CHARITY ENTREPRENEURSHIP

Improving Access to Pain Relief for People in Palliative Care in LMICs

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RECOMMENDED

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Ambitious Impact Research Report

December 2025

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Contributions: *The primary author for this report was Shaileen McGovern (Research Fellow, Ambitious Impact Research Program), supported by Morgan Fairless (Research Director, Ambitious Impact). We are very grateful to our Expert Interviewees who provided us with their time and insights on this research, which has greatly benefited from their guidance. We also thank all AIM staff for their contributions to this report.*

Ambitious Impact (AIM) *exists to enable more effective charities to exist worldwide. We strive to achieve this goal through our extensive research process and Incubator Program. We give talented potential entrepreneurs two months of cost-covered, intensive training designed by founders for founders. Our talented researchers and entrepreneurs identify evidence-based, high-impact interventions and help founders find a co-founder to launch the idea and reach scale.*

Note to readers: *Our research is geared toward AIM decision-makers and program participants. We attempt to find the best ideas for our incubation programs through these reports. Given our commitment to focusing on recommended ideas, reports on those not recommended for incubation can often be less polished.*

For questions *about the content of this research, please contact Shaileen McGovern at shaileen@charityentrepreneurship.com. For questions about the research process, please contact Morgan Fairless at morgan@charityentrepreneurship.com.*

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Improving access to pain relief for people in palliative care in LMICs / Summary

Description

This report examines whether a new organization could expand access to opioid-based pain relief for people receiving palliative care in low- and middle-income countries (LMICs). The global context is shaped by two parallel crises: oversupply and misuse of opioids in high-income countries, and severe underuse in low-resource settings. In most LMICs, patients with advanced cancer, HIV, or other life-limiting illnesses receive little to no treatment for moderate-to-severe pain, and access to effective pain relief remains far below clinical need.

Expected impact

Cost-effectiveness: Our model estimates that advocacy to increase access to opioids for palliative care in LMICs can avert a DALY for an average of $151 across our top ten geographic priorities. This intervention meets our cost-effectiveness bar for this round ($220/DALY averted) in eight out of the ten countries modeled. Within these countries, cost-effectiveness is highest in Nigeria ($145 per DALY averted) and lowest in Eswatini ($1,096 per DALY averted).

Scale: We estimate that the model could reach 60% of patients in need within a given country, where 1% of the population has an unmet need for opioids in palliative care. Scaling is constrained by the depth of engagement required with drug regulators, the complexity of service delivery (including morphine production and healthcare worker training), and the time needed to establish reliable systems. Sustained support is needed to stabilize supply, train prescribers, and maintain basic monitoring. As a result, national expansion is feasible but likely to be gradual, limiting how quickly coverage can increase.

Potential for success

Evidence base: The evidence base is broad but relies mainly on program experience and qualitative evidence. Past initiatives, including the Pain and Policy Studies Group and organizations such as the African Palliative Care Association, Pallium India, Hospice Africa Uganda, show that coordinated work across regulation, supply, training, and monitoring can increase access to opioids without replicating the harms seen in high-income countries. However, evidence on misuse is mostly based on qualitative reporting, and publication bias is possible.

Evidence on patient-level outcomes is more limited. Most programs track the number of patients receiving morphine or the volume of opioids consumed, rather than changes in pain or quality of life. This limits our ability to model actual pain relief, despite the well-established effectiveness of opioids for pain management.

Theory of change: The theory of change depends on coordinated progress across regulation, supply, and training. Case studies show that legal reform on its own is not enough. Improvements rely on having a reliable supply of opioids, ensuring prescribers are comfortable using them, and following through on administrative and regulatory steps. A new organization would likely work as a technical partner to the government, helping ensure these three elements of the approach come together in a way that supports practical delivery.

Neglectedness

Existing activity: There appears to be clear room for additional work on opioid access for palliative care in LMICs, given the large suspected unmet need and the relatively small scale of existing efforts. The organizations we identified operate in specific countries or sub-national regions, with modest budgets and staffing. Most deliver a mix of advocacy, training, and services, rather than addressing the full set of regulation, supply, and training barriers outlined in our theory of change. We have not seen evidence that current efforts are close to saturation in any country.

Geographic fit: We have identified several priority countries where a new organization could operate, based on the burden of unmet need for pain relief in moderate-to-severe pain and palliative care. The top eight countries are India, Nigeria, Zambia, Mozambique, Tanzania, Malawi, Ethiopia, and Kenya.

Relevance

Strategic value to AIM: Regulatory interventions on medicines and palliative care represent a new area of work for us, with high potential impact given the scale and severity of unmet need among affected patients.

Fit for the CEIP: No specific concerns.

Other

Expert views: Our conversations increased our confidence that the theory of change does need to be as complex as it is. Experience suggests that meaningful progress depends on addressing regulation, supply, and training together, and that sequencing these elements carefully is necessary to achieve lasting improvements in access to pain relief.

Implementation factors: This approach builds on models that have already been shown to work in other settings. Evidence from past initiatives suggests that successful reforms often involved doctors or individuals working within, or closely connected to, Ministries of Health from the outset. Because this work focuses on policy and system change, it will require some tolerance for uncertainty.

Improving access to pain relief for people in palliative care in LMICs / Crucial Considerations

What operational risks would a founding team face?

Predictable risks include:

- Prolonged licensing and import approvals
- Weak Ministry of Health quantification of opioid needs, leading to stock-outs
- Limited prescriber confidence, even after training
- Inconsistent government follow-through after policy change
- Lack of district-level dispensing infrastructure
- Dependence on a small number of trained pharmacists or nurses

These risks have been observed in Nepal, Sierra Leone, India, and Kenya. A new organization will need a high tolerance for administrative delays and sustained engagement with government counterparts.

Country selection

At the time of our decision-making meeting, the initial top ten countries recommended for this intervention were: Lesotho, Eswatini, Zambia, Zimbabwe, Namibia, Mozambique, Malawi, Uganda, Tanzania, and Kenya. Several of these countries, particularly the top two, have relatively small populations, which raised concerns about whether the addressable need was large enough to justify a new organization.

In response, we updated the geographic analysis to place greater weight on the total burden of serious health-related suffering (50%), alongside a smaller weight on per-capita burden (20%). Previously, the model was based only on per-capita burden, weighted at 70%. This change shifted prioritization toward larger countries with substantial unmet need.

Under the revised approach, the top ten countries are now: India, Nigeria, Lesotho, Eswatini, Zambia, Mozambique, Tanzania, Malawi, Ethiopia, and Kenya. Updating the cost-effectiveness analysis to reflect this set of countries improved the average estimate from $226 per DALY averted to $151 per DALY averted. Cost-effectiveness is higher in larger countries because fixed costs can be spread across a greater number of patients.

