opioids to doctors in certain specialties, such as oncology. In all surveyed countries except Romania and France, survey respondents reported that fear of legal sanction deters prescribing of opioids.

[109] Kathleen M. Foley et al., "Pain Control for People with Cancer and AIDS," in Dean T Jamison et al., *Disease Control Priorities in Developing Countries* (Washington: World Bank Publications, 2nd ed. 2003), pp. 981-994; Germany imposes a limit of 20,000mg per prescription, but this can be exceeded if the doctor marks the prescription in a specified manner.

Table 21: Restrictive Regulation of Morphine Prescribing in Europe

Country	Prohibition on Prescribing Morphine for Home Use	Morphine Prescription Form Differs from Regular Forms	Signature of More Than One Doctor Required	Right to Prescribe Morphine Limited to Doctors in Certain Specialties	Special License Required to Prescribe Morphine	Limitation on Length of Morphine Prescription	Dose Limits
Germany	No	Yes	No	No	No	No	No
Romania	No	Yes	No	No	No	30 days	No
Poland	No	Yes	No	No	No	30 days	No
Turkey	No	Yes	Yes, for long term use	No	No	No	200 mg
UK	No	No	No	No	No	No	No
France	No	No	No	No	No	28 days	No
Russia	No	Yes	Yes	No	Yes	10 Days	200 mg per prescription for injectable morphine
Ukraine	No	Yes	Yes	Yes	Yes	10 Days	50 mg
Georgia	No	Yes	No	Yes	Yes	7 days	No

Cost

In most of the European countries surveyed, healthcare workers mentioned that the cost of morphine is fully or partially-subsidized by the government, but in several countries only cancer patients qualify for subsidies or subsidies are more generous for cancer patients.

Best Practice and Reform Efforts: Romania

Romania has taken significant steps in the last few years to revise laws and regulations in order to improve access and availability of pain treatment and palliative care in the country. New legislation from November 2006 and new regulations from May 2006 corrected imbalanced laws and regulations that had severely limited doctors' authority to prescribe opioids in Romania. The new laws and regulations establish that it is the sole responsibility of the doctor to determine the appropriate opioid dose and allow doctors to prescribe opioids to patients in severe pain regardless of the underlying disease. Prior to the reforms, doctors could only prescribe opioids to patients suffering from a limited class of diseases, such as cancer in its advanced stages. Progress has also been made in ensuring the availability of a variety of opioid formulations in Romania, many of which are produced domestically.

The new regulations also provide for the improvement of Romanian health workers' education in palliative care.[110] The new regulations led Casa Sperantei, the first independent hospice in Romania, in Brasov, to offer courses in palliative care to health professionals, with the assistance of a grant from the Open Society Institute (OSI). Over 4,000 doctors have since completed this Ministry of Health-approved course. Although the Romanian Ministry of Health had identified palliative care as a "medical sub-specialty" in 2000, the medical profession had not received adequate training, and fear of prescribing opioids on the part of health professionals remains widespread. Increased and improved education in palliative care is a step towards addressing these barriers.

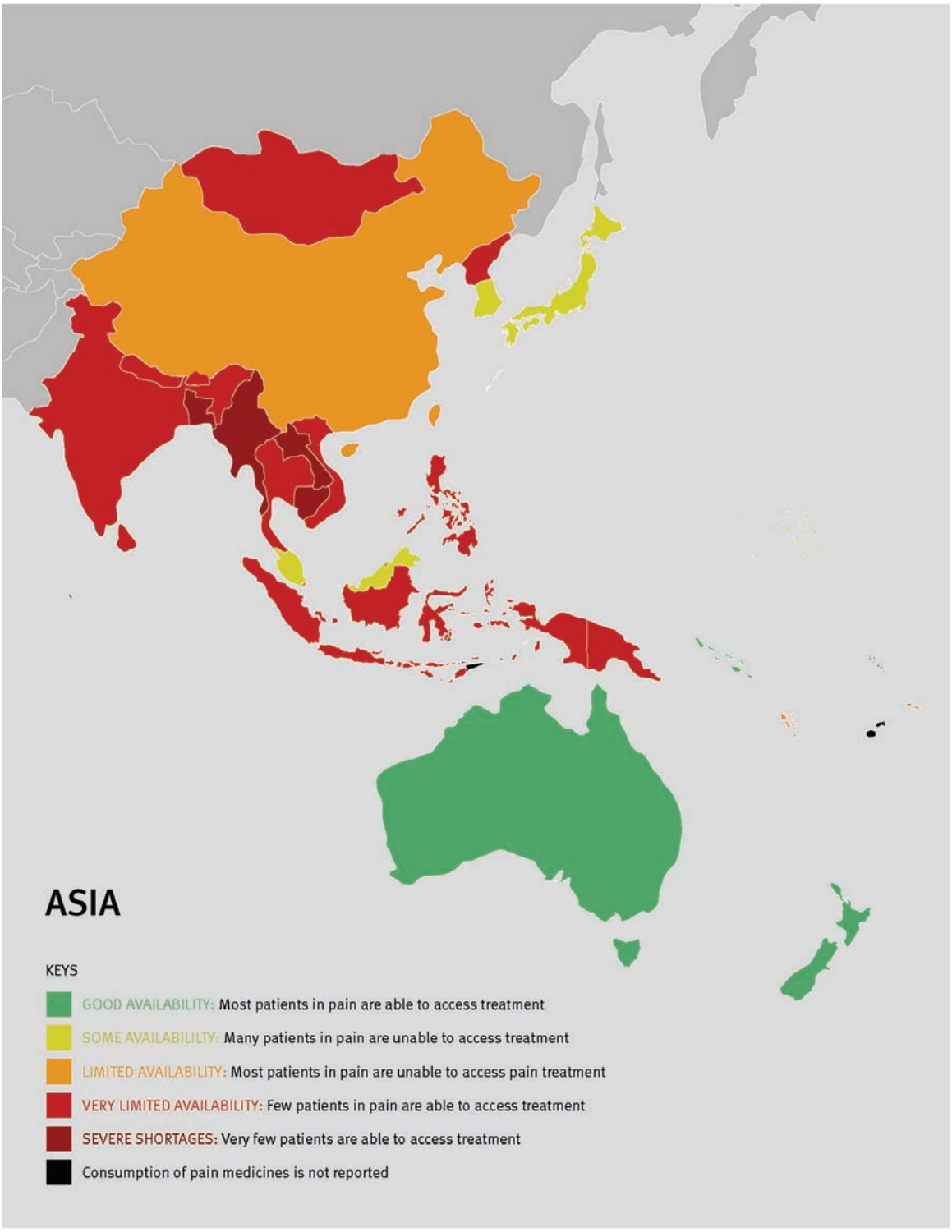
Romania's progress demonstrates what can be achieved through the combined efforts of local professionals, international experts, and national authorities.[111] Reform efforts in Romania began with Romania's participation in a 2002 workshop convened by OSI and WHO. Following an initial assessment and action plan for improving palliative care in Romania, Romania was selected as a pilot country by OSI and the Pain and Policy Studies Group (PPSG). In 2002, the Romanian Ministry of Health appointed a commission of specialists to provide reform recommendations. Working in collaboration with PPSG, the palliative care commission used WHO guidelines to present the Ministry of Health with a number of recommendations for the reform, many of which were incorporated into the country's revised laws and regulations.

Despite the impressive progress that has been made, substantial challenges remain in providing palliative care in Romania. Many hospitals continue not to stock morphine because it "is not included in the drug list for emergencies in acute hospitals." This leads to reliance on pethidine, a weaker opioid that is not appropriate for treatment of chronic pain. Accessibility issues persist as the number of pharmacies stocking morphine, particularly in rural areas, remains inadequate. Many doctors in Romania are still hesitant to prescribe opioids, indicating that further education efforts are needed.[112]

[110] Article 54 of the regulation.

[111] Daniela Mosoiu et al., "Romania: Changing the Regulatory Environment", *Journal of Pain and Symptom Management*, vol. 33, no. 5 (2007), p. 613.

[112] Human Rights Watch interview with Associate Professor Dr. Daniela Mosoiu, Romania, February 17, 2010.


ASIA
KEYS
GOOD AVAILABILITY: Most patients in pain are able to access treatment
SOME AVAILABILILTY: Many patients in pain are unable to access treatment
LIMITED AVAILABILITY: Most patients in pain are unable to access pain treatment
VERY LIMITED AVAILABILITY: Few patients in pain are able to access treatment
SEVERE SHORTAGES: Very few patients are able to access treatment
Consumption of pain medicines is not reported

VII. Asia

Table 22: Opioid Consumption and Percentage of Terminal Cancer and AIDS Patients Each Country Can Treat

Country	Annual Cancer and AIDS Deaths (2004)	Estimated Number of Terminal Cancer and AIDS Patients in Moderate to Severe Pain	Estimated Number of Terminal Cancer and AIDS Patients who Could be Treated with All Strong Opioids Consumed	Estimated Minimum Number of Patients who are not Receiving Adequate Pain Treatment	Estimated Percentage of Terminal Cancer and AIDS Patients who Could be Treated with All Strong Opioids Consumed
Australia	40,680	32,510	1,052,428	0	3237.2%
Bangladesh	90,359	72,252	6,190	66,062	8.6%
Bhutan	405	324	43	282	13.1%
Brunei	209	167	117	50	70.3%
Burma	63,646	44,225	1,928	42,296	4.4%
Cambodia	21,669	14,277	91	14,186	0.6%
China	1,849,527	1,473,317	779,984	693,333	52.9%
Cook Islands	9	7	108	0	1537.4%
North Korea	22,626	18,089	3,073	15,017	17.0%
Fiji	458	362	Not reported	Unknown	Unknown
India	905,132	684,084	81,046	603,039	11.8%
Indonesia	203,127	162,413	24,628	137,784	15.2%
Japan	322,008	257,591	387,341	0	150.4%
Kiribati	33	27	0	27	0.0%
Laos	4,238	3,383	139	3,244	4.1%
Malaysia	24,655	19,103	105,319	0	551.3%
Maldives	512	392	54	339	13.7%
Marshall Islands	52	42	53	0	126.0%
Micronesia	53	42	52	0	122.0%
Mongolia	4,183	3,346	489	2,857	14.6%
Nauru	9	7	51	0	743.1%
Nepal	18,399	14,643	1,882	12,761	12.8%
New Zealand	8,205	6,561	161,493	0	2461.3%
Niue	1	1	Not reported	Unknown	Unknown
Palau	12	10	216	0	2213.3%
South Korea	83,994	67,169	149,967	0	223.3%
Samoa	106	85	53	32	62.1%
Singapore	5,636	4,488	3,796	692	84.6%
Solomon Islands	185	147	0	147	0.0%

Country	Annual Cancer and AIDS Deaths (2004)	Estimated Number of Terminal Cancer and AIDS Patients in Moderate to Severe Pain	Estimated Number of Terminal Cancer and AIDS Patients who Could be Treated with All Strong Opioids Consumed	Estimated Minimum Number of Patients who are not Receiving Adequate Pain Treatment	Estimated Percentage of Terminal Cancer and AIDS Patients who Could be Treated with All Strong Opioids Consumed
Thailand	151,088	102,226	31,093	71,134	30.4%
Timor-Leste	455	362	Not reported	Unknown	Unknown
Tonga	61	48	53	0	108.5%
Tuvalu	9	7	0	7	7.4%
Vanuatu	113	90	77	13	49.9%
Vietnam	81,801	61,640	17,477	44,163	6.4%

Table Legend

GOOD AVAILABILITY: Most patients in pain are able to access treatment

SOME AVAILABILITY: Many patients in pain are unable to access treatment

LIMITED AVAILABILITY: Most patients in pain are unable to access pain treatment

VERY LIMITED AVAILABILITY: Few patients n pain are able to access treatment

SEVERE SHORTAGES: Very few patients are able to access treatment

Consumption of pain medicines is not reported

Regional Overview

> "My leg would burn like a chili on your tongue. The pain was so severe I felt like dying. I was very scared. I felt that it would be better to die than to have to bear this pain. [I thought], just remove the leg, then it will be alright. Just get rid of the leg so I'll be free of pain."
> - Dilawar Joshi, a Nepali man with a bone tumor, India

> "I would sleep maybe an hour and a half per night. I could take any number of sleeping pills [without effect]. With morphine, I can relax. This place [the palliative care unit] is heaven-sent..."
> - Shruti Sharma, Hyderabad, a breast cancer patient, India

Consumption of opioids varies dramatically throughout Asia. Australia and New Zealand consume more than 20 times more opioids than are needed to treat their terminal cancer and HIV/AIDS patients. By contrast, Bhutan, North Korea, India, Indonesia, the Maldives, Mongolia, Nepal, and Sri Lanka can all treat less than 20 percent of their terminal cancer and HIV/AIDS patients, and Bangladesh, Burma, Cambodia, Laos, and Vietnam less than 10 percent. The Solomon Islands reported no consumption of opioids at all between 2006 and 2008.

The world's two most populous countries—India and China—can treat just 12 and 53 percent of their terminal cancer and HIV/AIDS patients respectively. Thus although Asia has better treatment coverage than sub-Saharan Africa, it also has the largest number of patients suffering without treatment of any region, at least 1.7 million terminal cancer and HIV/AIDS patients.

Policy

While nine of eleven countries surveyed reference palliative care in their national cancer control policies (Cambodia and Nepal are the exceptions) only four of eleven—Indonesia, Philippines, South Korea, and Vietnam—have national palliative care policies. Only three countries— Cambodia, Nepal, and Vietnam—provide for palliative care in national HIV policies. Oral morphine is a registered medicine in all the countries surveyed, and both oral and injectable formulations are on the essential medicines lists of all countries except South Korea. Vietnam stands out as the country that provides the best policy support for palliative care, with a national palliative care policy and palliative care provisions in its national cancer and HIV plans.

Table 23: Pain Treatment and Palliative Care Policies in Asia

Country	Reference to Palliative Care and Pain Management Policy			Status of Morphine		
	National Palliative Care Policy	Reference to Palliative Care in National Cancer Control Policy	Reference to Palliative Care in National AIDS Policy	Oral Morphine a Registered Medicine	Essential Medicines List	
					Oral Morphine	Injectable Morphine
India	No	Yes	No	Yes	Yes	Yes
Bangladesh	No	Yes	No	Yes	Yes	Yes
Thailand	No	Yes	No	Yes	Yes	Yes
Nepal	No	No	Yes	Yes	Yes	Yes
Indonesia	Yes	Yes	No	Yes	Yes	Yes
Philippines	Yes	Yes	No	Yes	Yes	Yes
Vietnam	Yes	Yes	Yes	Yes	Yes	Yes
South Korea	Yes	Yes	No	Yes	No	No
Japan	No	Yes	No	Yes	Yes	Yes
China	No	Yes	No	Yes	Yes	Yes
Cambodia	No	N/A	Yes	Yes	Yes	Yes

Education

Availability of instruction on palliative care in undergraduate medical programs is poor in most countries in the region surveyed, with Bangladesh and Nepal, which both offer compulsory instruction on palliative care in most undergraduate medical programs, performing best. Palliative care instruction is available only in few undergraduate programs in India, Indonesia, and South Korea. In Cambodia, Philippines, South Korea, and Vietnam, no compulsory instruction in palliative care is available in any undergraduate medical programs. Key informants in most countries said that instruction on palliative care was available in post-graduate medical education, but in China such instruction is not available at all.

Table 24: Availability of Education in Pain Management in Asia

Country	Available in Undergraduate Medical Programs	Compulsory in Undergraduate Medical Programs	Available in Post-Graduate Medical Education
India	Few	Few	Yes
Bangladesh	Most	Most	Yes
Thailand	Most	Some	Yes
Nepal	Most	Most	Yes
Indonesia	Few	Few	Conflicting information
Philippines	Most	None	Yes
Vietnam	Some	None	Yes
South Korea	Few	None	Yes
Japan	Most	Some	Yes
China	Some	Some	No
Cambodia	Some	None	Yes

Drug Availability

Key informants in Cambodia, China, Japan, and South Korea reported the widest availability of morphine, with the medication available in most or all hospitals. However, in Cambodia and China, oral morphine is not available at all in pharmacies and in few or no health centers, creating significant obstacles to its accessibility in rural areas. Poorest overall availability was reported in Bangladesh, where oral morphine is not at all available in hospitals and health centers and only in some pharmacies and few hospices in India, Nepal, Philippines, and Vietnam. In each of these countries oral and injectable morphine is available only in some hospitals, health centers, and pharmacies, although reported availability in hospices is slightly better. Doctors in all the countries surveyed in Asia reported that morphine is harder to access outside major cities.

Table 25. Accessibility of Morphine in Different Healthcare Settings in Asia

Country	Injectable Morphine In Hospitals	Oral Morphine					
		Tertiary Hospitals	Other Hospitals	Pharmacies	Health Centers	Hospices	AIDS Clinics
India	Some	Some	Some	Few	Few	Some	None
Bangladesh	Some	None	None	Some	None	Few	None
Thailand	All	Most	Some	Some	Some	All	N/A
Nepal	Some	Some	Some	Some	None	Most	Few
Indonesia	Most	Most	Some	Some	Some	N/A	Most
Philippines	Some	Some	Some	Some	Some	Most	Some
Vietnam	Some	Some	Some	Some	None	Some	Some
South Korea	Most	All	Most	Some	None	All	All
Japan	All	All	Most	Some	None	All	All
China	Most	All	Most	None	Few	Most	Most
Cambodia	Most	All	Most	None	None	Most	Conflicting Response

Medicines Availability: Restrictive Regulation

Of the 11 Asian countries surveyed, Cambodia has by far the most restrictive regulations. It prohibits prescribing of morphine for home use, requires doctors to get a special license to be allowed to prescribe morphine, requires multiple doctors to sign off on morphine prescriptions, and imposes a 7-day limit on the number of days a prescription can cover.

