Treat the Pain Program
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Abstract

Context. Globally, low- and middle-income countries are home to 70% of cancer deaths and 99% of HIV deaths, but they consume just 7% of opioid analgesics.

Objective. The American Cancer Society’s Treat the Pain program partners with governments in low- and middle-income countries to improve access to high-quality essential pain medicines.

Method. Treat the Pain has developed the MORPHINE Framework to provide a structure to describe challenges to access to pain relief and to group and sequence interventions to address these challenges.

Results. Treat the Pain has used the framework to improve access to oral morphine in partner countries in Sub-Saharan Africa, including Nigeria, Ethiopia, Uganda, Kenya, and Swaziland, addressing both supply- and demand-side challenges.

Conclusion. Treat the Pain is supporting governments in Sub-Saharan Africa to reduce needless suffering and improve access to essential pain medicines for patients in pain by supporting the expansion of locally produced, affordable oral morphine solution and expanding basic training in pain assessment and management. J Pain Symptom Manage 2018;55:S135–S139. © 2017 American Academy of Hospice and Palliative Medicine. Published by Elsevier Inc. All rights reserved.

Key Words
Pain, morphine, Africa

Introduction

More than 3.2 billion people worldwide lack access to adequate pain relief although morphine, the most effective treatment for severe pain, is safe, effective, plentiful, inexpensive, and easy-to-use and is on the World Health Organization (WHO) Essential Medicines List. Access to pain treatment is particularly limited in low- and middle-income countries where approximately 70% of cancer deaths and 99% of HIV deaths in the world occur, but just 7% of opioid analgesics are consumed.1

There are several factors that contribute to limited access to effective pain relief in resource-limited settings. Legal and regulatory restrictions, cultural misperceptions about pain, inadequate training of health care providers, a poorly functioning market, generally weak health systems, and concern about diversion, addiction, and abuse create a web of barriers that force millions of people to live and die with treatable pain.

The American Cancer Society’s Treat the Pain program was established in 2010 to address these barriers and improve access to essential pain medicines in resource-limited settings. Efforts to address the challenge of limited access to pain relief can be framed through several lenses, including a human rights focus, a policy focus, and a training focus, with each approach uniquely suited to different settings.

MORPHINE Framework

Treat the Pain is partnered with a number of governments in Sub-Saharan Africa, including Nigeria, Ethiopia, Uganda, Kenya, and Swaziland. Through our work in these countries, we have developed a “mechanism of access” approach. Together with our partners, we developed an eight-step framework, called the MORPHINE Framework, to group challenges and interventions.2 This framework has been used to guide our work in each country (Fig. 1).

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**Step 1: Mindset**

It is imperative that government health leaders understand and support the scale-up of access to pain relief before launching any interventions. Without prioritization at high levels, it is not possible to create lasting change in the health care system. Therefore, the first step in any partnership that Treat the Pain establishes is to meet with leaders in the Ministry of Health, large hospitals, and pharmaceutical regulatory agencies, to ensure that they have a clear understanding about the issues and needs and that everyone is using the latest clinical information.

Treat the Pain staff reference fact sheets developed for each country that detail recent consumption of opioid analgesics, as reported to the International Narcotics Control Board, and they also provide estimates of the need for pain relief in a country, based on mortality from HIV and cancer, two of the most common indications for pain treatment.

**Step 2: Organize**

The next step involves meeting with stakeholders to map out the process of accessing pain relief in a country. These stakeholders ideally include the Minister of Health, national regulatory authorities, hospital leaders, staff of central medical stores, pharmacists, physicians, nurses, patient advocates, patients, and their families. We focus on mapping each step in the process, from importation of essential pain medicines to a patient filling a prescription. At each process step, challenges that block or delay are identified and each is mapped to one or more interventions to address it. The output of this activity becomes the basis for a joint work plan between Treat the Pain and our partner Ministry of Health.

**Step 3: Regulation**

The third step involves a review of regulations, laws, and policies that govern importation, storage, distribution, and prescription of narcotics and ensuring that they are updated to reflect the latest recommendations of the WHO and International Narcotics Control Board. The goal is to develop a regulatory framework that balances the need to prevent abuse, misuse, and diversion of narcotics with the responsibility to make opioids available for medical use.