Expanding access beyond palliative care

Focusing first on palliative care is likely to give a new charity the best chance of success. Patients receiving palliative care are unlikely to be adequately served by alternative pain management approaches, face relatively low risks of addiction given that care often focuses on advanced or end-of-life illness, and present a clear and widely accepted case for access to pain relief.

Over time, once opioid access has been established for palliative care, a new charity could expand into additional medical uses rather than moving into new countries. Potential areas include cancer-related pain outside formal palliative care, post-operative pain, emergency care, and other forms of severe pain management. These expansions could substantially increase impact as health systems and prescribing practices strengthen.

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1 Background

1.1 Context

Ambitious Impact (AIM) exists to increase the number and quality of effective nonprofits working to improve human and animal wellbeing. AIM connects talented individuals with high-impact ideas. We give potential entrepreneurs intensive training and ongoing support to launch ideas to scale. Our research team focuses on finding impactful opportunities.[1]

As part of our 2025 research agenda, we reviewed disability-oriented global health.[2] In that context, we researched *Improving access to pain relief for people in palliative care in LMICs*. This report provides an overview of our findings.

1.2 Introduction to the idea and problem[3]

Two coexisting opioid crises: addiction and under-supply

The global distribution of pain relief for moderate-to-severe pain is marked by two coexisting opioid crises: oversupply in high-income countries and severe underuse elsewhere. When all medical indications are considered, including post-surgical and trauma-related pain, only a small fraction—sometimes in the single digits—of total opioid need is met in LMICs (Knaul et al., 2017), a situation described by experts as a "pain pandemic" (Rosa et al., 2025).

The 2025 Lancet Commission on Palliative Care and Pain Relief characterized this disparity as an "**opioid access abyss,**" estimating that less than 5% of opioid need

[1] To read more about our approach to selecting intervention ideas for our program, please see this website.
[2] To read more about this research, please review this document.
[3] LLMs were used to help initially summarize the evidence and data gathered manually by the author during the evidence review process. Summaries were fact-checked and further refined by the authors for accuracy against the information they provided the LLM.

for serious health-related suffering (SHS)[4] is met in LMICs, compared with 98% in high-income countries. The Worldwide Hospice Palliative Care Alliance (WHPCA) similarly reports that over 84% of the global population lacks adequate access to opioid medications for pain control (WHPCA, 2020). A small group of high-income countries—Australia, Canada, New Zealand, the United States, and several in Europe—consume more than 90% of the world's medical opioids, leaving LMICs with only around 10% of global use for pain management (WHPCA, 2020). This "10–90 pain divide" reflects a failure in equitable access to pain relief, with the richest 10% of countries holding 90% of distributed morphine-equivalent opioids (Knaul et al., 2022).

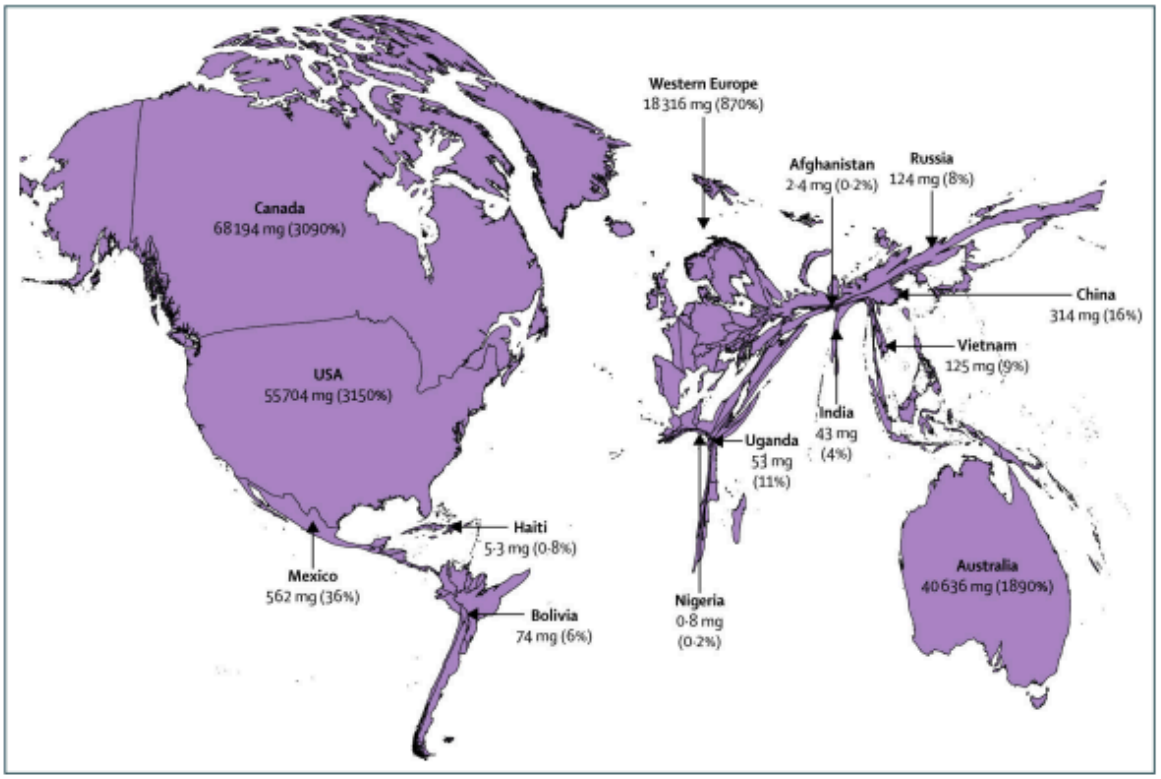


Figure: **Distributed opioid morphine-equivalent (morphine in mg/patient in need of palliative care, average 2010–13), and estimated percentage of need that is met for the health conditions most associated with serious health-related suffering**
Source: Knaul FM, Farmer PE, Krakauer EI, et al (2017).[1]

Figure 1. Global inequality in medical opioid distribution (Knaul et al., 2017).

[4] Serious health-related suffering (SHS) is defined as suffering that compromises physical, social, spiritual, or emotional functioning and cannot be relieved without professional intervention (Knaul et al., 2025).

The burden of untreated pain

Pain, especially when severe or prolonged, is among the strongest negative influences on subjective wellbeing. The International Association for the Study of Pain defines it as "an unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage" (International Association for the Study of Pain, 2020). Chronic pain alone affects roughly 20% of the world's population—around 1.55 billion people—and is estimated to account for around 340 million WELLBYs (wellbeing-adjusted life years) annually (Dupret, McGuire, & Plant, 2023). Severe unrelieved pain undermines dignity and daily functioning and often extends to include psychological distress, magnifying its burden. For some patients, especially those with life-limiting illness, the suffering is so intense that continued life in such pain is described as a worse outcome than death (Murray, 2003).