Seven of the ten other Asian countries surveyed require a special prescription form for morphine—India, Indonesia, and Nepal are the exceptions—and three others, China, Japan, and Philippines, require doctors to obtain a special license before they can write such prescriptions. Regulations in four of the other ten countries imposed limitations on the number of days a prescription can cover. In Japan, Philippines, and Vietnam, the limit is a relatively generous 30 days. In China, it depends on the formulation of morphine: 15 days for sustained release, 7 days for immediate release, and 3 days for injectable morphine. Survey respondents in South Korea, where regulations do not impose such limit, said that many hospitals enforce their own limits, which are often as short as one week or even one day. In all but two of the countries surveyed in the region—Japan and Thailand—doctors reported that fear of legal sanction deters opioid prescribing.

None of the countries surveyed in Asia allow nurse-prescribing, although Vietnam allows assistant doctors to prescribe morphine in remote areas (see below).

Table 26. Restrictive Regulation of Morphine Prescribing in Asia

Country	Prohibition on Prescribing Morphine for Home Use	Morphine Prescription Form Differs from Regular Forms	Signature of More Than One Doctor Required	Right to Prescribe Morphine Limited to Doctors in Certain Specialties	Special License Required to Prescribe Morphine	Limitation on Length of Morphine Prescription	Dose Limits
India	No	No	No	No	No	No	No
Bangladesh	No	Yes	No	No	No	Uncertain	No
Thailand	No	Yes	No	No	No	Conflicting Response	No
Nepal	No	No	No	No	No	No	No
Indonesia	No	No	No	No	No	No	No
Philippines	No	Yes	No	No	Yes	30 Days	2500omg/ month
Vietnam	No	Yes	No	No	No	30 Days	No
South Korea	No	Yes	No	No	No	No	No
Japan	No	Yes	No	No	Yes	30 Days	No
China	No	Yes	No	No	Yes	Yes – length varies	No
Cambodia	Yes	Yes	Yes	No	Yes	7 days	No

Cost

The cost of morphine varies markedly throughout the region. The price can be very inexpensive in countries that have domestic production of morphine, including India and Vietnam, and other countries, including Japan and China, subsidize its cost. In some countries, including Nepal, there is an official government price for morphine, but shortages mean the price on the black market is sometimes much higher.

Developing Palliative Care: Vietnam

Between 2005, when palliative care reforms began, and 2008, Vietnam saw an over 800 percent increase in morphine equivalent consumption, from 0.3 mg per person to 2.5 mg per person.[113] Vietnam has focused its reform efforts on removing unnecessary barriers to prescribing opioids and educating healthcare personnel in palliative care. In 2008 the country eased a number of key regulatory barriers to opioid prescription: the maximum daily opioid dose was abolished, prescriptions can now be issued for 30 days rather than 7, and district

[113] Consumption Data. International Narcotics Control Board.

hospitals and commune health posts are now authorized to prescribe and dispense morphine.[114] Assistant doctors in "mountainous, remote, island, disadvantage areas and places where a doctor is not available" are also now able to obtain a license to prescribe morphine.[115]

New education programs and opportunities have also been developed. In 2008 the Ministry of Health piloted a certification program in palliative care and held a two-day workshop on new palliative care guidelines and regulations for more than 1,000 health care managers, pharmacists, and physicians from around the country.[116] As of 2010, 400 Vietnamese doctors have completed a one-week curriculum in palliative care, developed with assistance from the Harvard Medical School Center for Palliative Care.[117] Two Vietnamese medical colleges now offer instruction on palliative care to undergraduate medical and nursing students, and a National Curriculum in Palliative Care was expected to be published in 2010.[118]

This progress started with the creation of a working group on palliative care, which consisted of Ministry of Health officials, cancer and infectious disease physicians, and experts from NGOs supported by the US President's Emergency Plan for AIDS Relief (PEPFAR). The working group decided to conduct a rapid situation analysis to assess the availability of and the need for palliative care in Vietnam.[119] Based on the rapid situation analysis's findings, the working group recommended that national palliative care guidelines and a balanced national opioid control policy be developed, training for healthcare workers be expanded, and that availability and quality of palliative care services be improved at all levels. In September 2006, the Ministry of Health issued detailed Guidelines on Palliative Care for Cancer and AIDS Patients, which provided guidance to practitioners on palliative care and pain management, and in February 2008, it issued new guidelines on opioid prescription, which eased regulatory barriers as described above.

Despite this progress, numerous challenges remain in delivering palliative care in Vietnam. Attitudes toward, and an understanding of, palliative care among health care professionals continue to be limited and lag behind regulatory changes. Although morphine can be

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[114] While this is an improvement, patients and their families can only fill prescriptions for 10 days at a time, after which their local commune must confirm in writing that the patient is still alive.

[115] Human Rights Watch interview with Dr Eric Krakauer, November 3, 2009.

[116] Eric L. Krakauer, Nguyen Thi Phuong Cham, Luong Ngoc Khue. Vietnam's Palliative Care Initiative: Successes and Challenges in the First Five Years. *Journal of Pain and Symptom Management*, 2010 40(1): 27-30.

[117] Ibid.

[118] Human Rights Watch interview with Dr Eric Krakauer, November 3, 2009.

[119] Green K, Kinh LN, Khue LN., "Palliative care in Vietnam: Findings from a rapid situation analysis in five provinces," (Hanoi: Vietnam Ministry of Health, 2006).

prescribed for 30 days, a prescription can only be filled for 10 days a time, after which point it must be confirmed that the patient is alive and using the medication appropriately.[120] The availability of opioids continues to be limited, especially in rural areas, as few pharmacies and hospitals stock oral morphine.

[120] Human Rights Watch interview with Dr. Eric Krakauer, November 3, 2009.

VIII. International Human Rights Obligations and Pain Treatment

Health as a Human Right

The right to the highest attainable standard of health is a fundamental human right enshrined in numerous international instruments.[121] The International Covenant on Economic, Social and Cultural Rights (ICESCR) specifies that everyone has a right "to the enjoyment of the highest attainable standard of physical and mental health."[122] The Committee on Economic, Social and Cultural Rights (CESCR), the body charged with monitoring compliance with the ICESCR, has held that states must make available in sufficient quantity "functioning public health and health-care facilities, goods and services, as well as programmes" and that these services must be accessible.[123]

Because states have different levels of resources, international law does not mandate the standard of health care to be provided. Rather, the right to health is considered a right of "progressive realization." By becoming party to the international agreements, a state agrees "to take steps … to the maximum of its available resources" to achieve the full realization of the right to health. In other words, high income countries will generally have to provide healthcare services at a higher level than those with limited resources. But all countries will be expected to take concrete steps towards increased services, and regression in the provision of health services will, in most cases, constitute a violation of the right to health. The CESCR has held that states have a "specific and continuing obligation to move as expeditiously and effectively as possible towards the full realization" of the right to health and must "refrain from interfering directly or indirectly with [its] enjoyment."[124]

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[121] International Covenant on Economic, Social and Cultural Rights (ICESCR), G.A. res. 2200A (XXI), 21 U.N.GAOR Supp. (No. 16) at 49, U.N. Doc. A/6316 (1966), 993 U.N.T.S. 3, entered into force January 3, 1976, art. 11; See also Convention on the Rights of the Child, G.A. res. 44/25, annex, 44 U.N. GAOR Supp. (No. 49) at 167, U.N. Doc. A/44/49 (1989), entered into force September 2 1990, art. 24.

[122] International Covenant on Economic, Social and Cultural Rights (ICESCR), G.A. res. 2200A (XXI), 21 U.N.GAOR Supp. (No. 16) at 49, U.N. Doc. A/6316 (1966), 993 U.N.T.S. 3, entered into force January 3, 1976, art. 12.

[123] The Right to the Highest Attainable Standard of Health, Committee on Economic, Social and Cultural Rights, E/C.12/2000/4. (General Comments), 11 August 2000, I.12.(a).

[124] UN Committee on Economic, Social and Cultural Rights, "Substantive Issues Arising in the Implementation of the International Covenant on Economic, Social and Cultural Rights," General Comment No. 14, The Right to the Highest Attainable Standard of Health, E/C.12/2000/4 (2000), http://www.unhchr.ch/tbs/doc.nsf/(Symbol)/40d009901358b0e2c1256915005090be?Opendocument (accessed November 4, 2010), [hereinafter *Substantive Issues Arising in the Implementation of the ICESCR, General Comment No. 14*], paras. 30 and 33.

The CESCR has called for an integrated approach to the provision of "preventive, curative and rehabilitative health treatment,"[125] which "should not disproportionately favour expensive curative health services which are often accessible only to a small, privileged fraction of the population."[126] The committee has specifically called for "attention and care for chronically and terminally ill persons, sparing them avoidable pain and enabling them to die with dignity."[127] States must refrain from actions that interfere with access to palliative care and take reasonable steps to facilitate its development and its integration into the health care system as a whole.

But the CESCR has also held that there are certain core obligations that are so fundamental that states must fulfill them. While resource constraints may justify only partial fulfillment of some aspects of the right to health, the committee has observed vis-à-vis the core obligations that "a State party cannot, under any circumstances whatsoever, justify its non-compliance with the core obligations… which are non-derogable."[128] The committee has identified, among others, the following core obligations:

- To ensure the right of access to health facilities, goods and services on a non-discriminatory basis, especially for vulnerable or marginalized groups;
- To provide essential drugs, as from time to time defined under the WHO Action Programme on Essential Drugs;
- To ensure equitable distribution of all health facilities, goods and services;
- To adopt and implement a national public health strategy and plan of action, on the basis of epidemiological evidence, addressing the health concerns of the whole population.[129]

Relevant obligations of "comparable priority" include: ensuring child health care; taking measures to treat and control epidemic and endemic diseases; providing education and access to information for important health problems; and providing appropriate training for health personnel.[130] The CESCR has also stressed the "obligation of all States parties to take

[125] Ibid., para. 25.

[126] Ibid., para. 19.

[127] Ibid., para. 25. While the committee included this reference in a paragraph on the right to health for older persons, the wording clearly indicates that it applies to all chronically and terminally ill persons.

[128] The Right to the Highest Attainable Standard of Health, Committee on Economic, Social and Cultural Rights, E/C.12/2000/4. (General Comments), 11 August 2000, III.47.

[129] Ibid., para. 43.

[130] Ibid., para. 44.

steps, individually and through international assistance and cooperation … towards the full realization of the rights recognized in the Covenant, such as the right to health."[131]

Pain Treatment and the Right to the Highest Attainable Standard of Health

As morphine and codeine are on the WHO Model List of Essential Medicines, countries must provide these medications as part of their core obligations under the right to health, regardless of whether they have been included on their domestic essential medicines lists.[132] They must make sure that they are both available in adequate quantities and physically and financially accessible for those who need them.

Because the manufacturing and distribution of controlled medicines including morphine and codeine are entirely within government control, states need to put in place an effective procurement and distribution system and create a legal and regulatory framework that enables health care providers in both the public and private sector to obtain, prescribe and dispense these medications. Any regulations that arbitrarily impede the procurement and dispensing of these medications will violate the right to health.

States need to adopt and implement a strategy and plan of action for the roll-out of pain treatment and palliative care services. Such strategy and plan of action should identify obstacles to improved services as well as steps to eliminate them. States should regularly measure progress made in ensuring availability and accessibility of pain relief medications.

The requirement of physical accessibility means that pain medications must be "within safe physical reach for all sections of the population, especially vulnerable or marginalized groups, such as … persons with HIV/AIDS."[133] This means that states should ensure that a sufficient number of health care providers or pharmacies stock and dispense morphine and codeine and that an adequate number of healthcare workers are trained and authorized to prescribe these medications.

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[131] Ibid., para. 38.

[132] World Health Organization, "Model List of Essential Medicines - 16th List," March 2009, http://www.who.int/selection_medicines/committees/expert/17/sixteenth_adult_list_en.pdf (accessed 6 August 2010), includes the following opioid analgesics: Codeine Tablet: 30 mg (phosphate); Morphine Injection: 10 mg (morphine hydrochloride or morphine sulfate) in 1-ml ampoule; Oral liquid: 10 mg (morphine hydrochloride or morphine sulfate)/5 ml., Tablet: 10 mg (morphine sulfate); Tablet (prolonged release): 10 mg; 30 mg; 60 mg (morphine sulfate).

[133] *Substantive Issues Arising in the Implementation of the ICESCR, General Comment No. 14,* para. 12.

Financial accessibility means that, while the right to health does not require states to offer medications free of charge, they must be "affordable for all."[134] In the words of the CESCR:

> Payment for health-care services…has to be based on the principle of equity, ensuing that these services, whether privately or publicly provided, are affordable to all, including socially disadvantaged groups. Equity demands that poorer households should not be disproportionately burdened with health expenses as compared to richer households.[135]

Countries also have an obligation to progressively implement palliative care services, which, according to WHO, must have "priority status within public health and disease control programmes."[136] Countries need to ensure an adequate policy and regulatory framework, develop a plan for implementation of these services, and take all steps that are reasonable within available resources to execute the plan. Failure to attach adequate priority to developing palliative care services within health care services will likely violate the right to health.

Pain Treatment and the Right to Be Free from Cruel, Inhuman, and Degrading Treatment

The right to be free from torture, cruel, inhuman, and degrading treatment or punishment is a fundamental human right that is recognized in numerous international human rights instruments.[137] Apart from prohibiting the use of torture, cruel, inhuman, and degrading

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[134] Ibid.

[135] Ibid.

[136] World Health Organization, "National Cancer Control Programs: Policies and Managerial Guidelines," 2002, http://www.who.int/cancer/media/en/408.pdf (accessed August 6, 2010) pp. 86.

[137] International Covenant on Civil and Political Rights (ICCPR), adopted December 16, 1966, G.A. Res. 2200A (XXI), 21 U.N. GAOR Supp. (No. 16) at 52, U.N. Doc. A/6316 (1966), 999 U.N.T.S. 171, entered into force March 23, 1976, art. 7 provides, "No one shall be subjected to torture or to cruel, inhuman or degrading treatment or punishment"; Universal Declaration of Human Rights (UDHR), adopted December 10, 1948, G.A. Res. 217A(III), U.N. Doc. A/810 at 71 (1948); Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (Convention against Torture), adopted December 10, 1984, G.A. res. 39/46, annex, 39 U.N. GAOR Supp. (No. 51) at 197, U.N. Doc. A/39/51 (1984), entered into force June 26, 1987, article 16 provides that "Each State Party shall undertake to prevent in any territory under its jurisdiction other acts of cruel, inhuman or degrading treatment or punishment which do not amount to torture as defined in article I, when such acts are committed by or at the instigation of or with the consent or acquiescence of a public official or other person acting in an official capacity"; Inter-American Convention to Prevent and Punish Torture, O.A.S. Treaty Series No. 67, entered into force February 28, 1987; European Convention for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment (ECPT), signed November 26, 1987, E.T.S. 126, entered into force February 1, 1989; African [Banjul] Charter on Human and Peoples' Rights, adopted June 27, 1981, OAU Doc. CAB/LEG/67/3 rev. 5, 21 I.L.M. 58 (1982), entered into force October 21, 1986.

treatment or punishment, the right also creates a positive obligation for states to protect persons in their jurisdiction from such treatment.[138]

As part of this positive obligation, states have to take steps to protect people from unnecessary pain related to a health condition. As the UN Special Rapporteur on torture, cruel, inhuman and degrading treatment and punishment wrote in a joint letter with the UN Special Rapporteur on the right to health to the commission on narcotic drugs in December 2008:

> Governments also have an obligation to take measures to protect people under their jurisdiction from inhuman and degrading treatment. Failure of governments to take reasonable measures to ensure accessibility of pain treatment, which leaves millions of people to suffer needlessly from severe and often prolonged pain, raises questions whether they have adequately discharged this obligation.[139]

In a report to the Human Rights Council, Manfred Nowak, then-special rapporteur on torture, cruel, inhuman and degrading treatment and punishment, specified that "the de facto denial of access to pain relief, if it causes severe pain and suffering, constitutes cruel, inhuman or degrading treatment or punishment" and that "all measures should be taken to … overcome current regulatory, educational and attitudinal obstacles to ensure full access to palliative care."[140]

Not every case where a person suffers from severe pain but has no access to appropriate treatment will constitute cruel, inhuman, or degrading treatment or punishment. Human Rights Watch believes that this will only be the case when the following conditions are met:

- The suffering is severe and meets the minimum threshold required under the prohibition of torture and cruel, inhuman, or degrading treatment;
- The state is, or should be, aware of the level and extent of the suffering;
- Treatment is available to remove or lessen the suffering but no appropriate treatment is offered; and

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[138] See for example the judgment of the European Court of Rights in *Z v United Kingdom* (2001) 34 EHRR 97.