**Step 4: Procurement**

For many countries, securing a consistent supply of affordable pain relief is the first barrier to treating pain. Imported tablets or liquid are expensive, and few suppliers are registered in the country. Government purchasers often find it challenging to identify suppliers who are interested in bidding for orders because the volumes are low relative to those in higher income countries.

Over the last six years, Uganda has developed a model for local production of low-cost oral morphine solution that has been instrumental in overcoming these barriers and rapidly expanding access to pain relief. This model is being successfully replicated in Nigeria, Kenya, Rwanda, and Swaziland.

When Treat the Pain first began working in Uganda in 2010, the country was six months into a national public-sector stock-out of morphine which resulted in a tremendous amount of needless suffering for people in pain. But a small amount of relief was being provided by a local hospice, Hospice Africa Uganda (HAU). They had developed a system of small-scale manufacture of an inexpensive oral morphine solution that had been working well and provided for the needs of their patients.

The reconstitution of oral morphine is a relatively simple process that involves mixing the correct amounts of morphine powder with pharmaceutical-grade water, a preservative, and colorant (to indicate strength). The solution is then put into amber-colored bottles (to block UV light, which breaks down the solution) and labeled. An oral morphine
solution has several advantages over tablets, including lower cost, ease of dosing for patients, and lower risk of diversion or misuse.

At the request of the Ugandan government, Treat the Pain partnered with HAU and provided technical assistance to scale-up the small-scale manufacture to a level that could produce pharmaceutical-grade product for the whole country. A contract was established with the National Medical Stores to buy the finished product from HAU and distribute it to public and private not-for-profit hospitals. Because morphine is on Uganda’s national essential medicines list, National Medical Stores provided it to hospitals for free. Over the following six years, Treat the Pain and HAU worked together with the National Drug Authority in Uganda to strengthen the manufacturing processes, renovating the production space to meet international manufacturing standards, and adding automation equipment to expand production while lowering costs (Fig. 2 and Fig. 3).

The following year, 2011, Treat the Pain began working in Nigeria, which at the time had been without opioids in the public sector for more than a year. The Federal Ministry of Health decided to adapt the successful model pioneered by the Ugandans and, with technical support from Treat the Pain, procured morphine powder and set up four zonal reconstitution centers in large teaching hospitals around the country to produce low-cost oral morphine solution. In the following years, the number of teaching and referral hospitals producing oral morphine solution for their patients increased to 26. The Federal Ministry of Health and Treat the Pain collaborated on the renovation of a federal manufacturing facility that is scheduled to start producing oral morphine solution for distribution through the government’s Central Medical Stores to lower level hospitals in 2017.

Steps 4 and 5: Health Worker and Initiation

As countries began to overcome the supply-side barriers to treating pain, it became clear that demand-side challenges would continue to limit access to effective pain relief. A generation of health workers had trained and practiced without using essential pain medicines. They lacked basic knowledge and skills regarding their use, and they also harbored many false beliefs and fears about pain and opioids. Health workers in Sub-Saharan Africa are often overburdened and, as a result, are resistant to adding additional assessments and procedures. Targeted interventions are required to ensure that newly available pain medicines are used and used correctly.

To address these barriers, Treat the Pain developed the Pain-Free Hospital Initiative (PFHI), a one-year hospital-based health worker training initiative designed to improve the quality of pain assessment and treatment. The program was designed with several features that make it both scalable and sustainable, including the following:

- **Large number of frontline health providers trained:** PFHI targets a large number of frontline health providers. Over 5,000 nurses, doctors, and pharmacists have been trained across 25 hospitals in five countries. Trainings target an interdisciplinary audience, where doctors, nurses, and pharmacists are trained together. In some settings, hospitals have taken a full-hospital approach, where all staff, including nonclinical staff such as cleaners are included, demonstrating that a pain-free hospital means that everyone, staff and patients alike, benefits from knowing facts about pain measurement and management. This approach reduces stigma and myths about addiction and misuse.

- **Training is on-site:** The PFHI training does not take place off-site; rather it is incorporated into the hospital setting. Trainings may be offered over two days several times a year or may be offered as lunchtime sessions over several weeks to accommodate existing continuing medical education schedules. This reduces costs, increases accessibility, and more importantly, means that
trainees do not have to miss their clinical duties to access training.