Access to opioid pain relief is defined by two linked concepts: availability and accessibility of opioid analgesics[5]. Opioid availability refers to whether a country maintains legal stocks of opioid analgesics at the manufacturer, distributor, or health-facility level. Accessibility describes whether patients who need these medicines can obtain them. Opioids may be legally available in a country but inaccessible to patients because of restrictive laws, weak supply chains, or provider reluctance to prescribe. Effective palliative care depends on both. The World Health Organization (WHO) lists morphine, methadone, codeine, and fentanyl as essential medicines for pain and end-of-life care, yet most of the world's population remains without meaningful access (Joranson, Ryan & Maurer, 2010; WHO, 2025).

Palliative care enables people with serious, life-limiting illnesses to live and die with dignity. It remains inaccessible to the vast majority of those who need it. The WHO defines palliative care as an approach that improves the quality of life for patients and their families facing problems associated with life-threatening illnesses, through the early identification, assessment, and treatment of pain and other physical, psychosocial, or spiritual distress. It affirms life and regards dying

[5] Analgesics are medications used to reduce or relieve pain. Opioids are one form of analgesic, and the focus of this report, but there are many other forms.

as a normal process, and integrates psychological and spiritual support alongside medical care.

Each year, an estimated 56.8 million people require palliative care, including 25.7 million in their final year of life—76% live in LMICs. Among children, more than 98% of those needing palliative care live in LMICs, almost half in Africa (WHO, 2020). Yet only 14% of people globally who require palliative care at the end of life receive it, with the majority of recipients in Europe (WHPCA, 2020). In many countries, millions die in unrelieved pain because opioids are unavailable or inaccessible (Rosa et al., 2025).

Palliative care can be delivered in hospitals, hospices, and home settings, and when available early, reduces unnecessary hospital admissions and healthcare costs. Only a minority of countries include palliative care in national health policy frameworks, few have trained professionals or accreditation systems, and restrictive opioid regulations prevent adequate pain relief. Cultural stigma, limited awareness among policymakers and clinicians, and misconceptions that palliative care is only for terminal cancer patients compound these structural barriers, leaving millions to face preventable suffering (WHO, 2023a).

Recent updates show that SHS affects both people at the end of life and those living with serious illness, with the highest burden in Sub-Saharan Africa. Knaul et al. (2025) estimated 73.5 million people worldwide experienced SHS in 2021, a 74% rise since 1990. LMICs account for 80% of the global SHS burden, and Sub-Saharan Africa alone represents 26%, the highest regional share, primarily due to HIV/AIDS and cancer.

Sub-Saharan Africa is the most neglected region in the global pain-relief landscape. Despite increasing cancer incidence and rising life expectancy, opioid consumption across Africa has stagnated for two decades. Between 1999 and 2021, the region's median consumption was 0.66 SDDD[6] (defined daily doses for

[6] "Defined daily doses for statistical purposes (SDDD) is a technical unit of measurement and should not be confused with the prescription dose. SDDD was used because there are no existing internationally agreed standard doses for opioid analgesic prescriptions; hence, SDDD provides an approximate measure of the amount of opioids used and allows for a fair comparison between countries. Opioid use, expressed in SDDD per million inhabitants per day, was calculated with the following formula: annual use divided by 365 days, divided by the population in millions of the country or territory during the year, divided by the defined daily dose" (Hadjiat et al., 2024).

statistical purposes) per million inhabitants per day, compared with 3.0 globally and 18.7 in high-income countries. Southern Africa, driven largely by South Africa, accounts for over 90% of total continental use, leaving central, western, and eastern regions with negligible access. No African country currently meets the WHO's indicative benchmark for adequate opioid availability (Hadjiat et al., 2024).

The DOME (Distributed Opioids in Morphine Equivalents) indicator reveals the scale of inequity in palliative care opioid need. Using International Narcotics Control Board (INCB) data for 172 countries, Knaul et al. (2025) showed that the poorest 10% of the world's population receive only approximately 200 mg morphine equivalent per patient with SHS per year—enough for roughly one week of relief—while the richest 10% receive ≈200,000 mg, a 1,000-fold disparity. Most LMICs meet <5% of the estimated opioid need. Importantly, DOME quantifies distribution, not actual patient-level use, so these figures likely overstate effective access in countries with weak supply chains.

Multiple barriers sustain the access abyss. Laws often treat opioids as narcotics to be prohibited, rather than medicines to be used to relieve pain, prioritizing diversion control over patient care. Physicians in many LMICs are required to hold special licences, use authorized paper available only in cities, and comply with refill limits as short as two days. Imports are restricted, and supply chains are fragile. "Opiophobia"—fear and misinformation about medical opioids causing addictions in patients—further deters both prescribers and patients. The result is an unwillingness to reform laws and policies, and undertreatment even where opioids are legal (Cleary & Maurer, 2018; Knaul et al., 2017; Rajagopal & Joranson, 2007).

Reform experience shows that law and policy change alone is insufficient. In India, simplification of narcotics rules in the 1990s increased access only in Kerala, where reform was paired with training and consistent supply; other states with identical laws saw no improvement. The WHO-affiliated Pain and Policy Studies Group (PPSG) found that sustained progress depends on three linked elements: balanced regulation, reliable drug supply, and professional education (Cleary & Maurer, 2018).

Opioid pain relief is cheap, effective, and ethically urgent. Morphine costs about $8 per patient for 90 days' worth of treatment, and closing the global end-of-life pain-relief gap would cost roughly $145 million per year—around 0.3% of annual HIV/AIDS spending. The WHO and Lancet Commission classify access to opioid analgesia as part of universal health coverage and a human rights duty (Dupret, McGuire, & Plant, 2023; Knaul et al., 2017). Yet legal, training, and supply barriers keep most LMICs far below need.

A pathway to impact has been mapped by organizations active in this space. Organizations can improve access by facilitating:

- **regulatory reform** to simplify licensing and align laws with WHO balanced-policy guidance;
- **education and destigmatisation** through medical curricula and professional training; and
- **supply-chain strengthening** via better forecasting, procurement, and local production.

Together, these measures can help countries move from restrictive control toward balanced access that enables effective pain relief while limiting misuse.

2 Theory of change

This section outlines the theory of change (ToC) chosen for a new organization seeking to expand access to opioid analgesics for palliative care in LMICs. It explains why palliative care was selected as the initial focus, and why a multi-component approach is required to improve access in practice.

Palliative care represents the strongest entry point for improving access to opioid pain relief. While the broader aim is to improve access to opioid medication for the treatment of pain more generally, people receiving palliative care are unlikely to be adequately served by alternative pain management approaches, face relatively low risks of misuse given that care often involves end-of-life illness, and present a clear and widely accepted case for access to effective pain relief.

The proposed theory of change focuses on three interdependent areas of action:

- **policy and regulatory reform**, to remove legal and administrative barriers to access;
- **education and training**, to improve prescribing confidence and clinical practice; and
- **supply chain strengthening**, to ensure reliable availability of essential medicines.