[139] Joint letter by the UN special rapporteur on the prevention of torture and cruel, inhuman or degrading treatment or punishment, Manfred Nowak, and the UN special rapporteur on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health, Anand Grover, to the Commission on Narcotic Drugs, December 2008. A copy of the letter is available at http://www.ihra.net/Assets/1384/1/SpecialRapporteursLettertoCND012009.pdf (accessed April 27, 2010).

[140] Human Rights Council, Report of the Special Rapporteur on torture and other cruel, inhuman or degrading treatment or punishment, Manfred Nowak, U.N. Doc. A/HRC/10/44, January 14, 2009, paras. 72 and 74(e).

- The state has no reasonable justification for the lack of availability and accessibility of pain treatment.

In such cases, states will be liable for failing to protect a person from cruel, inhuman, or degrading treatment.

IX. Recommendations

The palliative care and pain treatment gap is an international human rights crisis that needs to be addressed urgently both at the international and national level. Therefore, Human Rights Watch makes the following recommendations:

To Governments around the World

General

- Establish, where this has not yet been done, a working group on palliative care and pain management. This working group should include all relevant actors, including health officials, drug regulators, health care providers, nongovernmental palliative care providers, and academics, and develop a concrete plan of action for the progressive implementation of pain treatment and palliative care services.
- Assess both the availability of and the need for pain management and palliative care services.
- Develop a comprehensive plan of action that addresses the various barriers that impede availability of pain management and palliative care, including government policy, education, and availability of medications.
- Invite the WHO Access to Controlled Medications Programme to assist in implementing the above recommendations.
- National human rights commissions or ombudsman offices should, where possible, investigate obstacles to availability of pain management and palliative care services, and request that their governments take urgent measures to address them.

Ensuring an Effective Supply System

- Submit, in a timely fashion, realistic estimates for the need of controlled medications to the INCB.
- Ensure an effective distribution system for controlled medications. While procurement, transportation, and stocking regulations should be able to prevent potential abuse, they should not arbitrarily complicate these processes.
- Countries must ensure that in each region at least a minimum number of pharmacies and hospitals stock morphine.

Developing and Enacting Pain Management and Palliative Care Policies

- Recognize a human rights obligation to provide effective/adequate palliative care programs.
- Develop official policies on pain management and palliative care, including as part of cancer and HIV/AIDS control programs.
- Develop practical guidelines on pain management and palliative care for healthcare workers.
- Include oral morphine and other essential pain treatment medications in national lists of essential medicines.
- Ensure that drug control laws and regulations recognize the indispensible nature of opioid and other controlled medicines for the relief of pain and suffering, as well as the obligation to ensure their adequate availability.

Ensuring Instruction for Healthcare Workers

- Ensure adequate instruction for healthcare workers, including doctors, nurses, and pharmacists, at both undergraduate and postgraduate level.
- Instruction should also be offered to those already practicing as part of continuing medical education.

Reforming Drug Regulations

- Review drug control regulations to assess whether they unnecessarily impede accessibility of pain medications. Health care providers should participate in conducting this review.
- If regulations are found to impede access, they should be amended.
- Recommendations of WHO and health care providers should be a starting point of revised drug control regulations.
- Requiring special licenses for health care institutions or providers to handle morphine should be avoided as much as possible. In other cases, transparent and simple procedures should be established for obtaining such special licenses.
- Special prescription procedures for controlled medications should be avoided as much as possible. Where they are nonetheless in place, they should be minimally burdensome.
- Limitations on the amount of morphine that can be prescribed per day should be abolished.
- Unnecessary limitations on the amount of morphine that can be prescribed or dispensed at once should be abolished.

Ensuring Affordability of Medications

- Countries should seek to ensure the affordability of morphine and other opioid analgesics.

To Global Drug Policy Makers

- Restore the balance between ensuring availability of controlled medicines and preventing abuse, as provided for by the UN drug control conventions, in global drug policy debates. Access to controlled medicines should be a central and recurring agenda item at the Commission on Narcotic Drugs and other meetings on global drug policy.
- The Commission on Narcotic Drugs and the INCB should regularly review progress made by countries toward adequate availability of pain treatment medicines, carefully analyzing steps taken to advance this important issue.
- INCB should significantly increase its efforts to encourage and assist states in improving availability of opioid analgesics.
- UNODC should amend the model laws and regulations it has developed to include recognition of the indispensible nature of narcotic drugs and psychotropic substances for medical and scientific purposes and the obligation for states to ensure their availability.
- UNODC and the INCB should develop processes to ensure that human rights, including the right to the highest attainable standard of health, are systematically considered in their work.

To the WHA, WHO, UNAIDS, and the Donor Community

- The World Health Assembly (WHA) should adopt a resolution calling upon its member states to promote universal access to pain management and palliative care, by taking steps to ensure that their health policies and services address the needs of all patients with life-limiting illness, including by ensuring the availability of pain medicines and training in pain treatment and palliative care for healthcare workers.
- WHO should continue to treat access to controlled medicines with urgency through its Access to Controlled Medications Programme.
- Donor countries and agencies, including the Global Fund to fight AIDS, Malaria, and Tuberculosis and the U.S. President's Emergency Plan for AIDS Relief, should actively encourage countries to undertake comprehensive steps to improve access to pain relief medications and support those that do, including through support for the WHO Access to Controlled Medications Programme.

- UNAIDS should work with governments to identify and remove obstacles to availability and accessibility of pain management and palliative care services.

To the Global Human Rights Community

- UN and regional human rights bodies should routinely remind countries of their obligation under human rights law to ensure adequate availability of pain medicines.
- UN human rights procedures that monitor the right to the highest attainable standard of health and the prohibition on cruel, inhuman and degrading treatment should regularly consider the availability of pain medicines and governments' efforts to make them available.
- Human rights groups should include access to pain treatment and palliative care into their work, including by submitting shadow reports to UN treaty bodies, providing information to the UN Special Rapporteurs on the highest attainable level of health and on torture, cruel, inhuman and degrading treatment and punishment to the Human Rights Council.

X. Methodology

This report presents information on barriers to accessing pain treatment in 40 countries.

Countries were selected in two steps to ensure a broad and diverse sample. First, the five most populous countries in each of the six WHO regions were chosen. Second, specific countries were selected where additional diversity of experience or in-depth understanding of experience was desired.

In Europe, 10 countries were selected in order to include a range of countries from both Western Europe and formerly Communist countries of Eastern and Central Europe. Countries in different regions (including Cameroon, Uganda, El Salvador, Ecuador, Guatemala, Jordan, Georgia, and Cambodia) where Human Rights Watch had on-going work were also included.

From this overall list of countries, four countries were excluded because collecting information was impractical or constituted an unacceptable level of risk for the healthcare workers (the Democratic Republic of Congo, Uzbekistan, Burma, and Sudan). In their place, the next-most-populous country in the relevant WHO region was chosen. Among selected countries, one (Italy), was excluded after repeated efforts to contact appropriate survey respondents yielded no responses.

The primary means of collecting this data was surveying healthcare workers by telephone interview. The survey questions (see Annex 2) ask about common barriers to access to pain treatment identified in Human Rights Watch's March 2009 report: *"Please, do not make us suffer any more…": Access to Pain Treatment as a Human Right.* The telephone interviews took place between July 2009 and October 2010.

The healthcare workers interviewed for this research were identified through professional associations and nongovernmental organizations that work on access to pain treatment and palliative care. Two survey respondents were interviewed in each country except Guatemala, China, and Cambodia, where there were three survey respondents. Most survey respondents (77 of 82) were medical doctors, many of whom also held academic appointments. Three survey respondents were nurses, one was the head of a national hospice and palliative care association with experience as a hospice administrator, and one was a technical advisor for a nongovernmental organization working to integrate palliative care into the country's health system. Many of the healthcare workers were palliative care specialists; others were specialists in pain management, anesthesiology, or oncology.

Healthcare workers were initially contacted by email, with a description of the project and the survey questions. Healthcare workers who agreed to participate were then interviewed by telephone to collect their survey responses. At the preference of the respondent, interviews were conducted in English, Spanish, French, Russian, or Mandarin. In addition, internet research was used to gather secondary materials relevant to the survey questions, such as national palliative care policies, cancer and HIV/AIDS control policies, essential medicines lists, and drug control laws and regulations.

The healthcare workers' survey responses and the results of the secondary research were compared and the healthcare workers were then contacted by email seeking clarification of discrepancies between the survey answers they each provided or between their answers and any relevant documents collected. Survey respondents from 35 countries responded with clarifying information.

Once clarifying information was received, letters presenting the survey results were sent to the Ministry of Health and the Competent National Authority—the body responsible for implementing the 1961 Single Convention on Narcotic Drugs—in each country. The letters explained the research and invited clarification of the initial research findings or additional relevant information. The letters were sent by post and, where possible, fax or email. Replies were received from Poland, Jordan, Georgia, Uganda, and El Salvador.

The initial survey results were also published on a password protected website. Through the email newsletters of the Worldwide Palliative Care Alliance and the International Association for Hospice and Palliative Care, members of these organizations were invited to comment on the initial findings with clarifications or additional relevant information.

The maps and tables of opioid consumption in this report were prepared using publically available data to compare the availability of medicines to treat moderate to severe pain in countries around the globe.[141] Data on each country's consumption of the principal medicines used to treat moderate to severe pain is published each year by the International Narcotics Control Board.[142] Using expert estimates of the prevalence and severity of pain in

[141] This method was adapted from the methodology presented in Seya et al., "A First Comparison Between the Consumption of and the Need for Opioid Analgesics at Country, Regional, and Global Levels," *Journal of Pain & Palliative Care Pharmacotherapy,* vol. 25, (2001), p. 6.

[142] International Narcotics Control Board, "Narcotic Drugs: Estimated World Requirements for 2010: Statistics for 2008," 2010, http://www.incb.org/incb/en/narcotic_drugs_reports.html (accessed 27 October 2010) pp. 208 – 258.

terminal cancer and HIV/AIDS patients,[143] and WHO data on cancer and HIV/AIDS mortality,[144] a calculation of each country's ability to provide pain treatment for its terminal cancer and HIV/ AIDS patients was made, as an indicator of the availability of treatment for all patients with moderate to severe pain in the country. A table of relevant data and calculations can be found in appendix 3.

Survey responses are presented in five regional chapters: Africa, Americas, Europe, the Middle East, and North Africa (corresponding to WHO's Eastern Mediterranean Region) and Asia (corresponding to WHO's South East Asia and Western Pacific Regions).

[143] Kathleen M. Foley et al., "Pain Control for People with Cancer and AIDS," in Dean T. Jamison et al., eds., *Disease Control Priorities in Developing Countries*, 2nd ed. (New York: Oxford University Press, 2006), p. 982.

[144] World Health Organisation, "Global Health Observatory," 2009, http://apps.who.int/ghodata/ (accessed 28 October 2010).

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Appendix 1 – List of Survey Participants

Argentina	Dr. Roberto Wenk
	Dr. Vilma Tripodoro
Bangladesh	Professor Ahmed Nezamuddin
	Dr. Rumana Dowla
Brazil	Dr. Roberto Bettega
	Dr. Ana Claudia Arantes
Cambodia	Dr. Celine Lebost
	Beris Bird
	Dr. Pierre Regis
Cameroon	Dr. Jonah Wefuan
	Ndikintum George Mbeng
China	Dr. Jinxiang Li
	Dr. Limin Lao
	Anonymous
Colombia	Dr. Marta Leon
	Dr. John Jairo Vargas
Ecuador	Dr. Nicky Bailhache
	Dr. Maria Cervantes
Egypt	Anonymous
	Anonymous
El Salvador	Dr. Roland Arturo Larin Lovo
	Dr. Carlos Rivas
Ethiopia	Anonymous
	Dr. Solomon Bogale
France	Dr. Marilene Filbet
	Dr. Jean Bruxelle
Georgia	Anonymous
	Dr. Dimitri Kordzaia
Germany	Dr. Lucas Radbruch
	Dr. Rolf-Detlef Treede
Guatemala	Dr. Eva Rossina Duarte
	Dr. Silvia Rivas

	Dr. Marisol Bustamante
India	Dr. M R Rajagopal
	Dr. Anil Paleri
Indonesia	Anonymous
	Anonymous
Iran	Anonymous
	Anonymous
Japan	Dr. Toshihiko Nakatani
	Dr. Etsuko Aruga
Jordan	Dr. Mohammad Bushnaq
	Dr. Maha Arnaout
Kazakhstan	Anonymous
	Anonymous
Kenya	Dr. Zipporah Ali
	Dr. John Weru
South Korea	Dr. Young Seon Hong
	Youn Seon Choi
Mexico	Dr. Paola Andrea Zuluaga
	Dr. Antonia Tamayo-Valenzuela
Morocco	Dr. Mat Nejmi
	Professor Mhamed Harif
Nepal	Dr. Bishnu Dutta Paudel
	Anonymous
Nigeria	Dr. Folaju Oyebola
	Dr. Simbo Amanor-Boadu
Pakistan	Dr. Haroon Hafeez
	Dr. Mohammad Saleem
Philippines	Dr. Francis Javier
	Dr. Henry Lu
Poland	Dr. Tomasz Dzierżanowski
	Dr. Wojciech Leppert
Romania	Dr. Daniela Mosoiu
	Dr. Constantin Bogdan
Russia	Anonymous

	Anonymous
South Africa	Dr. Liz Gwyther
	Dr. Rene Albertyn
Tanzania	Dr. Mark Jacobson
	Anonymous
Thailand	Dr. Sakon Singha
	Dr. Pongparadee Chaudakshetrin
Turkey	Dr. Ozgur Ozyilkan
	Professor Serdar Erdine
Uganda	Dr. Henry Ddungu
	Dr. Anne Merriman
Ukraine	Dr. Viktoria Tymoshevska
	Dr. Ljudmila Andriishin
United Kingdom	Dr. Bill Noble
	Dr. Ros Taylor
United States	Dr. Aaron Gilson
	Dr. Don Schumacher
Vietnam	Kimberly Green
	Dr. Eric Krakauer

Appendix 2 – Survey Questions

Global State of Opioid Availability for Pain Treatment

Survey of national experts

Thank you for agreeing to participate in our survey regarding access to pain treatment.

- During your telephone interview, you will be asked the following questions. You do not need to write down your responses.
- If you do not know the answer to any of our questions, we would greatly appreciate your efforts to find the relevant information, for example by asking other doctors or a government agency.
- We would also very much appreciate copies of any relevant laws, regulations or policies that you have access to.

Policy

1. Does this country have a national palliative care policy?
   ❑ Yes ❑ No ❑ Don't know
2. Are there references to pain management or palliative care in the national cancer control policy?
   ❑ Yes ❑ No ❑ Don't know ❑ No national cancer control policy
3. Are there references to pain management or palliative care in the national AIDS policy?
   ❑ Yes ❑ No ❑ Don't know ❑ No national AIDS policy
4. Is oral morphine a registered medicine?
   ❑ Yes ❑ No ❑ Don't know
5. Is injectable morphine on the national Essential Medicines List?
   ❑ Yes ❑ No ❑ Don't know ❑ No Essential Medicines List
6. Is oral morphine on the national Essential Medicines List?
   ❑ Yes ❑ No ❑ Don't know ❑ No Essential Medicines List

Prescription procedures

7. Can morphine be prescribed for home use?
   ❑ Yes ❑ No ❑ Don't know

8. Is the prescription form for morphine different to the regular prescription form?
   ❑ Yes ❑ No ❑ Don't know

9. Is the signature of more than one doctor required on a prescription for morphine?
   ❑ Yes ❑ No ❑ Don't know

10. Is the right to prescribe morphine limited to doctors in certain specialties (i.e. oncologists)?
    ❑ Yes, the specialists that can prescribe are: _____ _____
    ❑ No ❑ Don't know

11. Do doctors need a special license to prescribe morphine (in addition to their license to practice medicine)?
    ❑ Yes ❑ No ❑ Don't know

    11a. If a special license is required, how difficult is it to obtain?
    ❑ Not difficult ❑ somewhat difficult ❑very difficult

12. Can any health professionals other than doctors obtain a license to prescribe morphine? (For example, specially trained nurses)
    ❑ Yes, the health professionals that can obtain a license to prescribe are:_____
    ❑ No ❑ Don't know

13. What is the maximum number of days that morphine can be prescribed for an out-patient, using one prescription?
    Number of days:__ __ ❑ Don't know ❑ morphine cannot be prescribed for out-patients

14. Is there limit on the dose of morphine that may be prescribed?
    ❑ Yes: limit is:_____ ❑ No ❑ Don't know

Medical education

Definition: for the purpose of these questions, pain management means using opioids and other drugs to manage acute and chronic pain. Anesthesia is not pain management. Pain management may be taught as a component of palliative care, but need not be.

15. Is instruction in pain management:

Available in undergraduate medical programs: ❑ none ❑ some ❑ most ❑ all ❑ don't know
Compulsory in undergraduate programs: ❑ none ❑ some ❑ most ❑ all ❑ don't know
Available in post-graduate medical education: ❑ Yes ❑ No ❑ Don't know

Availability

16. Is injectable morphine available in hospitals:
    ❑ none ❑ some ❑ most ❑ all ❑ don't know

17. Is oral morphine available in:
    Tertiary hospitals ❑ none ❑ some ❑ most ❑ all ❑ don't know
    Other hospitals ❑ none ❑ some ❑ most ❑ all ❑ don't know
    Pharmacies ❑ none ❑ some ❑ most ❑ all ❑ don't know
    Health centres ❑ none ❑ some ❑ most ❑ all ❑ don't know
    Hospices ❑ none ❑ some ❑ most ❑ all ❑ don't know ❑ no hospices
    AIDS clinics ❑ none ❑ some ❑ most ❑ all ❑ don't know ❑ no AIDS clinics

18. Question for general discussion: Is it harder to access morphine outside of major cities?

19. Cost

- Please indicate the price that a patient pays for each morphine formulation at your own health service.
- For hospital in-patients and pharmacies, please assume that the patient obtains the morphine from the cheapest source, but not where its cost is subsidized by private donors.
- Please indicate if you do not know the price of a formulation or if it is unavailable at a particular location.