- Hospital ownership: Hospital management is engaged with PFHI from the beginning to ensure there is institution-wide interest in receiving training in pain management. In turn, PFHI is coordinated at the hospital level by hospital staff who have been designated by hospital management to lead the initiative, often called “staff champions.” In some settings, there are 1–3 staff champions; in others, there are larger teams who shoulder responsibility for organizing the trainings, spreading awareness among providers, and championing the right to pain management within their facility.

- Simple use of the WHO Analgesic Ladder: The PFHI training modules are based on the “Beating Pain” guide developed by the African Palliative Care Association, which includes teaching the management of pain using the WHO three-step Analgesic Ladder for children and adults. The WHO Analgesic Ladder can often be seen on display, both at trainings and on posters throughout the hospital.

- Materials focus not just on provider training but also on patient awareness: The PFHI trainings include the distribution of Treat the Pain promotional materials. Some materials, such as pens and stickers, simply increase awareness of the program to prompt engagement. Clinicians use other materials, such as clipboards and slap bracelets, that have pain scales and the WHO Analgesic Ladder detailed on them, for daily patient pain assessment. Most importantly, there are some materials that are used for patient awareness. Nurses wear “I Fix Pain” buttons that prompt patients in pain to feel comfortable to ask for help. Posters are designed and displayed with basic instructions for patients and their families, encouraging them to ask for help with pain. These materials are important in increasing patient advocacy for pain relief.

- Simple data collection is used for staff to monitor impact: PFHI uses three data points to monitor impact: morphine consumption, pain scores, and trainee knowledge and attitude scores. Before the training, monthly morphine and other opioid consumption is collected to get a baseline of how much pain medicine is dispensed to patients. At the same time, average patient pain scores (on a 10-point numeric scale) are measured for a sample of hospital departments. Finally, before the training, trainees take a pretest to assess their knowledge of pain assessment and treatment. After the training, each of the data points is tracked. PFHI is considered to be successful when consumption of morphine and morphine equivalents have increased, average patient pain scores have decreased, and trainee’s post-test scores are significantly higher than their pretest scores.

PFHI was initially piloted at Kenyatta National Hospital in Nairobi, Kenya. More than 750 staff across 18 departments were trained. Across the departments, there was an average of 20% reduction in average pain scores after the trainings ($P < 0.05$). Pain in the burn unit decreased by 50%, and in the oncology ward, it decreased by 25%. Use of essential medicines tripled over the course of the initiative and knowledge of staff increased in 17 of the 18 departments.

Since then, the initiative has been launched in Nigeria (15 hospitals), Ethiopia (10 hospitals), Uganda (1 hospital), Kenya (2 hospitals), and Swaziland (12 hospitals and health centers).

**Step 7: Nationalization**

Once the use of essential pain medicines has started at one or two large clinical centers, there must be a strategic expansion of services to ensure that all patients in the country are able to access high-quality pain treatment. Additional hospitals are identified for participation in the PFHI, moving across the country to incorporate high-level referral hospitals, but also working downward, incorporating regional referral and district hospitals in training programs. Efforts are made to integrate pain assessment and treatment into national health policies and to connect with complementary health delivery programs that also serve patients in pain, such as HIV and maternal health programs, and trauma services, and work with them to integrate high-quality pain treatment into their service delivery.

**Step 8: Empowerment**

Activities in the Empowerment phase are focused on ensuring that there is sustainable support to continue and expand services. Curricula in training programs, such as medical schools, nursing schools, and pharmacy schools, must be updated to include modern approaches to pain treatment. Tasks that have been done with staff or consultants paid for by the Treat the Pain program must be taken up by staff in the Ministries of Health, and financing for pain relief must be incorporated into existing health financing mechanisms, including national budgets and health insurance schemes.

**Conclusion**

The American Cancer Society’s Treat the Pain program has partnered with Ministries of Health to develop simple, low-cost approaches to improving access to essential pain medicines in Sub-Saharan Africa. These interventions address challenges across a
spectrum of supply and demand-side process steps. Together, we have developed the MORPHINE Framework to group challenges and prioritize interventions in a mechanism of access approach that focuses on bureaucratic barriers to pain treatment. By supporting the expansion of locally produced, affordable oral morphine solution and expanding basic training in pain assessment and management, Treat the Pain is supporting our partner governments to reduce needless suffering and improve access to essential pain medicines for patients in pain.

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