Evidence and expert input suggest that these elements must be addressed together to achieve sustainable impact. Across two rounds of revisions driven by expert interviews, we found that progress in one area is unlikely to translate into improved access unless the others are addressed at the same time. Experience from countries that have made meaningful progress in expanding access to opioid analgesia suggests that regulatory reform, professional education, and supply-chain support are most effective when pursued together.

2.1 Barriers to effective pain management in LMICs

Despite the relatively low cost of morphine, the most widely used opioid for severe pain, access to essential opioid pain relief remains severely limited. Our evidence review and expert consultations identified four main interlocking barriers: regulatory, educational, supply-chain, and monitoring gaps:

- **Regulatory and legal restrictions**
    - National laws remain overly restrictive, shaped by international narcotics conventions that prioritize preventing misuse over ensuring medical access. The International Narcotics Control Board (INCB) acknowledged that it has unfairly emphasized misuse at the expense of access in the past (Cleary & Maurer, 2018).
    - Complex licensing, import quotas, and prescribing limitations make it difficult for health-care providers to obtain or dispense opioids (Human Rights Watch, 2011).
    - Even when laws permit medical use, underprescribing persists due to bureaucratic complexity, unclear policy updates from medical boards (e.g., when the Council of Nurses in Malawi did not adopt prescription updates issued by the Ministry of Health), and clinicians' fear of prosecution or causing addiction (Dupret, McGuire, & Plant, 2023; Palumbo et al., 2023).
    - Countries frequently under-report opioid needs to the International Narcotics Control Board, and are unaware that they can revise their requests, leading to a self-perpetuating cycle of low availability (Clark et al., 2021; Dr. Connor expert interview).
    - Outdated national laws continue to restrict practice (Palumbo et al., 2023).
- **Education and professional stigma**
    - Most countries lack compulsory pain management or opioid training in medical curricula (e.g., Lohman, Schleifer & Amon, 2010)
        - In Nigeria, over 90% of physicians in teaching hospitals had received no formal training on pain management, and only

20% used strong opioids for treating severe cancer pain in their patients (Ogboli-Nwasor, Makama & Yusufu, 2013)

    - Widespread myths among clinicians discourage use (such as fear of causing addiction, as above; Lohman, Schleifer & Amon, 2010).
    - Greater palliative care training correlates with higher access—a study on opioid access among advanced cancer patients in LMICs in Asia reports that extensive training of >160 hours increased patient access to opioids (OR 3.95; 95% CI=3.19, 4.88), with ≤40 hours increasing access by a smaller amount (OR 1.03; CI=1.03, 1.04) (Andres et al., 2024).
    - Even when legal barriers ease, clinicians' fear of addiction, overdose, or legal action persists (Human Rights Watch, 2011).
- **Supply-chain and procurement weaknesses**
    - Weak procurement and distribution systems limit availability even where laws permit use and healthcare workers are willing to prescribe opioids to patients.
- **Data, monitoring, and feedback gaps** persist, hindering impact evaluations and limiting the evidence available to demonstrate to governments that safe access to medical opioids improves patient outcomes with little risk of diversion.

2.2 Approaches considered

An alternative ToC initially considered was a think-tank model focused on tackling opiophobia as the primary driver of restrictive opioid regulation and under-prescribing for palliative care in LMICs. We deprioritized this approach after expert interviews and a review of the literature indicated that addressing stigma and misinformation alone is unlikely to lead to meaningful improvements in access or availability; regulatory, educational, and supply-side barriers interact and must be addressed together.

2.3 Theory of change for this charity

We decided to focus on the ToC depicted in Figure 2.

The core focus of the envisioned charity would be to expand access to opioid analgesics for palliative care provision in LMICs through coordinated action across three domains: (1) policy reform, (2) education of healthcare workers and the public, and (3) supply-chain strengthening.

The ToC is designed to balance practicality and impact by sequencing these activities to achieve sustainable, system-level improvements in access to pain relief. Implementation would begin with policy reform to enable access, followed by education to build clinical capacity, and supply-chain strengthening to ensure reliable availability, reflecting evidence that progress in any one area is insufficient without the others.