Formulation	Your health service	Hospital in-patients	Pharmacies
Injectable 10mg/1ml ampoule			
Oral liquid 10mg/5ml			
Immediate release tablet 10mg			
Sustained release tablet 10mg			
Sustained release tablet 30mg			
Sustained release tablet 60mg			

Other questions for general discussion:

20. Are doctors hesitant to prescribe opioids because of fear of legal sanction for mishandling them, such as prosecution or license revocation?

21. The International Narcotics Control Board recommends that governments consult palliative care providers when making their estimates of the country's need for opioids for medical purposes. Are palliative care providers consulted regarding the national estimate?

Appendix 3 – Table of Calculations Used to Produce Maps

Opioid Consumption and Percentage of Terminal Cancer and AIDS Patients Each Country Can Treat

Table 1: Annual Cancer and AIDS Deaths, Average Morphine Consumption 2006-2008, and Percentage of Terminal AIDS and Cancer Patients that Could be Treated with Morphine Consumed

COUNTRY	Population (thousands, WHO, 2008)	AIDS mortality (per 100,000, WHO, 2004)	Cancer mortality (per 100,000) (WHO) (2004)	Annual AIDS deaths	Annual cancer deaths	Morphine required to treat AIDS and Cancer Patients (kg)	2006 consumption figure	2007 consumption figure	2008 consumption figure	Average consumption 2006-2008	Percentage of need	Number of Cancer or HIV/AIDS patients that could be treated with annual morphine consumption (2006-2008 average)
Afghanistan	27208	0	82.5	1	22442	109.07	N/A	N/A	N/A	N/A	N/A	
Albania	3143	0	146.2	9	4595	22.36	1.0	4.0	1.0	2.0	9%	329
Algeria	34373	2	56.7	532	19474	96.26	2.0	2.0	4.0	2.7	3%	439
Andorra	84	4	227.5	3	191	0.94	0.25	0.25		0.3	27%	41
Angola	18021	66	75.7	11941	13650	102.61	0.25			0.3	0%	41
Antigua and Barbuda	87	16	155.8	14	136	0.70					0%	0
Argentina	39883	4	157.8	1751	62923	311.12	25.0	449.0	356.0	276.7	89%	45542
Armenia	3077	2	210.4	74	6475	31.69	2.0	4.0	2.0	2.7	8%	439
Australia	21074	1	192.5	112	40568	197.50	1079.0	1093.0	1012.0	1061.3	537%	174705
Austria	8337	1	235.6	56	19644	95.64	1274.0	1274.0	1385.0	1311.0	1371%	215802
Azerbaijan	8731	0	91.4	7	7980	38.80	1.0	1.0	1.0	1.0	3%	165
Bahamas	338	57	93.6	192	317	2.12	1.0	1.0	0.25	0.8	35%	123
Bahrain	776	3	50.5	22	392	1.97	1.0	1.0	1.0	1.0	51%	165
Bangladesh	160000	0	56.4	118	90242	438.93	3.0	2.0	5.0	3.3	1%	549
Barbados	255	29	166.9	74	425	2.29	2.0			2.0	87%	329
Belarus	9679	8	199.2	800	19276	96.11	6.0	5.0	5.0	5.3	6%	878
Belgium	10590	1	278.3	69	29471	143.44	136.0	131.0	135.0	134.0	93%	22058
Belize	301	24	68.5	72	206	1.22	N/A	N/A	N/A	N/A	N/A	N/A
Benin	8662	43	58.8	3752	5093	36.15	0.25	0.25	0.25	0.3	1%	41
Bhutan	687	0	59.0	0	405	1.97	0.0	0.25		0.1	6%	21
Bolivia	9694	4	139.3	416	13505	66.90		0.0	0.0	0.0	0%	0
Bosnia and Herzegovina	3773	0	164.0	11	6189	30.11		0.25	4.0	2.1	7%	350

COUNTRY	Population (thousands, WHO, 2008)	AIDS mortality (per 100,000, WHO, 2004)	Cancer mortality (per 100,000) (WHO) (2004)	Annual AIDS deaths	Annual cancer deaths	Morphine required to treat AIDS and Cancer Patients (kg)	2006 consumption figure	2007 consumption figure	2008 consumption figure	Average consumption 2006-2008	Percentage of need	Number of Cancer or HIV/AIDS patients that could be treated with annual morphine consumption (2006-2008 average)
Botswana	1921	825	48.4	15847	930	52.66	0.25	3.0	0.25	1.2	2%	192
Brazil	191972	9	104.6	17607	200753	1029.14	657.0	312.0	430.0	466.3	45%	76763
Brunei Darussalam	392	0	53.2	0	209	1.01	0.25	0.25	0.25	0.3	25%	41
Bulgaria	7593	0	216.0	22	16399	79.77	47.0	66.0	53.0	55.3	69%	9108
Burkina Faso	15234	66	70.3	9998	10707	82.40	0.25	0.25		0.3	0%	41
Burundi	8074	167	63.0	13459	5089	65.61	0.25	0.25	0.25	0.3	0%	41
Cambodia	14562	70	78.8	10193	11476	86.73	0.0	0.25	0.25	0.2	0%	27
Cameroon	19088	228	71.1	43447	13572	197.93					0%	0
Canada	33259	1	209.2	462	69587	339.59	2003.0	2299.0	2434.0	2245.3	661%	369602
Cape Verde	499	1	51.0	4	254	1.25	0.25	0.25		0.3	20%	41
Central African Republic	4339	252	77.6	10930	3368	49.57	0.25			0.3	1%	41
Chad	10914	113	69.0	12337	7533	74.08			0.25	0.3	0%	41
Chile	16804	3	131.7	443	22131	108.90	59.0	55.0	62.0	58.7	54%	9657
China	1344920	2	136.0	21017	1828511	8950.40	548.0	640.0	906.0	698.0	8%	114897
Colombia	45012	13	81.5	5692	36704	195.67	49.0	75.0	55.0	59.7	30%	9822
Comoros	661	1	47.8	8	316	1.56					0%	0
Congo	3615	220	53.9	7961	1948	33.65	0.25			0.3	1%	41
Cook Islands	20	0	43.9	0	9	0.04	0.0	0.3		0.1	293%	21
Costa Rica	4519	3	91.8	136	4150	20.58	12.0	0.0	13.0	8.3	40%	1372
Cote d'Ivoire	20591	260	78.4	53495	16135	240.91	0.3	0.25	0.25	0.3	0%	41
Croatia	4423	0	284.5	3	12582	61.16	8.0	8.0	8.0	8.0	13%	1317
Cuba	11205	1	171.1	111	19171	93.51	15.0	14.0	11.0	13.3	14%	2195
Cyprus	862	0	113.0	0	974	4.73	2.0	2.0	2.0	2.0	42%	329
Czech Republic	10319	0	287.3	3	29642	144.07	58.0	54.0	53.0	55.0	38%	9053
Democratic People's Republic of Korea	23819	0	94.8	37	22588	109.89	19.0	18.0	19.0	18.7	17%	3073
Democratic Republic of the Congo	64257	127	61.6	81738	39574	440.61	0.25	0.25	11.0	3.8	1%	631
Denmark	5458	1	292.8	31	15981	77.76	301.0	293.0	264.0	286.0	368%	47078
Djibouti	849	112	52.4	947	445	5.04					0%	0
Dominica	67	20	159.6	14	107	0.56	0.25	0.25	0.25	0.3	45%	41

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Dominican Republic	9953	46	109.8	4598	10932	67.09	5.0	3.0	4.0	4.0	6%	658
Ecuador	13481	9	87.0	1251	11727	60.79	3.0	2.0	5.0	3.3	5%	549
Egypt	81527	0	55.6	391	45329	221.49	1.0	9.0	12.0	7.3	3%	1207
El Salvador	6134	23	72.2	1389	4430	25.75	0.25	0.25	2.0	0.8	3%	137
Equatorial Guinea	659	148	91.4	974	602	5.89	N/A	N/A	N/A	N/A	N/A	N/A
Eritrea	4927	46	40.9	2265	2014	16.67	0.25	0.25	0.25	0.3	2%	41
Estonia	1341	2	269.3	22	3612	17.62	6.0	6.0	5.0	5.7	32%	933
Ethiopia	80713	122	57.1	98157	46107	522.23	0.25	0.25	4.0	1.5	0%	247
Fiji	844	2	52.6	13	444	2.20	N/A	N/A	N/A	N/A	N/A	N/A
Finland	5304	0	201.6	8	10694	52.00	22.0	21.0	19.0	20.7	40%	3402
France	62036	2	272.5	1153	169042	825.05	2651.0	2302.0	2354.0	2435.7	295%	400933
Gabon	1448	209	77.4	3021	1120	14.62					0%	0
Gambia	1660	30	73.2	492	1215	7.40	0.0			0.0	0%	0
Georgia	4307	0	90.3	4	3890	18.92	8.0	6.0	6.0	6.7	35%	1097
Germany	82264	1	261.1	544	214767	1045.42	1278.0	1900.0	1851.0	1676.3	160%	275940
Ghana	23351	97	64.8	22642	15125	142.28	2.0	1.0	0.25	1.1	1%	178
Greece	11137	0	247.1	17	27518	133.79	5.0	6.0	5.0	5.3	4%	878
Grenada	104	19	148.0	20	154	0.81	0.25	0.25		0.3	31%	41
Guatemala	13686	15	65.0	2054	8891	49.45	5.0	1.0	5.0	3.7	7%	604
Guinea	9833	40	67.1	3951	6595	44.06					0%	0
Guinea-Bissau	1575	60	69.2	937	1090	8.14					0%	0
Guyana	763	82	84.8	628	647	5.05	0.25	0.25	0.0	0.2	3%	27
Haiti	9876	92	55.4	9098	5471	54.22	0.25	0.25	0.25	0.3	0%	41
Honduras	7319	34	77.3	2467	5656	34.98	0.0	0.0		0.0	0%	0
Hungary	10012	0	328.5	12	32892	159.89	22.0	17.0	13.0	17.3	11%	2853
Iceland	315	0	179.1	0	564	2.74	8.0	12.0	10.0	10.0	365%	1646
India	1181412	11	65.3	133404	771728	4155.81	224.0	693.0	355.0	424.0	10%	69794
Indonesia	227345	0	89.2	298	202830	986.66	6.0	10.0	10.0	8.7	1%	1427
Iran (Islamic Republic of)	73312	2	63.4	1803	46467	231.30	0.0	0.0	0.0	0.0	0%	0
Iraq	30096	0	84.4	6	25389	123.41			1.0	1.0	1%	165

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Ireland	4437	1	204.4	29	9071	44.18	47.0	39.0	39.0	41.7	94%	6859
Israel	7051	0	142.1	30	10018	48.78	36.0	33.0	38.0	35.7	73%	5871
Italy	59604	1	272.5	883	162425	792.07	172.0	105.0	855.0	377.3	48%	62112
Jamaica	2708	44	124.5	1204	3373	20.05	3.0	2.0	4.0	3.0	15%	494
Japan	127293	0	252.9	51	321958	1564.87	436.0	382.0	341.0	386.3	25%	63594
Jordan	6136	0	60.3	29	3702	18.08	6.0	11.0	8.0	8.3	46%	1372
Kazakhstan	15521	2	153.7	268	23857	116.76		0.25	4.0	2.1	2%	350
Kenya	38765	375	48.4	145274	18774	532.51	5.0	22.0	2.0	9.7	2%	1591
Kiribati	97	0	34.5	0	33	0.16					0%	0
Kuwait	2919	0	21.5	6	629	3.08	1.0	1.0	1.0	1.0	33%	165
Kyrgyzstan	5414	0	77.2	22	4182	20.39	0.25	1.0	0.25	0.5	2%	82
Lao People's Democratic Republic	6205	0	67.9	27	4211	20.55	0.25	0.25	0.25	0.3	1%	41
Latvia	2259	1	259.3	16	5857	28.52	4.0	5.0	5.0	4.7	16%	768
Lebanon	4194	4	77.3	176	3242	16.29	4.0	4.0	4.0	4.0	25%	658
Lesotho	2049	801	56.8	16422	1164	55.54		0.25	0.25	0.3	0%	41
Liberia	3793	57	56.7	2156	2150	17.00	N/A	N/A	N/A	N/A	N/A	N/A
Libyan Arab Jamahiriya	6294	5	45.9	338	2888	15.06	0.25	0.25		0.3	2%	41
Lithuania	3321	0	234.5	7	7789	37.87	9.0	9.0	10.0	9.3	25%	1536
Luxembourg	481	1	215.1	4	1035	5.04	4.0	4.0	4.0	4.0	79%	658
Madagascar	19111	3	61.5	489	11744	58.56	0.3	0.3	0.3	0.3	0%	41
Malawi	14846	506	55.9	75165	8302	268.66	0.3	0.3	0.3	0.3	0%	41
Malaysia	27014	8	83.6	2069	22586	116.05	26.0	24.0	29.0	26.3	23%	4335
Maldives	305	19	148.9	58	454	2.38		0.3		0.3	10%	41
Mali	12706	44	78.6	5584	9984	65.48	0.3	0.3	0.3	0.3	0%	41
Malta	407	0	183.5	2	747	3.63	2.0	5.0	3.0	3.3	92%	549
Marshall Islands	61	1	85.3	0	52	0.25	0.3	0.3		0.3	98%	41
Mauritania	3215	15	68.8	488	2211	12.23	0.3	0.3		0.3	2%	41
Mauritius	1280	2	77.9	22	997	4.91	0.3	1.0		0.6	13%	103
Mexico	108555	5	69.2	5008	75168	380.53	29.0	36.0	37.0	34.0	9%	5597

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Micronesia (Federated States of)	110	0	48.0	0	53	0.26	0.3			0.3	97%	41
Monaco	33	3	210.6	1	70	0.34	N/A	N/A	N/A	N/A	N/A	N/A
Mongolia	2641	0	158.3	1	4182	20.33	2.0	0.0	6.0	2.7	13%	439
Morocco	31606	2	44.6	700	14105	70.68	5.0	9.0	7.0	7.0	10%	1152
Mozambique	22383	349	59.7	78158	13369	302.38	1.0	0.3	6.0	2.4	1%	398
Myanmar	49563	45	83.4	22308	41338	268.66	2.0	0.3	0.3	0.8	0%	137
Namibia	2130	479	40.7	10213	867	35.24	2.0	5.0	1.0	2.7	8%	439
Nauru	10	5	83.4	1	8	0.04	0.3			0.3	594%	41
Nepal	28810	1	63.0	255	18144	88.95	1.0	5.0	6.0	4.0	4%	658
Netherlands	16528	1	250.3	95	41368	201.34	151.0	368.0	101.0	206.7	103%	34019
New Zealand	4230	0	193.7	10	8195	39.86	204.0	83.0	232.0	173.0	434%	28477
Nicaragua	5667	4	69.7	237	3951	19.92	3.0	1.0	2.0	2.0	10%	329
Niger	14704	21	83.1	3055	12219	68.66	0.3	0.3		0.3	0%	41
Nigeria	151212	121	67.5	183397	102037	1052.97		0.0	1.0	0.5	0%	82
Niue	2	0	49.0	0	1	0.00	N/A	N/A	N/A	N/A	N/A	N/A
Norway	4767	1	243.9	27	11626	56.58	145.0	134.0	139.0	139.3	246%	22936
Oman	2785	2	41.8	51	1163	5.81	1.0	2.0	2.0	1.7	29%	274
Pakistan	176952	2	53.4	3564	94518	470.18	1.0	5.0	10.0	5.3	1%	878
Palau	20	0	60.8	0	12	0.06	0.3	0.3	0.3	0.3	421%	41
Panama	3399	26	80.1	881	2724	15.91	2.0	3.0	2.0	2.3	15%	384
Papua New Guinea	6577	10	48.7	673	3202	17.60	7.0	3.0		5.0	28%	823
Paraguay	6238	9	85.7	570	5344	27.70	1.0	1.0	0.3	0.8	3%	123
Peru	28837	15	113.5	4316	32727	172.16	0.0	14.0	26.0	13.3	8%	2195
Philippines	90348	0	55.2	71	49843	242.45	20.0	15.0		17.5	7%	2881
Poland	38104	0	253.7	144	96658	470.20	201.0	218.0	247.0	222.0	47%	36543
Portugal	10677	7	233.5	759	24928	123.46	407.0	550.0	88.0	348.3	282%	57339
Qatar	1281	4	14.3	46	183	1.03	0.3	1.0	1.0	0.8	73%	123
Republic of Korea	48152	0	174.3	88	83906	408.05	113.0	55.0	122.0	96.7	24%	15912
Republic of Moldova	3633	1	152.8	27	5552	27.07	4.0	4.0	3.0	3.7	14%	604

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Romania	21361	1	201.6	250	43065	210.06	2.0	10.0	32.0	14.7	7%	2414
Russian Federation	141394	9	194.5	12251	275079	1374.10	48.0	66.0	62.0	58.7	4%	9657
Rwanda	9721	223	56.8	21650	5524	92.61	0.3	0.0	0.3	0.2	0%	27
Saint Kitts and Nevis	51	5	103.1	3	53	0.26	N/A	N/A	N/A	N/A	N/A	N/A
Saint Lucia	170	4	113.3	7	193	0.96	0.3	0.3	0.3	0.3	26%	41
Saint Vincent and the Grenadines	109	45	113.5	49	124	0.75	0.3	0.3	0.3	0.3	33%	41
Samoa	179	0	59.0	0	106	0.51	0.3	0.3	0.3	0.3	49%	41
San Marino	31	0	278.1	0	86	0.42	N/A	N/A	N/A	N/A	N/A	N/A
Sao Tome and Principe	160	1	70.7	1	113	0.55	0.3	0.0		0.1	23%	21
Saudi Arabia	25201	0	46.9	81	11809	57.64	11.0	13.0	15.0	13.0	23%	2140
Senegal	12211	12	81.1	1405	9904	52.40	0.0	1.0		0.5	1%	82
Serbia and Montenegro	9839	1	235.2	60	23145	112.67	1.0	2.0	7.0	3.3	3%	549
Seychelles	84	6	104.9	5	88	0.44	0.3	0.3	0.3	0.3	56%	41
Sierra Leone	5560	54	90.4	3000	5028	33.55		0.3		0.3	1%	41
Singapore	4615	2	120.6	70	5566	27.27	8.0	5.0	5.0	6.0	22%	988
Slovakia	5400	0	219.2	3	11837	57.54	99.0	12.0	0.0	37.0	64%	6091
Slovenia	2015	0	272.5	2	5490	26.69	38.0	53.0	55.0	48.7	182%	8011
Solomon Islands	511	0	35.9	1	183	0.89					0%	0
Somalia	8926	14	77.2	1284	6888	37.37	N/A	N/A	N/A	N/A	N/A	N/A
South Africa	49668	631	90.9	313575	45161	1171.96	92.0	147.0	507.0	248.7	21%	40933
Spain	44486	4	234.7	1753	104420	512.81	181.0	122.0	327.0	210.0	41%	34568
Sri Lanka	20061	1	100.5	117	20165	98.36	8.0	9.0	14.0	10.3	11%	1701
Sudan	41348	61	67.2	25281	27768	211.74	1.0	0.3		0.6	0%	103
Suriname	515	32	83.6	165	430	2.59	0.3	0.3	0.3	0.3	10%	41
Swaziland	1168	798	54.6	9326	637	31.42					0%	0
Sweden	9205	0	228.1	28	20998	102.13	221.0	172.0	219.0	204.0	200%	33580
Switzerland	7541	2	221.2	134	16683	81.49	229.0	273.0	263.0	255.0	313%	41975
Syrian Arab Republic	21227	0	27.9	4	5914	28.75	1.0	0.3	2.0	1.1	4%	178
Tajikistan	6836	2	37.3	109	2552	12.73	0.0	0.3		0.1	1%	21

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Thailand	67386	92	132.0	62146	88942	621.03	49.0	49.0	55.0	51.0	8%	8395
The former Yugoslav Republic of Macedonia	2041	0	179.0	5	3654	17.77	0.3	0.3	0.0	0.2	1%	27
Timor-Leste	1098	1	40.7	8	447	2.20	N/A	N/A	N/A	N/A	N/A	N/A
Togo	6459	133	62.0	8596	4003	45.57	0.3	0.3	0.3	0.3	1%	41
Tonga	104	0	58.1	0	60	0.29	0.3	0.3	0.3	0.3	85%	41
Trinidad and Tobago	1333	50	104.8	667	1397	8.82		2.0	2.0	2.0	23%	329
Tunisia	10169	1	43.4	145	4411	21.88	19.0	20.0	22.0	20.3	93%	3347
Turkey	73914	0	80.8	115	59699	290.49	2.0	13.0	5.0	6.7	2%	1097
Turkmenistan	5044	1	60.0	53	3028	14.88	0.3	1.0	1.0	0.8	5%	123
Tuvalu	10	0	91.0	0	9	0.04					0%	0
Uganda	31657	335	49.4	106137	15652	398.46	9.0		45.0	27.0	7%	4444
Ukraine	45992	22	192.3	10081	88443	460.45	84.0			84.0	18%	13827
United Arab Emirates	4485	2	16.1	68	724	3.73	2.0	2.0	3.0	2.3	63%	384
United Kingdom	61231	0	266.5	212	163157	793.59	1861.0	1437.0	2275.0	1857.7	234%	305789
United Republic of Tanzania	42484	310	63.0	131585	26774	529.81	0.0	0.0	0.0	0.0	0%	0
United States of America	311666	5	193.7	14050	603770	2977.00	17355.0	23005.0	20550.0	20303.3	682%	3342112
Uruguay	3349	5	238.2	179	7977	39.31	0.0	0.0	16.0	5.3	14%	878
Uzbekistan	27191	0	42.6	75	11576	56.49	3.0	3.0	3.0	3.0	5%	494
Vanuatu	234	0	48.2	0	113	0.55	0.3	0.3		0.3	46%	41
Venezuela	28121	5	68.6	1530	19278	98.34	2.0	6.0	11.0	6.3	6%	1043
Viet Nam	87096	15	79.4	12670	69132	374.46	13.0	16.0	19.0	16.0	4%	2634
Yemen	22917	1	49.5	176	11352	55.70	0.3	0.3	0.3	0.3	0%	41
Zambia	12620	666	58.6	83990	7393	291.05	1.0	0.3	1.0	0.8	0%	123
Zimbabwe	12463	1463	66.9	182378	8342	594.52		5.0		5.0	1%	823

Table 2: Average Consumption of All Strong Opioids 2006-2008

COUNTRY	Average morphine consumption 2006-2008 (kg)	fentanyl consumption 2006 (g)	fentanyl consumption 2007 (g)	fentanyl consumption 2008 (g)	hydromorphone consumption 2006 (kg)	hydromorphone consumption 2007 (kg)	hydromorphone consumption 2008 (kg)	oxycodone consumption 2006 (kg)	oxycodone consumption 2007 (kg)	oxycodone consumption 2008 (kg)	pethidine consumption 2006 (kg)	pethidine consumption 2007 (kg)	pethidine consumption 2008 (kg)	methadone consumption 2006 (kg)	methadone consumption 2007 (kg)	methadone consumption 2008 (kg)
Afghanistan	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Albania	2.0	39.2	20.0	16.25				0	0	0	3	3	1	2	2	4
Algeria	2.7	128.5	130.1	270.975				0	0	0	0	0.25	2	0	0	0
Andorra	0.3	28.1	31.9	37.888				0.25	0.25		0.25	0.25		0.25	0.25	
Angola	0.3	0.3		157				0			0.25			0		
Antigua and Barbuda	0.0															
Argentina	276.7	407.6	429.9	1225.114	0.00	0	0	12	15	15	11	6	15	9	7	7
Armenia	2.7	5.0	8.0	10				0	0	0	0	0	0	0	0	0.25
Australia	1061.3	7484.1	13069.0	17380.637	8.00	9	9	936	1122	1295	118	105	89	660	676	706
Austria	1311.0	10822.3	17013.4	18214.009	37.00	46	57	35	40	46	50	9	7	60	57	60
Azerbaijan	1.0	7.0	7.0	10				0	0	0	0	0	0	2	1	2
Bahamas	0.8	0.3	0.5	0.488			0	1	1	1	7	4	8	0	0	0
Bahrain	1.0	15.4	22.8	14.218				0	0	0	4	5	5	0.25	0.25	0.25
Bangladesh	3.3	15.0	23.8	21.92				0	0	0	150	115	126	0	0	0
Barbados	2.0	3.3						0.25			13			0		
Belarus	5.3	50.4	65.4	208.411				0	0	0	0	0	0	0	0.25	2

COUNTRY	Average morphine consumption 2006-2008 (kg)	fentanyl consumption 2006 (g)	fentanyl consumption 2007 (g)	fentanyl consumption 2008 (g)	hydromorphone consumption 2006 (kg)	hydromorphone consumption 2007 (kg)	hydromorphone consumption 2008 (kg)	oxycodone consumption 2006 (kg)	oxycodone consumption 2007 (kg)	oxycodone consumption 2008 (kg)	pethidine consumption 2006 (kg)	pethidine consumption 2007 (kg)	pethidine consumption 2008 (kg)	methadone consumption 2006 (kg)	methadone consumption 2007 (kg)	methadone consumption 2008 (kg)
Belgium	134.0	20034.0	25916.0	30978	16.00	11	10	0.25	8	36	22	21	19	281	219	249
Belize	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benin	0.3	2.3	0.2	4.25				0	0	0	1	1	2	0	0	0
Bhutan	0.1		0.1					0	0		0	1		0	0	
Bolivia	0.0							0	0	0	0	0	0		0	0
Bosnia and Herzegovina	2.1		469.1	249.044				0	0	0	0	4	0.25		10	36
Botswana	1.2	0.017	0.2	0.1				0	0	0	7	4	0.25	0	0	0
Brazil	466.3	8909.6	2738.4	6955.472	0.00	0	0	15	12	12	487	499	451	36	24	39
Brunei Darussalam	0.3	2.1	3.0	2.579			0	0	0	0	1	1	1	0	0	0
Bulgaria	55.3	246.236	170.8	161.002				4	5	7	18	10	7	31	37	58
Burkina Faso	0.3	2.1	0.7	0.776				0	0		0	0		0	0	
Burundi	0.3	0.6	0.0	0.76				0	0	0	1	2	0	0	0	0
Cambodia	0.167	0	4.5	8.663				0	0	0	0	0.25	0	0	0	0
Cameroon	0.0															
Canada	2245.3	42751.4	65751.4	48258.279	553.00	600	647	3487	3689	4513	685	796	675	853	1047	1323
Cape Verde	0.3	0.7	2.0					0	0		0.25	0.25		0	0	
Central African Republic	0.3	0						0			0			0		

COUNTRY	Average morphine consumption 2006-2008 (kg)	fentanyl consumption 2006 (g)	fentanyl consumption 2007 (g)	fentanyl consumption 2008 (g)	hydromorphone consumption 2006 (kg)	hydromorphone consumption 2007 (kg)	hydromorphone consumption 2008 (kg)	oxycodone consumption 2006 (kg)	oxycodone consumption 2007 (kg)	oxycodone consumption 2008 (kg)	pethidine consumption 2006 (kg)	pethidine consumption 2007 (kg)	pethidine consumption 2008 (kg)	methadone consumption 2006 (kg)	methadone consumption 2007 (kg)	methadone consumption 2008 (kg)
Chad	0.3			0.749						0			0.25			0
Chile	58.7	392.2	659.5	642.168				1	1	2	8	13	22	4	3	6
China	698.0	5208.8	8197.2	11238.936		0	0.25	24	58	117	1566	1563	1771	377	589	1178
Colombia	59.7	609.8	1900.5	1860.387	0.25	2	0	27	29	43	0	0	0	2	3	6
Comoros	0.0															
Congo	0.3	2.4						0			0.25			0		
Cook Islands	0.1							0	0		0	0.25		0	0.25	
Costa Rica	8.3	48.4	0.0	52				0	0	0	2	0	2	3	0	4
Cote d'Ivoire	0.3	5.4	5.0	7.709				0	0	0	0.25	0	0	0	0	0
Croatia	8.0	1371.5	2234.2	1815.807	0.25	0.25	0.25	1	2	5	3	3	4	83	81	90
Cuba	13.3	247.2	157.0	99.153	0.00	0	0	0	0	0	0	10	10	0	0	0
Cyprus	2.0	49.9	66.1	78.968	0.00	0	0	1	1	1	4	4	5	0.25	0.25	0.25
Czech Republic	55.0	3830.3	4652.9	5657.677	3.00	6	10	33	44	49	68	61	54	12	11	11
Democratic People's Republic of Korea	18.7	0	0.0	0				0	0	0	0	0	0	0	0	0
Democratic Republic of the Congo	3.8	1.6	3.5	29.126				0	0	0	1	2	0.25	0	0	0
Denmark	286.0	9309.9	9564.5	9720.309	1.00	2	3	272	313	344	66	65	59	248	247	251
Djibouti	0.0															

COUNTRY	Average morphine consumption 2006-2008 (kg)	fentanyl consumption 2006 (g)	fentanyl consumption 2007 (g)	fentanyl consumption 2008 (g)	hydromorphone consumption 2006 (kg)	hydromorphone consumption 2007 (kg)	hydromorphone consumption 2008 (kg)	oxycodone consumption 2006 (kg)	oxycodone consumption 2007 (kg)	oxycodone consumption 2008 (kg)	pethidine consumption 2006 (kg)	pethidine consumption 2007 (kg)	pethidine consumption 2008 (kg)	methadone consumption 2006 (kg)	methadone consumption 2007 (kg)	methadone consumption 2008 (kg)
Dominica	0.3	0.0	0.1					0	0	0	0.25	0.25	1	0	0	0
Dominican Republic	4.0	17.1	53.4	9.22				1	1	0.25	1	0	0	0.25	0	0
Ecuador	3.3	119.2	127.8	155.548				1	1	2	0	0	0	0	0	0
Egypt	7.3	452.5	344.5	934.787		0	0.25	0	1	0	17	44	88	0	0	0
El Salvador	0.8	46.7	37.1	65.968				2	4	4	10	16	16	1	2	1
Equatorial Guinea	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Eritrea	0.3	0.0	0.0	0				0	0	0	1	1	1	0	0	0
Estonia	5.7	195	170.9	162.257	0.00	0	0	3	4	4	5	5	5	9	12	14
Ethiopia	1.5	0	0.1	0.003				0	0	0	2	13	3	0	0	0
Fiji	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Finland	20.7	7692.8	8179.0	7974.36	0.25	1	0	116	134	137	3	3	1	10	17	35
France	2435.7	57375.9	61440.1	66334.2	31.00	24	15	254	472	504	14	12	15	478	627	613
Gabon	0.0			3.151												
Gambia	0.0							0			0			0		
Georgia	6.7	22.2	25.3	33.564				0	0	0	0	0	0	2	4	10
Germany	1676.3	270682	250230.6	241330	235.00	304	458	1211	1617	1968	104	211	152	1182	1190	1771
Ghana	1.1	0.1	0.0	0.003				0	0	0	87	0	44	0	0	0

COUNTRY	Average morphine consumption 2006-2008 (kg)	fentanyl consumption 2006 (g)	fentanyl consumption 2007 (g)	fentanyl consumption 2008 (g)	hydromorphone consumption 2006 (kg)	hydromorphone consumption 2007 (kg)	hydromorphone consumption 2008 (kg)	oxycodone consumption 2006 (kg)	oxycodone consumption 2007 (kg)	oxycodone consumption 2008 (kg)	pethidine consumption 2006 (kg)	pethidine consumption 2007 (kg)	pethidine consumption 2008 (kg)	methadone consumption 2006 (kg)	methadone consumption 2007 (kg)	methadone consumption 2008 (kg)
Greece	5.3	9942.7	9573.9	10761.506		0.25	0.25	0	0	0	29	32	26	27	63	43
Grenada	0.3	0.1	0.1					0	0		1	1		0	0	
Guatemala	3.7	24.647	63.5	69.764				1	1	3	6	10	6	0.25	0.25	0
Guinea	0.0															
Guinea-Bissau	0.0															
Guyana	0.2	0	2.1	0				0	0	0	4	0	0	0	0	0
Haiti	0.3	0.8	2.1	0.018				0	0	0	1	0	0	0	0	0
Honduras	0.0	0.0						0	0		0	0		0	0	
Hungary	17.3	6513.4	6045.2	6495.666	2.00	2	4	1	5	6	8	7	7	10	9	11
Iceland	10.0	261.9	349.3	375.9	0.25	0.25	0.25	2	0	2	0.25	0.25	0.25	1	1	1
India	424.0	695.9	745.9	562	0.00			0	0.25	0	76	28	27	0.25	1	0
Indonesia	8.7	50.8	105.8	159.69				0	0	0	55	62	61	8	26	54
Iran (Islamic Republic of)	0.0	312.5	325.0	647.95		0	0	0	0	0	115	147	219	875	2930	1805
Iraq	1.0			13.065						0			10			0
Ireland	41.7	2880.8	3580.3	4029.712	3.00	3	3	49	57	38	12	12	19	168	183	206
Israel	35.7	2998.0	3730.0	4109.136	0.25	0.25	0.25	73	82	93	28	25	25	103	117	114
Italy	377.3	16999.0	22889.0	27728	0.00	2	12	87	28	243	36	35	45	1012	1037	1150