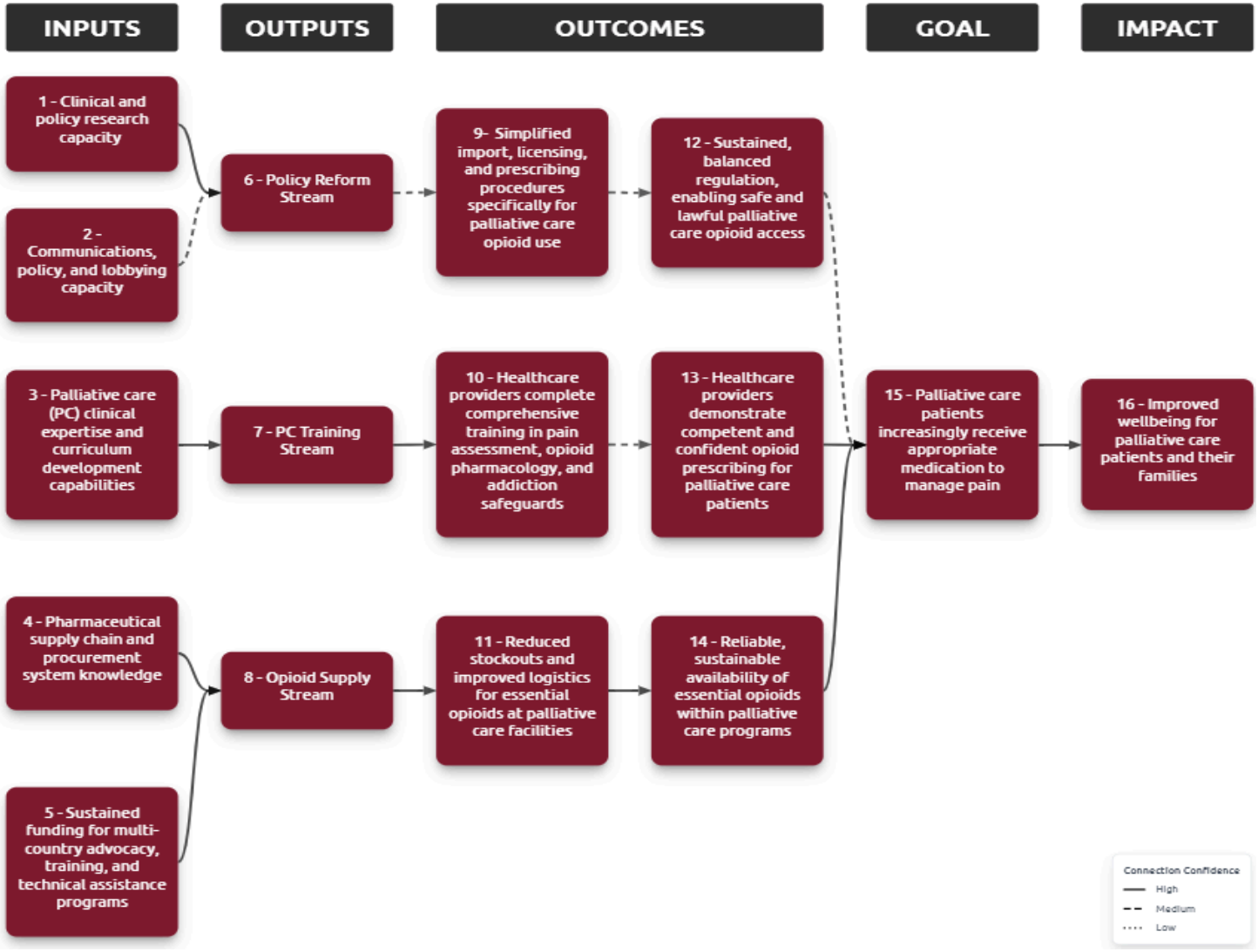


Figure 2: Theory of change for this charity (view in full here)

2.4 Key assumptions and supporting rationale

Node	Assumptions	Evidence/reasoning
1 → 6	Researchers have access to relevant clinical databases and LMIC case study data. Expertise covers both clinical and policy analysis domains.	Based on previous AIM experiences. Several organizations have been able to recruit and gain capabilities to engage in this type of research.
2 → 6	Decision-makers are accessible and willing to engage Political context remains stable enough for sustained dialogue over multi-year periods.	Several case studies suggest some ability to gain access to and reach decision-makers in palliative care advocacy. AIM organizations have been able to gain access and develop skills to carry out this work. APCA's multi-country advocacy demonstrates how sustained stakeholder engagement can influence policy development, though success depends on political timing and local credibility.
3 → 7	Expertise includes both clinical knowledge and pedagogical skills for adult healthcare provider education. Content addresses real knowledge gaps. The organization can access relevant palliative care clinicians.	Pallium India demonstrates successful curriculum development through clinical expertise. Medical education organizations regularly develop training materials from expert knowledge with high success rates. HealthLearn, Oxygen Access Project, and other AIM organizations have been able to successfully engage in similar tasks. See Section 2.4.2. on healthcare worker access and engagement.
4 → 8	Expertise covers both technical logistics and policy processes for essential medicines inclusion. National procurement systems have basic capacity. Ability to coordinate with international control boards and sellers.	See Section 2.4.3.

Node	Assumptions	Evidence/reasoning
5 → 8	Funding can cover controlled substance procurement costs and facility infrastructure improvements for secure storage. Sustainable financing for state-ownership in the long term can be achieved.	Our cost-effectiveness analysis suggests reforms of opioid supply for palliative contexts should not be overly unattainable, even under current ceilings for AIM-organization funding.
6 → 9	Policymakers are evidence-responsive for palliative care contexts. Political timing and political economy allow for reform consideration. Reform proposals are technically sound and politically feasible. Legislative processes are accessible to advocacy efforts. Implementation follows policy adoption.	Draft legislation provides concrete implementation pathways, reducing the technical burden on policymakers. See Section 2.4.5.
7 → 10	Curricula meet professional education standards and address real clinical knowledge gaps in palliative care. Institutional approval processes are accessible. Healthcare providers can attend training sessions. Content addresses real barriers to prescribing in palliative contexts. Institutional support exists for behavior change.	Medical institutions regularly adopt new curriculum modules when they meet educational standards. Pallium India demonstrates successful curriculum development and multi-state adoption. Direct training delivery mechanism with established success rates in medical education. Andres et al., 2024 showed that extensive training (>160 hours) had an OR of 3.95 for increased opioid access.
8 → 11	Facilities have basic infrastructure for secure storage. Staff are willing to handle controlled substances with proper training. Procurement systems can supply facilities reliably. National procurement systems have sufficient capacity to meet regulatory and logistical requirements for controlled substances.	Direct supply interventions have high success rates when properly resourced. Fraser et al., 2018 showed stockouts are common, indicating demand exists when supply is available. WHO's essential medicines designation provides a strong foundation for national inclusion. Success depends on procurement system capacity and political commitment to palliative care priorities.

Node	Assumptions	Evidence/reasoning
	Political support exists for palliative care budget priorities.	
9 → 12	Regulatory changes translate to operational improvements at healthcare facilities. Staff understand and utilize new procedures. Implementation support is provided.	Simplified procedures should reduce regulatory barriers; however, implementation often lags behind policy change by 2-5 years. Success depends on facility-level awareness and capacity building.
10 → 13	Training addresses both knowledge gaps and psychological barriers. Clinical experience reinforces learning. Institutional culture supports evidence-based prescribing practices.	Andres et al., 2024 showed that extensive training (>160 hours) had an OR of 3.95 for increased opioid access. However, a Nigerian study found persistent reluctance despite training, indicating cultural and systemic barriers (Nelson, Akintunde & Ojo, 2022).
11 → 14	Procurement systems function reliably for controlled substances. Demand forecasting is reasonably accurate. Facilities can meet storage and security requirements.	Fraser et al., 2018 showed stockouts are common, indicating demand exists when supply is available. Direct supply interventions have high success rates when properly resourced.
12 → 15	Political support for palliative care remains stable over time. A new charity can ensure regulatory trust through strong monitoring. Regulatory reforms are institutionalized and survive leadership changes. Policy and regulatory changes translate into changes in clinical practice. Palliative care patients actually want to take opioids.	Enabling regulations remove major barriers, but sustained implementation requires ongoing political support. Transparent monitoring can build regulatory confidence when data systems are simple and proportionate. In Sierra Leone, evidence of zero diversion in the initial year of opioid provision at Shepherd's Hospice led authorities to double the import quota the following year, illustrating that oversight can enable, rather than restrict, access. However, most existing evidence remains qualitative, often limited to statements of "no diversions." Simple tools—such as the Excel-based tracking system used by Shepherd's Hospice—can support accountability without overburdening clinicians.[7]

[7] A national-level rollout would naturally require a more sophisticated reporting mechanism.

Node	Assumptions	Evidence/reasoning
		The palliative care context may face less opposition than general opioid policy reform. We assume that patients who are experiencing extreme suffering will be very motivated to take something that can alleviate or reduce their pain.
13 → 15	Training effects persist beyond the initial education period. Healthcare systems support evidence-based prescribing decisions. New staff receive adequate orientation to palliative care protocols. Palliative care patients actually want to take opioids.	Trained, confident providers are necessary for consistent care delivery. Success depends on sustained training effects and supportive institutional culture over time. We assume that patients who are experiencing extreme suffering will be very motivated to take something that can alleviate or reduce their pain.
14 → 15	Procurement systems remain functional and funded over time. Supply chains adapt to meet the security requirements for controlled substances. Demand patterns remain predictable. Palliative care patients actually want to take opioids.	Reliable supply is a high-confidence contributor to patient access. Fraser et al., 2018 showed strong utilization when medications are available and accessible to clinical staff. We assume that patients who are experiencing extreme suffering will be very motivated to take something that can alleviate or reduce their pain.
15 → 16	Clinical guidelines are followed when systems support their implementation. Pain management interventions directly translate to improved patient comfort and quality of life.	WHO clinical guidelines establish opioids as first-line treatment for moderate to severe pain in palliative care. Direct causal relationship between appropriate pain management and suffering reduction.