COUNTRY	Average morphine consumption 2006-2008 (kg)	fentanyl consumption 2006 (g)	fentanyl consumption 2007 (g)	fentanyl consumption 2008 (g)	hydromorphone consumption 2006 (kg)	hydromorphone consumption 2007 (kg)	hydromorphone consumption 2008 (kg)	oxycodone consumption 2006 (kg)	oxycodone consumption 2007 (kg)	oxycodone consumption 2008 (kg)	pethidine consumption 2006 (kg)	pethidine consumption 2007 (kg)	pethidine consumption 2008 (kg)	methadone consumption 2006 (kg)	methadone consumption 2007 (kg)	methadone consumption 2008 (kg)
Jamaica	3.0	5.3	8.5	0				0	0	0	13	15	15	0	0	0
Japan	386.3	18607.1	18155.3	19758	0.00	0	0	235	285	345	57	51	52	0	0	0
Jordan	8.3	294.7	137.3	109.31				0	0	0	24	25	25	0.25	0.25	0.25
Kazakhstan	2.1		180.3	103.083		0			0	0		0	0		0	0
Kenya	9.7	0.4	2.7	9.288				0	0	0	81	46	47	0	0	0
Kiribati	0.0															
Kuwait	1.0	27.2	37.7	43.2		0		0.25	0.25	0.25	10	11	11	0.25	0.25	0.25
Kyrgyzstan	0.5	10.0	10.0	10.36				0	0	0	0	0	0	3	10	13
Lao People's Democratic Republic	0.3	0.7	0.5	2.08				0	0	0	2	3	1	0	0	0
Latvia	4.7	423.8	373.3	385.962				0.25	0.25	1	2	1	2	1	2	2
Lebanon	4.0	92.4	85.8	100.111				0	0	0	10	12	13	0	0	0
Lesotho	0.3		0.1	0.56					0	0		2	2		0	0
Liberia	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Libyan Arab Jamahiriya	0.3	41.7	96.0					0	0		25	19		0	0	
Lithuania	9.3	660.1	724.3	722.37				0	0	0	9	10	9	7	7	9
Luxembourg	4.0	429.0	491.8	582	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	10	11	12
Madagascar	0.3	7.6	3.5	0				0	0	0	0	0	0	0	0	0

COUNTRY	Average morphine consumption 2006-2008 (kg)	fentanyl consumption 2006 (g)	fentanyl consumption 2007 (g)	fentanyl consumption 2008 (g)	hydromorphone consumption 2006 (kg)	hydromorphone consumption 2007 (kg)	hydromorphone consumption 2008 (kg)	oxycodone consumption 2006 (kg)	oxycodone consumption 2007 (kg)	oxycodone consumption 2008 (kg)	pethidine consumption 2006 (kg)	pethidine consumption 2007 (kg)	pethidine consumption 2008 (kg)	methadone consumption 2006 (kg)	methadone consumption 2007 (kg)	methadone consumption 2008 (kg)
Malawi	0.3	1.0	0.2	1.725				0	0	0	0.25	20	2	0.25	0	0
Malaysia	26.3	323.6	275.6	309.22	0.00			0	3	3	87	0	92	36	161	231
Maldives	0.3		0.0	0.359					0			0.25			0	
Mali	0.3	0.0	0.0	0.002				0	0	0	0	0	0	0	0	0
Malta	3.3	14.5	7.0	5.83				0	0	0	2	3	4	10	11	10
Marshall Islands	0.3	0.1	0.1					0	0		0.25	0.25		0	0	
Mauritania	0.3	8.0	3.0	0.515				0	0		0	0		0	0	
Mauritius	0.6	2.5	3.1					0	0		7	5		0.25	23	
Mexico	34.0	469.0	1562.2	1875	0.25	1	1	1	2	1	0	0	0	29	72	71
Micronesia (Federated States of)	0.3	0.0						0			0.25			0		
Monaco	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mongolia	2.7	2.6	3.1	5.27				0	0	0	0	0	0	0	0	0
Morocco	7.0	90.2	121.8	200				0	0	0	0	0	0	0	0.25	0
Mozambique	2.4	6.0	26.5	0				0	0	0	5	2	1	0	0	0
Myanmar	0.8	0.0	0.0	1				0	0	0	1	1	0.25	0	0	8
Namibia	2.7	5.1	8.0	20.905				0	0	0	1	2	4	0.25	0.25	0.25
Nauru	0.3	0.0						0			0.25			0		

COUNTRY	Average morphine consumption 2006-2008 (kg)	fentanyl consumption 2006 (g)	fentanyl consumption 2007 (g)	fentanyl consumption 2008 (g)	hydromorphone consumption 2006 (kg)	hydromorphone consumption 2007 (kg)	hydromorphone consumption 2008 (kg)	oxycodone consumption 2006 (kg)	oxycodone consumption 2007 (kg)	oxycodone consumption 2008 (kg)	pethidine consumption 2006 (kg)	pethidine consumption 2007 (kg)	pethidine consumption 2008 (kg)	methadone consumption 2006 (kg)	methadone consumption 2007 (kg)	methadone consumption 2008 (kg)
Nepal	4.0	0.0	0.0	0.5				0	0	0	7	3	11	0.25	1	3
Netherlands	206.7	13191.465	24846.5	13270.757	3.00	3	4	140	149	216	26	22	22	313	277	312
New Zealand	173.0	222.1	901.9	0	0.00	0	0.25	27	9	74	45	33	46	205	210	123
Nicaragua	2.0	29.1	25.8	65.65				0	0.25	0.25	0	0.25	0	0	0	0
Niger	0.3	2.66	2.2	1.105				0	0		0.25	0.25		0	0	
Nigeria	0.5			8					0	0		0	4		0	0
Niue	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Norway	139.3	4396.6	5029.2	5558.534	0.25	1	0.25	114	129	151	23	22	21	102	108	108
Oman	1.7	18.0	5.8	7.868		0		0	0	0	7	3	2	0	0	0
Pakistan	5.3	0.0	42.5	53				0	0	0	10	7	13	0	0	0
Palau	0.3	0.0	0.0	0.019				0	0	0	0.25	0.25	0.25	0.25	0.25	0.25
Panama	2.3	59.5	69.9	70.668				0	0	0	3	5	3	0.25	0.25	0.25
Papua New Guinea	5.0	2.2	0.1					0	0		8	13		0	0	
Paraguay	0.8	16.0	35.0	40				0	0	0	0.25	10	0.25	0	0	0
Peru	13.3	0	149.1	157.009				0	6	7	0	16	17	0	0.25	0.25
Philippines	17.5	39.3	77.7			0		6	6		7	12		0	0	0
Poland	222.0	12450.6	15617.4	14959.828	0.00	0.25		1	0.25	1	186	134	126	60	45	50

COUNTRY	Average morphine consumption 2006-2008 (kg)	fentanyl consumption 2006 (g)	fentanyl consumption 2007 (g)	fentanyl consumption 2008 (g)	hydromorphone consumption 2006 (kg)	hydromorphone consumption 2007 (kg)	hydromorphone consumption 2008 (kg)	oxycodone consumption 2006 (kg)	oxycodone consumption 2007 (kg)	oxycodone consumption 2008 (kg)	pethidine consumption 2006 (kg)	pethidine consumption 2007 (kg)	pethidine consumption 2008 (kg)	methadone consumption 2006 (kg)	methadone consumption 2007 (kg)	methadone consumption 2008 (kg)
Portugal	348.3	2694.8	3284.4	4750.634				0	0	0	20	21	24	283	279	327
Qatar	0.8	18.7	15.4	16.852				0	0	0.25	3	3	2	0	0	0
Republic of Korea	96.7	4268.2	5973.3	11310.055	0.25	1	0	81	159	185	131	117	51	0	0	0.25
Republic of Moldova	3.7	23.653	34.5	16.276				0	0	0	0	0	0	0.25	1	3
Romania	14.7	0.0	0.0	485.377		0	0.25	0	0	14	0	22	0	0	13	32
Russian Federation	58.7	1436.2	2102.7	1980.52				0	0	0	0	0	0	0	0	0
Rwanda	0.2	0.0		0.001				0	0	0	0.25	0	1	0	0	0
Saint Kitts and Nevis	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Saint Lucia	0.3	0.0	0.0	0.015				0	0	0	1	1	1	0	0.25	0.25
Saint Vincent and the Grenadines	0.3	0.2	0.1	0.08				0	0	0	0.25	0.25	1	0	0	0
Samoa	0.3	0.1	0.1	0.076				0	0	0	0.25	0.25	0.25	0	0	0
San Marino	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sao Tome and Principe	0.1	0.1	0.2	25.19				0	0		0.25	0		0	0	
Saudi Arabia	13.0	551.2	691.0	697.067	0.25	0.25	0.25	2	1	2	66	71	82	0.25	1	1
Senegal	0.5		1.0					0	0		0	0		0	0	
Serbia	3.3	1223.1	3102.3	2557		0.25	0.25	0.25	0	0	3	3	0	5	13	13
Seychelles	0.3	0.4	0.4	0.3				0	0	0	0.25	0.25	0.25	0	0	0

COUNTRY	Average morphine consumption 2006-2008 (kg)	fentanyl consumption 2006 (g)	fentanyl consumption 2007 (g)	fentanyl consumption 2008 (g)	hydromorphone consumption 2006 (kg)	hydromorphone consumption 2007 (kg)	hydromorphone consumption 2008 (kg)	oxycodone consumption 2006 (kg)	oxycodone consumption 2007 (kg)	oxycodone consumption 2008 (kg)	pethidine consumption 2006 (kg)	pethidine consumption 2007 (kg)	pethidine consumption 2008 (kg)	methadone consumption 2006 (kg)	methadone consumption 2007 (kg)	methadone consumption 2008 (kg)
Sierra Leone	0.3		0.0						0.008			0.25			0	
Singapore	6.0	128.8	89.0	144.727	0.00	0	0	1	2	3	14	11	15	0.25	0.25	0.25
Slovakia	37.0	2467.8	3924.1	2988	1.00	1	0	18	9	0	278	9	0	20	1	0
Slovenia	48.7	1535.2	2019.9	1360.72	0.25	3	2	10	9	22	0	3	2	67	49	60
Solomon Islands	0.0	0	0													
Somalia	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
South Africa	248.7	99.7	970.9	1257.202	0.25	0	0	0	0	0	158	264	20	1	1	1
Spain	210.0	53948.0	63993.0	81170	0.00	0	0	44	99	138	152	196	131	1266	1350	1386
Sri Lanka	10.3	11.3	15.5	5.59				0	0	0	23	21	25	0.25	0.25	0.25
Sudan	0.6	1.0	0.0					0	0		9	10		0	0	
Suriname	0.3	1.9	1.0	1.835				0	0	0	0.25	0.25	0.25	0	0	0
Swaziland	0.0															
Sweden	204.0	9439.0	8877.0	10956	13.00	17	15	193	231	271	5	4	4	91	19	71
Switzerland	255.0	9061.8	11766.4	11693.626	5.00	7	9	374	82	103	66	170	36	329	332	385
Syrian Arab Republic	1.1	92.3	35.3	138.299				14	14	9	31	34	22	0	0	0
Tajikistan	0.1	1.7	3.6	2.939				0	0		0	0		0	0	
Thailand	51.0	340.7	416.0	577.342	0.00	0	0	0	0	0	73	77	68	20	19	23

COUNTRY	Average morphine consumption 2006-2008 (kg)	fentanyl consumption 2006 (g)	fentanyl consumption 2007 (g)	fentanyl consumption 2008 (g)	hydromorphone consumption 2006 (kg)	hydromorphone consumption 2007 (kg)	hydromorphone consumption 2008 (kg)	oxycodone consumption 2006 (kg)	oxycodone consumption 2007 (kg)	oxycodone consumption 2008 (kg)	pethidine consumption 2006 (kg)	pethidine consumption 2007 (kg)	pethidine consumption 2008 (kg)	methadone consumption 2006 (kg)	methadone consumption 2007 (kg)	methadone consumption 2008 (kg)
The former Yugoslav Republic of Macedonia	0.2	24.6	11.1	10.784				0	0	0	0	0	0	3	26	30
Timor-Leste	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Togo	0.3	0.2	0.7	1.433				0	0	0	1	1	1	0	0	0
Tonga	0.3	0.1	0.1	0.071				0	0	0	0.25	0.25	0.25	0	0	0
Trinidad and Tobago	2.0		5.0	4.479		0	0		0	0		10	20		0	0
Tunisia	20.3	129.754	119.7	126.998	0.00	0	0	0	0	0	5	5	4	0	0	0
Turkey	6.7	3386.7	6362.2	8942.381	0.00	0	0	0	0	0	158	172	184	0	0	0
Turkmenistan	0.8	2.0	0.6	3.006				0	0	0	0	0	0	0	0	0
Tuvalu	0.0															
Uganda	27.0	0.0		0				0		0	15		6	0		0
Ukraine	84.0	572.096						0			0			0		
United Arab Emirates	2.3	44.6	95.8	175	0.00	0.25	0.25	0	1	0.25	4	5	7	0.25	0.25	0.25
United Kingdom	1857.7	26219.0	9628.4	36200.629	8.00	6	5	416	217	902	199	170	287	1071	740	1870
United Republic of Tanzania	0.0	0.0	0.0	0				0	0	0	0	0	0	0	0	0
United States of America	20303.3	627417.0	626731.0	722001	1078.00	1157	1007	34243	42445	40523	4440	3911	4006	14774	15080	14846
Uruguay	5.3			111.3				0	0	0	0	0	7	0	0	2

COUNTRY	Average morphine consumption 2006-2008 (kg)	fentanyl consumption 2006 (g)	fentanyl consumption 2007 (g)	fentanyl consumption 2008 (g)	hydromorphone consumption 2006 (kg)	hydromorphone consumption 2007 (kg)	hydromorphone consumption 2008 (kg)	oxycodone consumption 2006 (kg)	oxycodone consumption 2007 (kg)	oxycodone consumption 2008 (kg)	pethidine consumption 2006 (kg)	pethidine consumption 2007 (kg)	pethidine consumption 2008 (kg)	methadone consumption 2006 (kg)	methadone consumption 2007 (kg)	methadone consumption 2008 (kg)
Uzbekistan	3.0	12.2	16.4	14.278				0	0	0	0	0	0	1	0.25	1
Vanuatu	0.3	0.0	0.5					0.25	0		0.25	0		0	0	
Venezuela	6.3	262.083	360.0	292.529			0	9	3	9	0	12	4	4	2	0
Viet Nam	16.0	229.5	284.5	239.126	0.00	0	0	0	0	0	33	79	31	0	0	43
Yemen	0.3	24.0	29.0	42.09				0	0	0	1	3	4	0	0	0
Zambia	0.8	1.51	1.5	0.478				0	0	0	8	1	30	0	0	0
Zimbabwe	5.0		0.5						0			13			0	

Table 3: Conversion of Average Consumption of All Strong Opioids 2006-2008 to Equivalent Amount of Morphine

Country	Average morhine consumption 2006-2008 (kg)	Average consumption fentanyl 2006-2008 (g)	Morphine equivalent (kg)	Average hydro-morphone consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average oxcycodone consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average pethidine consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average methadone consumption 2006 - 2008 (kg)	Morphine equivalent (kg)	Total morphine equivalent consumption (kg)
Afghanistan	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Albania	2.0	25.2	2.1		0.0	0.0	0.0	2.3	0.6	2.7	10.7	15.35
Algeria	2.7	176.5	14.7		0.0	0.0	0.0	0.8	0.2	0.0	0.0	17.56
Andorra	0.3	32.6	2.7		0.0	0.3	0.3	0.3	0.1	0.3	1.0	4.36
Angola	0.3	78.7	6.6		0.0	0.0	0.0	0.3	0.1	0.0	0.0	6.87
Antigua and Barbuda	0.0		0.0		0.0		0.0		0.0		0.0	0.00
Argentina	276.7	687.5	57.3	0.0	0.0	14.0	18.6	10.7	2.7	7.7	30.7	385.91
Armenia	2.7	7.7	0.6		0.0	0.0	0.0	0.0	0.0	0.1	0.3	3.64
Australia	1061.3	12644.6	1053.7	8.7	43.3	1117.7	1486.5	104.0	26.0	680.7	2722.7	6,393.50
Austria	1311.0	15349.9	1279.1	46.7	233.3	40.3	53.6	22.0	5.5	59.0	236.0	3,118.58
Azerbaijan	1.0	8.0	0.7		0.0	0.0	0.0	0.0	0.0	1.7	6.7	8.33
Bahamas	0.8	0.4	0.0	0.0	0.0	1.0	1.3	6.3	1.6	0.0	0.0	3.70
Bahrain	1.0	17.5	1.5		0.0	0.0	0.0	4.7	1.2	0.3	1.0	4.62
Bangladesh	3.3	20.3	1.7		0.0	0.0	0.0	130.3	32.6	0.0	0.0	37.60
Barbados	2.0	3.3	0.3		0.0	0.3	0.3	13.0	3.3	0.0	0.0	5.86
Belarus	5.3	108.1	9.0		0.0	0.0	0.0	0.0	0.0	0.8	3.0	17.34
Belgium	134.0	25642.7	2136.8	12.3	61.7	14.8	19.6	20.7	5.2	249.7	998.7	3,355.92
Belize	N/A		0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benin	0.3	2.2	0.2		0.0	0.0	0.0	1.3	0.3	0.0	0.0	0.77
Bhutan	0.1	0.1	0.0		0.0	0.0	0.0	0.5	0.1	0.0	0.0	0.26
Bolivia	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00

Country	Average morhine consumption 2006-2008 (kg)	Average consumption fentanyl 2006-2008 (g)	Morphine equivalent (kg)	Average hydro-morphone consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average oxcycodone consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average pethidine consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average methadone consumption 2006 - 2008 (kg)	Morphine equivalent (kg)	Total morphine equivalent consumption (kg)
Bosnia and Herzegovina	2.1	359.1	29.9		0.0	0.0	0.0	0.1	0.0	23.0	92.0	124.08
Botswana	1.2	0.1	0.0		0.0	0.0	0.0	3.8	0.9	0.0	0.0	2.11
Brazil	466.3	6201.2	516.7	0.0	0.0	13.0	17.3	479.0	119.8	33.0	132.0	1,252.12
Brunei Darussalam	0.3	2.5	0.2	0.0	0.0	0.0	0.0	1.0	0.3	0.0	0.0	0.71
Bulgaria	55.3	192.7	16.1		0.0	5.3	7.1	11.7	2.9	42.0	168.0	249.40
Burkina Faso	0.3	1.2	0.1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.35
Burundi	0.3	0.5	0.0		0.0	0.0	0.0	1.0	0.3	0.0	0.0	0.54
Cambodia	0.167	4.4	0.4		0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.55
Cameroon	0.0		0.0		0.0		0.0		0.0		0.0	0.00
Canada	2245.3	52253.7	4354.3	600.0	3000.0	3896.3	5182.1	718.7	179.7	1074.3	4297.3	19,258.76
Cape Verde	0.3	1.3	0.1		0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.42
Central African Republic	0.3	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.25
Chad	0.3	0.7	0.1		0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.37
Chile	58.7	564.6	47.0		0.0	1.3	1.8	14.3	3.6	4.3	17.3	128.41
China	698.0	8215.0	684.6	0.1	0.6	66.3	88.2	1633.3	408.3	714.7	2858.7	4,738.40
Colombia	59.7	1456.9	121.4	0.8	3.8	33.0	43.9	0.0	0.0	3.7	14.7	243.38
Comoros	0.0		0.0		0.0		0.0		0.0		0.0	0.00
Congo	0.3	2.4	0.2		0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.51
Cook Islands	0.1		0.0		0.0	0.0	0.0	0.1	0.0	0.1	0.5	0.66
Costa Rica	8.3	33.5	2.8		0.0	0.0	0.0	1.3	0.3	2.3	9.3	20.79
Cote d'Ivoire	0.3	6.0	0.5		0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.77

Country	Average morhine consumption 2006-2008 (kg)	Average consumption fentanyl 2006-2008 (g)	Morphine equivalent (kg)	Average hydro-morphone consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average oxycodone consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average pethidine consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average methadone consumption 2006 - 2008 (kg)	Morphine equivalent (kg)	Total morphine equivalent consumption (kg)
Croatia	8.0	1807.2	150.6	0.3	1.3	2.7	3.5	3.3	0.8	84.7	338.7	502.89
Cuba	13.3	167.8	14.0	0.0	0.0	0.0	0.0	6.7	1.7	0.0	0.0	28.98
Cyprus	2.0	65.0	5.4	0.0	0.0	1.0	1.3	4.3	1.1	0.3	1.0	10.83
Czech Republic	55.0	4713.6	392.8	6.3	31.7	42.0	55.9	61.0	15.3	11.3	45.3	595.90
Democratic People's Republic of Korea	18.7	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.67
Democratic Republic of the Congo	3.8	11.4	1.0		0.0	0.0	0.0	1.1	0.3	0.0	0.0	5.06
Denmark	286.0	9531.6	794.3	2.0	10.0	309.7	411.9	63.3	15.8	248.7	994.7	2,512.62
Djibouti	0.0		0.0		0.0		0.0		0.0		0.0	0.00
Dominica	0.3	0.0	0.0		0.0	0.0	0.0	0.5	0.1	0.0	0.0	0.38
Dominican Republic	4.0	26.6	2.2		0.0	0.8	1.0	0.3	0.1	0.1	0.3	7.63
Ecuador	3.3	134.2	11.2		0.0	1.3	1.8	0.0	0.0	0.0	0.0	16.29
Egypt	7.3	577.3	48.1	0.1	0.6	0.3	0.4	49.7	12.4	0.0	0.0	68.92
El Salvador	0.8	49.9	4.2		0.0	3.3	4.4	14.0	3.5	1.3	5.3	18.26
Equatorial Guinea	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Eritrea	0.3	0.0	0.0		0.0	0.0	0.0	1.0	0.3	0.0	0.0	0.50
Estonia	5.7	176.1	14.7	0.0	0.0	3.7	4.9	5.0	1.3	11.7	46.7	73.13
Ethiopia	1.5	0.0	0.0		0.0	0.0	0.0	6.0	1.5	0.0	0.0	3.00
Fiji	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Finland	20.7	7948.7	662.4	0.4	2.1	129.0	171.6	2.3	0.6	20.7	82.7	939.94
France	2435.7	61716.7	5142.9	23.3	116.7	410.0	545.3	13.7	3.4	572.7	2290.7	10,534.57
Gabon	0.0	3.2	0.3		0.0		0.0		0.0		0.0	0.26

Country	Average morhine consumption 2006-2008 (kg)	Average consumption fentanyl 2006-2008 (g)	Morphine equivalent (kg)	Average hydro-morphone consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average oxycodone consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average pethidine consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average methadone consumption 2006 - 2008 (kg)	Morphine equivalent (kg)	Total morphine equivalent consumption (kg)
Gambia	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
Georgia	6.7	27.0	2.3		0.0	0.0	0.0	0.0	0.0	5.3	21.3	30.25
Germany	1676.3	254080.9	21172.6	332.3	1661.7	1598.7	2126.2	155.7	38.9	1381.0	5524.0	32,199.70
Ghana	1.1	0.0	0.0		0.0	0.0	0.0	43.7	10.9	0.0	0.0	12.00
Greece	5.3	10092.7	841.0	0.3	1.3	0.0	0.0	29.0	7.3	44.3	177.3	1,032.19
Grenada	0.3	0.1	0.0		0.0	0.0	0.0	1.0	0.3	0.0	0.0	0.51
Guatemala	3.7	52.6	4.4		0.0	1.7	2.2	7.3	1.8	0.2	0.7	12.77
Guinea	0.0		0.0		0.0		0.0		0.0		0.0	0.00
Guinea-Bissau	0.0		0.0		0.0		0.0		0.0		0.0	0.00
Guyana	0.2	0.7	0.1		0.0	0.0	0.0	1.3	0.3	0.0	0.0	0.56
Haiti	0.3	1.0	0.1		0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.41
Honduras	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
Hungary	17.3	6351.4	529.3	2.7	13.3	4.0	5.3	7.3	1.8	10.0	40.0	607.08
Iceland	10.0	329.0	27.4	0.3	1.3	1.3	1.8	0.3	0.1	1.0	4.0	44.50
India	424.0	667.9	55.7	0.0	0.0	0.1	0.1	43.7	10.9	0.4	1.7	492.35
Indonesia	8.7	105.4	8.8		0.0	0.0	0.0	59.3	14.8	29.3	117.3	149.62
Iran (Islamic Republic of)	0.0	428.5	35.7	0.0	0.0	0.0	0.0	160.3	40.1	1870.0	7480.0	7,555.79
Iraq	1.0	13.1	1.1		0.0	0.0	0.0	10.0	2.5	0.0	0.0	4.59
Ireland	41.7	3496.9	291.4	3.0	15.0	48.0	63.8	14.3	3.6	185.7	742.7	1,158.16
Israel	35.7	3612.4	301.0	0.3	1.3	82.7	109.9	26.0	6.5	111.3	445.3	899.72
Italy	377.3	22538.7	1878.1	4.7	23.3	119.3	158.7	38.7	9.7	1066.3	4265.3	6,712.53
Jamaica	3.0	4.6	0.4		0.0	0.0	0.0	14.3	3.6	0.0	0.0	6.97

Country	Average morhine consumption 2006-2008 (kg)	Average consumption fentanyl 2006-2008 (g)	Morphine equivalent (kg)	Average hydro-morphone consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average oxcycodone consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average pethidine consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average methadone consumption 2006 - 2008 (kg)	Morphine equivalent (kg)	Total morphine equivalent consumption (kg)
Japan	386.3	18840.1	1569.9	0.0	0.0	288.3	383.5	53.3	13.3	0.0	0.0	2,353.10
Jordan	8.3	180.4	15.0		0.0	0.0	0.0	24.7	6.2	0.3	1.0	30.54
Kazakhstan	2.1	141.7	11.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.93
Kenya	9.7	4.1	0.3		0.0	0.0	0.0	58.0	14.5	0.0	0.0	24.51
Kiribati	0.0		0.0		0.0		0.0		0.0		0.0	0.00
Kuwait	1.0	36.0	3.0	0.0	0.0	0.3	0.3	10.7	2.7	0.3	1.0	8.00
Kyrgyzstan	0.5	10.1	0.8		0.0	0.0	0.0	0.0	0.0	8.7	34.7	36.01
Lao People's Democratic Republic	0.3	1.1	0.1		0.0	0.0	0.0	2.0	0.5	0.0	0.0	0.84
Latvia	4.7	394.4	32.9		0.0	0.5	0.7	1.7	0.4	1.7	6.7	45.28
Lebanon	4.0	92.8	7.7		0.0	0.0	0.0	11.7	2.9	0.0	0.0	14.65
Lesotho	0.3	0.3	0.0		0.0	0.0	0.0	2.0	0.5	0.0	0.0	0.78
Liberia	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Libyan Arab Jamahiriya	0.3	68.9	5.7		0.0	0.0	0.0	22.0	5.5	0.0	0.0	11.49
Lithuania	9.3	702.3	58.5		0.0	0.0	0.0	9.3	2.3	7.7	30.7	100.85
Luxembourg	4.0	500.9	41.7	0.3	1.3	0.3	0.3	0.3	0.1	11.0	44.0	91.39
Madagascar	0.3	3.7	0.3		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.56
Malawi	0.3	1.0	0.1		0.0	0.0	0.0	7.4	1.9	0.1	0.3	2.52
Malaysia	26.3	302.8	25.2	0.0	0.0	2.0	2.7	59.7	14.9	142.7	570.7	639.81
Maldives	0.3	0.2	0.0		0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.33
Mali	0.3	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.25
Malta	3.3	9.1	0.8		0.0	0.0	0.0	3.0	0.8	10.3	41.3	46.18
Marshall Islands	0.3	0.1	0.0		0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.32

Country	Average morhine consumption 2006-2008 (kg)	Average consumption fentanyl 2006-2008 (g)	Morphine equivalent (kg)	Average hydro-morphone consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average oxcycodone consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average pethidine consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average methadone consumption 2006 - 2008 (kg)	Morphine equivalent (kg)	Total morphine equivalent consumption (kg)
Mauritania	0.3	3.8	0.3		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.57
Mauritius	0.6	2.8	0.2		0.0	0.0	0.0	6.0	1.5	11.6	46.5	48.86
Mexico	34.0	1302.1	108.5	0.8	3.8	1.3	1.8	0.0	0.0	57.3	229.3	377.36
Micronesia (Federated States of)	0.3	0.0	0.0		0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.31
Monaco	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mongolia	2.7	3.7	0.3		0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.97
Morocco	7.0	137.3	11.4		0.0	0.0	0.0	0.0	0.0	0.1	0.3	18.78
Mozambique	2.4	10.8	0.9		0.0	0.0	0.0	2.7	0.7	0.0	0.0	3.99
Myanmar	0.8	0.3	0.0		0.0	0.0	0.0	0.8	0.2	2.7	10.7	11.72
Namibia	2.7	11.3	0.9		0.0	0.0	0.0	2.3	0.6	0.3	1.0	5.20
Nauru	0.3	0.0	0.0		0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.31
Nepal	4.0	0.2	0.0		0.0	0.0	0.0	7.0	1.8	1.4	5.7	11.43
Netherlands	206.7	17102.9	1425.2	3.3	16.7	168.3	223.9	23.3	5.8	300.7	1202.7	3,080.90
New Zealand	173.0	374.7	31.2	0.1	0.4	36.7	48.8	41.3	10.3	179.3	717.3	981.07
Nicaragua	2.0	40.2	3.3		0.0	0.2	0.2	0.1	0.0	0.0	0.0	5.59
Niger	0.3	2.0	0.2		0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.48
Nigeria	0.5	8.0	0.7		0.0	0.0	0.0	2.0	0.5	0.0	0.0	1.67
Niue	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Norway	139.3	4994.8	416.2	0.5	2.5	131.3	174.7	22.0	5.5	106.0	424.0	1,162.22
Oman	1.7	10.5	0.9	0.0	0.0	0.0	0.0	4.0	1.0	0.0	0.0	3.55
Pakistan	5.3	31.8	2.7		0.0	0.0	0.0	10.0	2.5	0.0	0.0	10.49
Palau	0.3	0.0	0.0		0.0	0.0	0.0	0.3	0.1	0.3	1.0	1.31

Country	Average morhine consumption 2006-2008 (kg)	Average consumption fentanyl 2006-2008 (g)	Morphine equivalent (kg)	Average hydro-morphone consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average oxycodone consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average pethidine consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average methadone consumption 2006 - 2008 (kg)	Morphine equivalent (kg)	Total morphine equivalent consumption (kg)
Panama	2.3	66.7	5.6		0.0	0.0	0.0	3.7	0.9	0.3	1.0	9.81
Papua New Guinea	5.0	1.1	0.1		0.0	0.0	0.0	10.5	2.6	0.0	0.0	7.72
Paraguay	0.8	30.3	2.5		0.0	0.0	0.0	3.5	0.9	0.0	0.0	4.15
Peru	13.3	102.0	8.5		0.0	4.3	5.8	11.0	2.8	0.2	0.7	31.02
Philippines	17.5	58.5	4.9	0.0	0.0	6.0	8.0	9.5	2.4	0.0	0.0	32.73
Poland	222.0	14342.6	1195.2	0.1	0.6	0.8	1.0	148.7	37.2	51.7	206.7	1,662.62
Portugal	348.3	3576.6	298.0		0.0	0.0	0.0	21.7	5.4	296.3	1185.3	1,837.12
Qatar	0.8	17.0	1.4		0.0	0.1	0.1	2.7	0.7	0.0	0.0	2.94
Republic of Korea	96.7	7183.9	598.6	0.4	2.1	141.7	188.4	99.7	24.9	0.1	0.3	911.05
Republic of Moldova	3.7	24.8	2.1		0.0	0.0	0.0	0.0	0.0	1.4	5.7	11.40
Romania	14.7	161.8	13.5	0.1	0.6	4.7	6.2	7.3	1.8	15.0	60.0	96.81
Russian Federation	58.7	1839.8	153.3		0.0	0.0	0.0	0.0	0.0	0.0	0.0	211.98
Rwanda	0.2	0.0	0.0		0.0	0.0	0.0	0.4	0.1	0.0	0.0	0.27
Saint Kitts and Nevis	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Saint Lucia	0.3	0.0	0.0		0.0	0.0	0.0	1.0	0.3	0.2	0.7	1.17
Saint Vincent and the Grenadines	0.3	0.1	0.0		0.0	0.0	0.0	0.5	0.1	0.0	0.0	0.38
Samoa	0.3	0.1	0.0		0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.32
San Marino	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sao Tome and Principe	0.1	8.5	0.7		0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.86
Saudi Arabia	13.0	646.4	53.9	0.3	1.3	1.7	2.2	73.0	18.3	0.8	3.0	91.58
Senegal	0.5	1.0	0.1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.58
Serbia	3.3	2294.1	191.2	0.3	1.3	0.1	0.1	2.0	0.5	10.3	41.3	237.70

Country	Average morhine consumption 2006-2008 (kg)	Average consumption fentanyl 2006-2008 (g)	Morphine equivalent (kg)	Average hydro-morphone consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average oxcycodone consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average pethidine consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average methadone consumption 2006 - 2008 (kg)	Morphine equivalent (kg)	Total morphine equivalent consumption (kg)
Seychelles	0.3	0.4	0.0		0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.34
Sierra Leone	0.3	0.0	0.0		0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.32
Singapore	6.0	120.8	10.1	0.0	0.0	2.0	2.7	13.3	3.3	0.3	1.0	23.06
Slovakia	37.0	3126.6	260.5	0.7	3.3	9.0	12.0	95.7	23.9	7.0	28.0	364.76
Slovenia	48.7	1638.6	136.5	1.8	8.8	13.7	18.2	1.7	0.4	58.7	234.7	447.22
Solomon Islands	0.0	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.00
Somalia	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
South Africa	248.7	775.9	64.7	0.1	0.4	0.0	0.0	147.3	36.8	1.0	4.0	354.58
Spain	210.0	66370.3	5530.6	0.0	0.0	93.7	124.6	159.7	39.9	1334.0	5336.0	11,241.13
Sri Lanka	10.3	10.8	0.9		0.0	0.0	0.0	23.0	5.8	0.3	1.0	17.98
Sudan	0.6	0.5	0.0		0.0	0.0	0.0	9.5	2.4	0.0	0.0	3.04
Suriname	0.3	1.6	0.1		0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.44
Swaziland	0.0		0.0		0.0	0.0	0.0		0.0		0.0	0.00
Sweden	204.0	9757.3	813.1	15.0	75.0	231.7	308.1	4.3	1.1	60.3	241.3	1,642.61
Switzerland	255.0	10840.6	903.3	7.0	35.0	186.3	247.8	90.7	22.7	348.7	1394.7	2,858.50
Syrian Arab Republic	1.1	88.6	7.4		0.0	12.3	16.4	29.0	7.3	0.0	0.0	32.12
Tajikistan	0.1	2.8	0.2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.35
Thailand	51.0	444.7	37.1	0.0	0.0	0.0	0.0	72.7	18.2	20.7	82.7	188.89
The former Yugoslav Republic of Macedonia	0.2	15.5	1.3		0.0	0.0	0.0	0.0	0.0	19.7	78.7	80.12
Timor-Leste	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Togo	0.3	0.8	0.1		0.0	0.0	0.0	1.0	0.3	0.0	0.0	0.57
Tonga	0.3	0.1	0.0		0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.32