2.4.1 Policy receptiveness and implementation capacity

Policy change depends on governments recognizing both the humanitarian and public-health case for improving access to opioid analgesics in palliative care. While ministries of health often express support in principle, progress is frequently slowed by turnover, competing priorities, and administrative inertia.

Evidence from prior reform efforts suggests that political will can be built when technical assistance is paired with committed local champions and clear mechanisms for demonstrating safe use. These dynamics are discussed in more detail in the Section 3.2 below.

We have moderate concerns about government turnover and administrative inertia, which remain key risks. These can be partially mitigated by focusing on countries with stronger governance and regulatory quality (see Section 5.2), and by maintaining relationships with multiple officials rather than relying on a single counterpart.

2.4.2 Healthcare worker engagement and opiophobia reduction

We are less concerned about healthcare workers' willingness to engage with pain-management training, but are somewhat concerned about sustaining reductions in opiophobia. Healthcare workers are likely willing to train and apply new skills, but sustained reduction of opiophobia will require continued reinforcement. Training and advocacy assume that knowledge and exposure can overcome fear and stigma.

Evidence from Malawi, Uganda, and India shows that targeted education improves confidence and prescribing competence, though ongoing mentorship or refresher courses are needed to sustain practice (see Quality of evidence). A "train-the-trainer" model could upscale and extend reach once sufficient local capacity is built.

Greater clinical exposure is strongly linked to patient access to opioids: in Asian LMICs, extensive palliative care training (>160 hours) increased access to opioids for patients in palliative care (n = 1,933) nearly four-fold (OR 3.95; 95% CI = 3.19–4.88), while ≤40 hours yielded only marginal gains (OR 1.03; CI = 1.03–1.04) (Andres et al., 2024).

Framing opioid use as compassionate care rather than risk management will likely be key to lasting norm change for healthcare workers, the public, and government

officials. Complementing this with monitoring data showing minimal diversion or misuse—and emphasizing that palliative care patients face limited addiction risk—can further ease prescriber fears.

2.4.3 Procurement and supply feasibility

We think strengthening procurement systems and local production is unlikely to be feasible within current budgets and institutional capacity, but possible with the increased funding, coordination, and technical support provided by a new charity.

Experience from Uganda, Malawi, India, and Vietnam shows feasibility when governments commit resources and collaborate with NGOs and, where relevant, local manufacturers. Uganda's Ministry of Health imports morphine powder, commissions charitable compounding with Hospice Africa Uganda, and distributes the solution for free nationwide. Malawi's Central Medical Store reform reduced stockouts but did not eliminate them, and patients in rural areas still travel long distances for morphine. In Vietnam, local opioid production reduced costs and reliance on delayed imports from India after PPSG and IPPF worked with the Ministry of Health and a domestic manufacturer, framing the humanitarian need for improved access to palliative care.

Weak forecasting remains a key barrier. Some countries submit no or only symbolic estimates to the INCB—Burkina Faso's 2009 estimate of 49g of morphine, enough for eight patients[8], exemplifies the problem. Underestimation stems from a mix of regulatory caution, limited capacity, and systemic inertia:

- Regulatory fear and stigma: Officials worry that submitting large opioid estimates could attract suspicion of diversion or misuse. The political cost of being perceived as lax on "narcotics" is higher than the cost of undertreating pain.
- Administrative weakness: Ministries often lack trained staff or reliable data to calculate national need. The process requires assessing palliative care

[8] Based on an estimate for a terminal cancer or end-stage AIDS patient of a daily need for 70 mg of morphine for an average of 90 days.

burden, patient numbers, and morphine dose averages—data rarely collected.
- Circular underestimation: The INCB bases future quotas on past consumption, reinforcing chronic shortages.
- Misunderstanding of INCB flexibility: Many regulators wrongly assume quotas cannot be revised midyear, but countries can adjust allocations anytime with sufficient justification (Dr. Connor expert interview).
- Low political salience: Palliative care ranks below infectious disease or maternal health priorities, leaving forecasting under-resourced.

Regional pooled procurement and donor-supported coordination could stabilize supply and improve estimations of need, but both depend on stronger administrative capacity and sustained political will.

2.4.4 Financial sustainability

We are somewhat concerned that some governments may lack the fiscal capacity to sustain opioid procurement without external support. Experience from Uganda and Malawi shows that once early pilots demonstrate safety and clear patient benefit, governments can integrate opioid procurement into national health budgets. Uganda now imports morphine powder and distributes oral solution free through public facilities in collaboration with Hospice Africa Uganda. Malawi's Central Medical Store has followed a similar path after NGO-led advocacy and training.

However, fiscal and administrative capacity vary widely; smaller or less-resourced states may struggle to sustain financing once donor support declines. For example, in Sierra Leone, hospice facilities coordinated by Palliative Care Sierra Leone still rely on public fundraising to purchase morphine powder (Wigmore, 2023). Sustaining progress will require framing pain relief as an essential health service and aligning donor reporting with national monitoring to maintain long-term budget commitment (Human Rights Watch, 2011; Lohman, Schleifer & Amon, 2010).

3 Quality of evidence

We conducted a non-systematic evidence review, drawing on both academic or grey literature, limited to interventions implemented in LMICs. Given that this intervention relies on policy change as a key driver of impact, we expected to find mostly case studies and qualitative research tracking the introduction of regulatory reform in LMICs. The question of the likelihood of success is difficult to quantify, and one should generally not expect the type of clear-cut answers we get from other types of literature. Introducing policies and their reforms is path- and context-dependent, and ultimately very contingent. We acknowledged that publication bias is likely, and did not expect to find many written-up cases of failure.

The evidence base is consistent but largely programmatic and descriptive: multiple well-documented country case studies spanning the last twenty years show that advocacy for balanced policy reform can increase access, and sequenced efforts can subsequently increase availability of opioids (i.e., supply arrangements and training of healthcare practitioners), leading to an increase in national morphine consumption.