Country	Average morhine consumption 2006-2008 (kg)	Average consumption fentanyl 2006-2008 (g)	Morphine equivalent (kg)	Average hydro-morphone consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average oxycodone consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average pethidine consumption 2006-2008 (kg)	Morphine equivalent (kg)	Average methadone consumption 2006 - 2008 (kg)	Morphine equivalent (kg)	Total morphine equivalent consumption (kg)
Trinidad and Tobago	2.0	4.8	0.4	0.0	0.0	0.0	0.0	15.0	3.8	0.0	0.0	6.15
Tunisia	20.3	125.5	10.5	0.0	0.0	0.0	0.0	4.7	1.2	0.0	0.0	31.96
Turkey	6.7	6230.4	519.2	0.0	0.0	0.0	0.0	171.3	42.8	0.0	0.0	568.68
Turkmenistan	0.8	1.9	0.2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.90
Tuvalu	0.0		0.0		0.0		0.0		0.0		0.0	0.00
Uganda	27.0	0.0	0.0		0.0	0.0	0.0	10.5	2.6	0.0	0.0	29.63
Ukraine	84.0	572.1	47.7		0.0	0.0	0.0	0.0	0.0	0.0	0.0	131.67
United Arab Emirates	2.3	105.1	8.8	0.2	0.8	0.4	0.6	5.3	1.3	0.3	1.0	14.82
United Kingdom	1857.7	24016.0	2001.3	6.3	31.7	511.7	680.5	218.7	54.7	1227.0	4908.0	9,533.77
United Republic of Tanzania	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
United States of America	20303.3	658716.3	54890.8	1080.7	5403.3	39070.3	51963.5	4119.0	1029.8	14900.0	59600.0	193,190.79
Uruguay	5.3	111.3	9.3		0.0	0.0	0.0	2.3	0.6	0.7	2.7	17.86
Uzbekistan	3.0	14.3	1.2		0.0	0.0	0.0	0.0	0.0	0.8	3.0	7.19
Vanuatu	0.3	0.3	0.0		0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.47
Venezuela	6.3	304.9	25.4	0.0	0.0	6.0	8.0	5.3	1.3	2.0	8.0	49.05
Viet Nam	16.0	251.1	20.9	0.0	0.0	0.0	0.0	47.7	11.9	14.3	57.3	106.17
Yemen	0.3	31.7	2.6		0.0	0.0	0.0	2.7	0.7	0.0	0.0	3.56
Zambia	0.8	1.2	0.1		0.0	0.0	0.0	13.0	3.3	0.0	0.0	4.10
Zimbabwe	5.0	0.5	0.0		0.0	0.0	0.0	13.0	3.3	0.0	0.0	8.29

Table 4: Calculation of the Percentage of Terminal Cancer and AIDS Patients Who Could be Treated Using all Strong Opioids Consumed

COUNTRY	Total Morphine Equivalent Consumption (kg)	Morphine Required to Treat AIDS and Cancer Patients (kg)	% of need	No. of Cancer or HIV/AIDS Patients that Could be Treated with Annual Strong Opioid Consumption (2006-2008 average)
Afghanistan	N/A	109.07		N/A
Albania	15.35	22.36	68.6%	2,526
Algeria	17.56	96.26	18.2%	2,891
Andorra	4.36	0.94	464.4%	718
Angola	6.87	102.61	6.7%	1,130
Antigua and Barbuda	0.00	0.70	0.0%	-
Argentina	385.91	311.12	124.0%	63,524
Armenia	3.64	31.69	11.5%	599
Australia	6,393.50	197.50	3237.2%	1,052,428
Austria	3,118.58	95.64	3260.7%	513,347
Azerbaijan	8.33	38.80	21.5%	1,372
Bahamas	3.70	2.12	174.4%	609
Bahrain	4.62	1.97	234.2%	761
Bangladesh	37.60	438.93	8.6%	6,190
Barbados	5.86	2.29	255.6%	964
Belarus	17.34	96.11	18.0%	2,854
Belgium	3,355.92	143.44	2339.6%	552,415
Belize	N/A	1.22		N/A
Benin	0.77	36.15	2.1%	127
Bhutan	0.26	1.97	13.1%	43
Bolivia	0.00	66.90	0.0%	-
Bosnia and Herzegovina	124.08	30.11	412.0%	20,424
Botswana	2.11	52.66	4.0%	348

COUNTRY	Total Morphine Equivalent Consumption (kg)	Morphine Required to Treat AIDS and Cancer Patients (kg)	% of need	No. of Cancer or HIV/AIDS Patients that Could be Treated with Annual Strong Opioid Consumption (2006-2008 average)
Brazil	1,252.12	1,029.14	121.7%	206,110
Brunei Darussalam	0.71	1.01	70.3%	117
Bulgaria	249.40	79.77	312.7%	41,054
Burkina Faso	0.35	82.40	0.4%	58
Burundi	0.54	65.61	0.8%	89
Cambodia	0.55	86.73	0.6%	91
Cameroon	0.00	197.93	0.0%	-
Canada	19,258.76	339.59	5671.1%	3,170,166
Cape Verde	0.42	1.25	33.9%	70
Central African Republic	0.25	49.57	0.5%	41
Chad	0.37	74.08	0.5%	62
Chile	128.41	108.90	117.9%	21,137
China	4,738.40	8,950.40	52.9%	779,984
Colombia	243.38	195.67	124.4%	40,062
Comoros	0.00	1.56	0.0%	-
Congo	0.51	33.65	1.5%	84
Cook Islands	0.66	0.04	1537.4%	108
Costa Rica	20.79	20.58	101.0%	3,422
Cote d'Ivoire	0.77	240.91	0.3%	127
Croatia	502.89	61.16	822.3%	82,780
Cuba	28.98	93.51	31.0%	4,771
Cyprus	10.83	4.73	228.8%	1,782
Czech Republic	595.90	144.07	413.6%	98,090
Democratic People's Republic of Korea	18.67	109.89	17.0%	3,073
Democratic Republic of the Congo	5.06	440.61	1.1%	832

COUNTRY	Total Morphine Equivalent Consumption (kg)	Morphine Required to Treat AIDS and Cancer Patients (kg)	% of need	No. of Cancer or HIV/AIDS Patients that Could be Treated with Annual Strong Opioid Consumption (2006-2008 average)
Denmark	2,512.62	77.76	3231.1%	413,601
Djibouti	0.00	5.04	0.0%	-
Dominica	0.38	0.56	67.4%	62
Dominican Republic	7.63	67.09	11.4%	1,256
Ecuador	16.29	60.79	26.8%	2,681
Egypt	68.92	221.49	31.1%	11,345
El Salvador	18.26	25.75	70.9%	3,006
Equatorial Guinea	N/A	5.89		N/A
Eritrea	0.50	16.67	3.0%	82
Estonia	73.13	17.62	415.0%	12,038
Ethiopia	3.00	522.23	0.6%	494
Fiji	N/A	2.20		N/A
Finland	939.94	52.00	1807.6%	154,722
France	10,534.57	825.05	1276.8%	1,734,086
Gabon	0.26	14.62	1.8%	43
Gambia	0.00	7.40	0.0%	-
Georgia	30.25	18.92	159.9%	4,980
Germany	32,199.70	1,045.42	3080.1%	5,300,362
Ghana	12.00	142.28	8.4%	1,976
Greece	1,032.19	133.79	771.5%	169,908
Grenada	0.51	0.81	62.9%	84
Guatemala	12.77	49.45	25.8%	2,102
Guinea	0.00	44.06	0.0%	-
Guinea-Bissau	0.00	8.14	0.0%	-
Guyana	0.56	5.05	11.0%	92

COUNTRY	Total Morphine Equivalent Consumption (kg)	Morphine Required to Treat AIDS and Cancer Patients (kg)	% of need	No. of Cancer or HIV/AIDS Patients that Could be Treated with Annual Strong Opioid Consumption (2006-2008 average)
Haiti	0.41	54.22	0.8%	68
Honduras	0.00	34.98	0.0%	-
Hungary	607.08	159.89	379.7%	99,931
Iceland	44.50	2.74	1622.5%	7,326
India	492.35	4,155.81	11.8%	81,046
Indonesia	149.62	986.66	15.2%	24,628
Iran (Islamic Republic of)	7,555.79	231.30	3266.6%	1,243,751
Iraq	4.59	123.41	3.7%	755
Ireland	1,158.16	44.18	2621.7%	190,643
Israel	899.72	48.78	1844.4%	148,101
Italy	6,712.53	792.07	847.5%	1,104,943
Jamaica	6.97	20.05	34.7%	1,147
Japan	2,353.10	1,564.87	150.4%	387,341
Jordan	30.54	18.08	168.9%	5,026
Kazakhstan	13.93	116.76	11.9%	2,293
Kenya	24.51	532.51	4.6%	4,035
Kiribati	0.00	0.16	0.0%	-
Kuwait	8.00	3.08	260.2%	1,317
Kyrgyzstan	36.01	20.39	176.6%	5,927
Lao People's Democratic Republic	0.84	20.55	4.1%	139
Latvia	45.28	28.52	158.8%	7,453
Lebanon	14.65	16.29	89.9%	2,411
Lesotho	0.78	55.54	1.4%	128
Liberia	N/A	17.00		N/A
Libyan Arab Jamahiriya	11.49	15.06	76.3%	1,891

COUNTRY	Total Morphine Equivalent Consumption (kg)	Morphine Required to Treat AIDS and Cancer Patients (kg)	% of need	No. of Cancer or HIV/AIDS Patients that Could be Treated with Annual Strong Opioid Consumption (2006-2008 average)
Lithuania	100.85	37.87	266.3%	16,601
Luxembourg	91.39	5.04	1812.9%	15,043
Madagascar	0.56	58.56	1.0%	92
Malawi	2.52	268.66	0.9%	415
Malaysia	639.81	116.05	551.3%	105,319
Maldives	0.33	2.38	13.7%	54
Mali	0.25	65.48	0.4%	41
Malta	46.18	3.63	1270.4%	7,601
Marshall Islands	0.32	0.25	126.0%	53
Mauritania	0.57	12.23	4.7%	94
Mauritius	48.86	4.91	994.8%	8,042
Mexico	377.36	380.53	99.2%	62,116
Micronesia (Federated States of)	0.31	0.26	122.0%	52
Monaco	N/A	0.34		N/A
Mongolia	2.97	20.33	14.6%	489
Morocco	18.78	70.68	26.6%	3,091
Mozambique	3.99	302.38	1.3%	656
Myanmar	11.72	268.66	4.4%	1,928
Namibia	5.20	35.24	14.7%	855
Nauru	0.31	0.04	743.1%	51
Nepal	11.43	88.95	12.8%	1,882
Netherlands	3,080.90	201.34	1530.2%	507,144
New Zealand	981.07	39.86	2461.3%	161,493
Nicaragua	5.59	19.92	28.1%	920
Niger	0.48	68.66	0.7%	79

COUNTRY	Total Morphine Equivalent Consumption (kg)	Morphine Required to Treat AIDS and Cancer Patients (kg)	% of need	No. of Cancer or HIV/AIDS Patients that Could be Treated with Annual Strong Opioid Consumption (2006-2008 average)
Nigeria	1.67	1,052.97	0.2%	274
Niue	N/A	0.0		N/A
Norway	1,162.22	56.58	2054.1%	191,312
Oman	3.55	5.81	61.0%	584
Pakistan	10.49	470.18	2.2%	1,726
Palau	1.31	0.06	2213.3%	216
Panama	9.81	15.91	61.6%	1,614
Papua New Guinea	7.72	17.60	43.8%	1,271
Paraguay	4.15	27.70	15.0%	684
Peru	31.02	172.16	18.0%	5,106
Philippines	32.73	242.45	13.5%	5,387
Poland	1,662.62	470.20	353.6%	273,683
Portugal	1,837.12	123.46	1488.1%	302,407
Qatar	2.94	1.03	286.6%	484
Republic of Korea	911.05	408.05	223.3%	149,967
Republic of Moldova	11.40	27.07	42.1%	1,877
Romania	96.81	210.06	46.1%	15,936
Russian Federation	211.98	1,374.10	15.4%	34,894
Rwanda	0.27	92.61	0.3%	45
Saint Kitts and Nevis	N/A	0.26		N/A
Saint Lucia	1.17	0.96	122.1%	192
Saint Vincent and the Grenadines	0.38	0.75	51.2%	63
Samoa	0.32	0.51	62.1%	53
San Marino	N/A	0.42		N/A
Sao Tome and Principe	0.86	0.55	156.1%	142

COUNTRY	Total Morphine Equivalent Consumption (kg)	Morphine Required to Treat AIDS and Cancer Patients (kg)	% of need	No. of Cancer or HIV/AIDS Patients that Could be Treated with Annual Strong Opioid Consumption (2006-2008 average)
Saudi Arabia	91.58	57.64	158.9%	15,075
Senegal	0.58	52.40	1.1%	96
Serbia	237.70	112.67	211.0%	39,127
Seychelles	0.34	0.44	77.5%	57
Sierra Leone	0.32	33.55	1.0%	53
Singapore	23.06	27.27	84.6%	3,796
Slovakia	364.76	57.54	634.0%	60,043
Slovenia	447.22	26.69	1675.7%	73,617
Solomon Islands	0.00	0.89	0.0%	-
Somalia	N/A	37.37		N/A
South Africa	354.58	1,171.96	30.3%	58,367
Spain	11,241.13	512.81	2192.1%	1,850,392
Sri Lanka	17.98	98.36	18.3%	2,960
Sudan	3.04	211.74	1.4%	501
Suriname	0.44	2.59	17.1%	73
Swaziland	0.00	31.42	0.0%	-
Sweden	1,642.61	102.13	1608.3%	270,389
Switzerland	2,858.50	81.49	3507.9%	470,536
Syrian Arab Republic	32.12	28.75	111.7%	5,288
Tajikistan	0.35	12.73	2.8%	58
Thailand	188.89	621.03	30.4%	31,093
The former Yugoslav Republic of Macedonia	80.12	17.77	450.8%	13,189
Timor-Leste	N/A	2.20		N/A
Togo	0.57	45.57	1.2%	93
Tonga	0.32	0.29	108.5%	53

COUNTRY	Total Morphine Equivalent Consumption (kg)	Morphine Required to Treat AIDS and Cancer Patients (kg)	% of need	No. of Cancer or HIV/AIDS Patients that Could be Treated with Annual Strong Opioid Consumption (2006-2008 average)
Trinidad and Tobago	6.15	8.82	69.7%	1,012
Tunisia	31.96	21.88	146.1%	5,260
Turkey	568.68	290.49	195.8%	93,610
Turkmenistan	0.90	14.88	6.1%	149
Tuvalu	0.00	0.04	0.0%	-
Uganda	29.63	398.46	7.4%	4,877
Ukraine	131.67	460.45	28.6%	21,675
United Arab Emirates	14.82	3.73	397.7%	2,439
United Kingdom	9,533.77	793.59	1201.3%	1,569,345
United Republic of Tanzania	0.00	529.81	0.0%	-
United States of America	193,190.79	2,977.00	6489.5%	31,800,953
Uruguay	17.86	39.31	45.4%	2,940
Uzbekistan	7.19	56.49	12.7%	1,184
Vanuatu	0.47	0.55	85.5%	77
Venezuela	49.05	98.34	49.9%	8,074
Viet Nam	106.17	374.46	28.4%	17,477
Yemen	3.56	55.70	6.4%	586
Zambia	4.10	291.05	1.4%	674
Zimbabwe	8.29	594.52	1.4%	1,365

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Global State of Pain Treatment

Access to Palliative Care as a Human Right

Every year, tens of millions of people around the world suffer severe pain and other debilitating symptoms caused by illnesses like cancer and HIV/AIDS. Human Rights Watch interviews in several countries have documented suffering so intense that patients would often rather die than live with their pain.

Almost all this suffering is unnecessary because pain medicines are safe, cheap, and effective and low-cost palliative care services could address severely ill patients' physical, psychological, and social needs.

Yet in most countries availability of strong pain medicines is almost nonexistent and palliative care is a neglected health service. This violates the right to the highest attainable standard of health.

This report uses publicly available data on the consumption of pain medicines to illustrate the enormous extent of unmet need for pain treatment. It also presents the results of a survey of healthcare workers in 40 countries regarding the main barriers to better pain treatment and palliative care.

Global State of Pain Treatment calls upon governments to assess the need for pain treatment and palliative care in their own countries and to systematically identify and address barriers to access, in accordance with their obligations under international law. International organizations such as the World Health Organization and the United Nations drug control agencies should assist countries in their efforts to end unnecessary suffering from pain.

Community health worker Mary Njoki speaks to a mother of twins during a home-based care visit on March 6, 2010, in Mathare, a slum in Nairobi. Njoki taught the twins' mother how to apply a medicine for their skin condition but has not been trained to assess pain and has no access to pain medicines.