However, the evidence for patient-level health benefits, causal attribution, and long-term sustainability is limited. Case studies describe the increase in medical opioid *consumption* and increases in facilities dispensing them, but *do not extend this to describe quantified patient outcomes*. The absence of outcome measurement reflects a wider gap in the global evidence base, not necessarily weak impact.[9]

Across LMIC experiences, successful opioid-access reforms depended on coupling regulatory and policy change with overcoming operational enablers—procurement, training, and sustained coordination. Evidence from (inter)national initiatives shows that reforms achieved durable results only where they aligned legislation with supply-chain infrastructure and human-resource

[9] We know opioids are effective pain relief medications, so increasing access is likely to reduce moderate-to-severe pain in LMICs, however, increasing prescribing doesn't necessarily mean patients are using opioids correctly, which could prevent the full pain relief benefits from being realized, also, the disbenefits of side effects have not been measured in palliative care settings to our knowledge in LMICs.

capacity. Uganda, Rwanda, and Tanzania demonstrate that national production or reconstitution, authorized nurse prescribing, and standing coordination platforms can overcome interruptions in access, with Uganda heralded as the gold standard for this intervention (Sharma, Donaldson & Plant, 2020; Knaul et al., 2017). In contrast, states that enacted legal reforms without ensuring training or procurement, such as most Indian states (except for Kerala) where reform was introduced, saw negligible changes in consumption (Sharma, Donaldson & Plant, 2020; Rajagopal, 2015). Common failure modes include fragmented governance, regulatory ambiguity, dependence on external donors, and persistent opiophobia (Knaul et al., 2017).

Collectively, two decades of evidence provide moderate-to-strong qualitative support that advocacy-led policy reform, backed by procurement, training, and sustained coordination, can expand opioid access in LMICs—but only when law, logistics, and learning evolve together. We summarize the mechanisms of success and typical barriers identified by our evidence review in Tables 1A and 1B.

Table 1A. Common Cross-Cutting Patterns Identified by the Pain & Policy Studies Group (PPSG), focusing specifically on LMICs (Nepal, Vietnam, India[10], and Sierra Leone) (Cleary & Maurer, 2018).

Mechanisms of success[11]	Typical barriers
Multisectoral coordination and political alignment: Effective reforms engaged health, justice, drug control, and revenue authorities together, reframing opioid access as a health issue rather than a criminal one.	**Fragmented governance:** Ministries working in isolation, drug control offices maintaining punitive oversight (vs. MoH maintaining health-improving oversight), and slow licensing. Frequent turnover of officials erodes continuity.
Policy and regulatory reform with embedded education and supply planning: Simplified licensing and recognition of medical institutions (e.g., India's RMIs, Vietnam's task force approach) worked when paired with prescriber training, supply-chain reform, and follow-up.	**Regulatory reform in isolation fails:** Simplified rules without training or supply logistics led to little or no increase in consumption (e.g., 12 of 13, i.e. 92.3%, of Indian states saw no uptake due to implementation limitations).
Strong local champions and palliative care	**Leadership and institutional fragility:**

[10] Dr. Rajagopal of Pallium India completed work for the PPSG, demonstrating an example of sustained success from a PPSG IPPF fellowship.
[11] It is important to note that successful fellows were doctors, or officials in the MoH, or had connections to the MoH in the target country. These talent considerations may be the most important mechanism of success in these countries.

Mechanisms of success[11]	Typical barriers
networks: Sustained progress depended on committed domestic advocates and NGOs (e.g., Pallium India; The Shepherd's Hospice / Palliative Care in Sierra Leone). **Integration of palliative care into national health policy and cancer/NCD programs:** Once embedded, opioid access gained policy legitimacy and partial funding. **Reliable supply chains and domestic production:** Establishing in-country morphine production (Vietnam) or compounding (Sierra Leone) stabilized availability somewhat. **Education and stigma reduction for prescribers and regulators:** Targeted workshops and case evidence (e.g., "no diversion" data) and curriculum reform shifted attitudes and normalized prescribing. **International collaboration as catalyst:** PPSG and WHO, and others provided model laws, advocacy tools, and legitimacy for national reform.	Momentum lost when champions retired, were reassigned, or when no local ownership replaced international catalysts. **Competing health priorities:** Palliative care remains marginal; limited budget allocations and weak inclusion in essential-medicine distribution. **Supply interruptions and import dependency:** Reliance on intermittent donor shipments or government factory delays (India, Nepal) caused chronic stock-outs. **Opiophobia and misinformation:** Persistent fear of addiction, prosecution, or misuse among clinicians, pharmacists, officials, and policymakers; medical curricula often omit opioid pharmacology. **Donor dependence:** Without local fiscal ownership, reform risks collapse when external support ends (e.g., Sierra Leone's reliance on public fundraising and UK-based PCSL funding).

Table 1B: Mechanisms of success and ongoing barriers identified by the Open Society Foundations (OSF) and African Palliative Care Associations (APCA) 2010–2020 (Lohman et al., 2023; Luyirika et al., 2022).

Mechanisms of success	Typical barriers
Institutionalization of palliative care within national health systems: Integration of palliative care into national policies and essential benefit packages (e.g., Kenya, Uganda, Rwanda, Tanzania) legitimized opioid use in public facilities. **Domestic morphine production and supply-chain strengthening:** Local reconstitution of morphine (e.g., Uganda, Tanzania, Rwanda) reduced dependency on imports and improved availability. **Nurse prescribing authority and task shifting:** Legal amendments allowing trained nurses to prescribe morphine (Uganda 2004; replicated regionally) expanded access despite physician shortages (nurse:patient >	**Partial inclusion under UHC:** In Tanzania and Kenya, palliative care coverage is limited to higher-tier insurance schemes; inadequate domestic financing. **Licensing bottlenecks and distribution inequity:** Regional variation in opioid access; stock-outs due to delayed quantification and weak logistics. **Legal ambiguity under newer laws:** The 2015 Narcotic Drugs and Psychotropic Substances Act in Uganda risked undermining nurse prescribing until clarified by advocacy. **Human resource constraints and turnover:** Shortage of trained tutors; uneven coverage

Mechanisms of success	Typical barriers
doctor:patient). **Training and human resource expansion:** Sustained education pipelines (e.g., Uganda's Institute for Hospice and Palliative Care in Africa; Kenya's KMTC diploma) institutionalized capacity building. **Government–civil society partnerships:** Collaboration between ministries of health, APCA, PCAU, KEHPCA, and faith-based networks (ELCT, Hospices) ensured legitimacy and sustainability. **Rights-based advocacy and legal empowerment:** Integration of legal aid and human rights framing (e.g., UGANET in Uganda) reinforced the ethical imperative for access to opioids. **Monitoring and stakeholder coordination:** Regular "morphine partners" meetings (Uganda) sustained transparency across supply actors (MoH, NDA, NMS, hospices).	across rural areas. **Fragmented coordination and donor reliance:** OSF/APCA funding pivotal; national ownership still emerging in several contexts. **Residual stigma and fear of prosecution:** Cultural association of morphine with death and addiction persists among providers and patients (Ooms et al., 2019). **Weak data systems:** National quantification and documentation systems for ICEMs remain underdeveloped, leading to inaccurate estimates and periodic shortages.

Together, these examples of international collaboration trace a coherent trajectory of learning. The PPSG era focused on breaking the regulatory and normative barriers to opioid access, demonstrating that low-resource countries could safely reform laws and establish medical morphine supply. The OSF/APCA era showed how those reforms could be institutionalized through domestic production, health system integration, and rights-based advocacy. Across both, success depended on sustained political leadership, national ownership of morphine procurement, integration of palliative care into universal health coverage, and continuous education to overcome opiophobia. This evidence collectively demonstrates that safe, equitable access to opioids is achievable in LMICs through iterative, multisectoral reform.

3.1 Evidence on feasibility

Implementing policy reform is feasible—many countries have achieved some degree of success in increasing opioid access, suggesting that the path is not uncharted (Cleary & Maurer, 2018; Luyirika et al., 2022). Evidence exists from

enabling meta-organizations and grant-funders such as the Pain & Policy Studies Group (PPSG), and Open Society Foundations (OSF), alongside examples directly from palliative care organizations such as Pallium India, the African Palliative Care Association, Hospice Africa Uganda, Palliative Care Association of Malawi, and Palliative Care Sierra Leone.[12]

Over the past two decades, complementary global initiatives, the Pain & Policy Studies Group (PPSG) and the Open Society Foundations' (OSF) International Palliative Care Initiative (IPCI), have both advanced access to opioids and palliative care across LMICs. The PPSG and its International Pain Policy Fellowship (IPPF) concentrated on policy reform and regulatory simplification with subsequent coordination of training and supply chain creation/stabilization (Cleary & Maurer, 2018), OSF and its regional partners focused on sustained system implementation and scale-up (Lohman et al., 2023; Luyirika et al., 2022). While the PPSG's early work established the policy and regulatory foundations for opioid access reform, parallel and subsequent initiatives supported by the Open Society Foundations' International Palliative Care Initiative (IPCI) and the African Palliative Care Association (APCA) expanded this agenda into scaled health system integration across sub-Saharan Africa. These programs built on the PPSG's legal groundwork, with some IPPF fellows continuing their work in their target country, moving from policy reform towards operational delivery/service provision by embedding palliative care and opioid availability within government hospitals, insurance frameworks, and training institutions (for example, Dr. Rajagopal continued his work via Pallium India). The OSF/APCA experience from ~2000–2020 represents a second tranche of evidence, testing whether established policy reforms could translate into sustainable access within routine health service delivery.

In addition, we have the evidence from palliative care organizations already working in the space, who have increased access to opioids in their relevant countries through policy reform, healthcare worker training, and provision of opioids. Organizations such as the African Palliative Care Association, Hospice Africa Uganda, Pallium India, and Palliative Care Association of Malawi report

[12] Given time constraints, we could not undergo a complete mapping of all organizations operating in LMICs. Here, we present the information we were able to synthesise in the timeframe.

increased patient access to opioids in palliative care cases in their annual reports (See Table 2 in Section 5.1).

3.2 Evidence on effectiveness

Many countries reported increased national morphine consumption post-reform, though the PPSG notes there's a considerable way to go to achieve adequate consumption in their target countries (Cleary & Maurer, 2018). Increase in consumption also may not translate to a 1:1 reduction in pain relief (e.g. if the supply is not consistent, patients may not receive their full course of opioids).

Advocacy and policy efforts have demonstrably achieved opioid access reform in several LMICs, with evidence from South and South East Asia and Sub-Saharan Africa. Over the last two decades, the Pain & Policy Studies Group (PPSG) and the Open Society Foundations' International Palliative Care Initiative (IPCI) have orchestrated the leading programs increasing medical opioid availability in LMICs (Cleary & Maurer, 2018; Lohman et al., 2023; Luyirika et al., 2022). Across Nepal, India, Vietnam, Sierra Leone, Kenya, Rwanda, Tanzania, and Uganda, these initiatives document how sustained advocacy, regulatory reform, and training have incrementally improved morphine access, albeit unevenly.

Below are the summaries of interventions identified throughout the evidence review process.

Nepal

Advocacy produced incremental supply improvements, but consumption remained far below need due to bureaucracy, weak supply chains, and limited clinical uptake.

Beginning in 2008, Nepal's participation in the International Pain Policy Fellowship generated measurable progress through collaboration between the Fellow, the PPSG, and reform-minded officials in the Ministry of Health and the Department of

Drug Administration (Paudel et al., 2015). This partnership enabled the first domestic manufacture of oral morphine—syrup production beginning in 2009 and both immediate—and sustained-release tablets introduced between 2011 and 2012, by a private Nepalese manufacturer, reducing dependence on imports from India that had been subject to frequent delays and stock-outs. Over 500 doctors, nurses, pharmacists, and volunteer health workers were trained in opioid use and palliative care, while the newly established Nepal Association of Palliative Care (NAPCare, founded 2009) launched national guidelines in 2011 and coordinated annual education programs with ministerial support.

Morphine consumption rose more than tenfold, from less than 1 kg in 2000 to 6.445 kg in 2008, the highest level ever recorded in the country, but still covered only about 1,193 cancer patients (≈6% of the estimated 20,000 cancer deaths that year at standard end-of-life dosing). By 2011, consumption had fallen to 2.402 kg (0.0802 mg per capita), illustrating fragile supply and weak clinical uptake (Paudel et al., 2015). Despite technical gains, progress was hampered by bureaucratic licensing processes, limited government financing, and persistent prescriber reluctance, evidenced by 49% of hospital morphine tablets expiring unused because of a “lack of demand” (Paudel et al., 2015). The sole domestic producer continued manufacturing despite very low profit margins and heavy administrative burdens associated with controlled substances.

This case demonstrates how targeted leadership and advocacy within government and civil society can establish foundational change, but without sustained policy reform, education to reduce opiophobia, funding, and system-wide capacity, patient-level access remains limited.

India

Regulatory reform and strong local leadership in Kerala transformed opioid access, but national implementation lagged due to weak follow-through and fragmented governance.

Beginning in the late 1990s, collaboration between the PPSG at the University of Wisconsin, Dr. M. R. Rajagopal and colleagues at Pallium India, and senior officials

from India's Departments of Revenue and Health catalysed a landmark reform of the Narcotic Drugs and Psychotropic Substances (NDPS) Act of 1985 (Sharma, Donaldson & Plant, 2020). The Act had created severe access barriers through its four-step licensing process, requiring separate possession, transport, import, and export permits from multiple agencies, and imposed penalties of up to 10 years' imprisonment, deterring pharmacies and hospitals from stocking opioids. Compounded by recurrent supply interruptions from the Government Opium and Alkaloid Factories and pervasive physician fear of addiction, domestic morphine consumption in the early 1990s covered only about 0.4% of the population in need.

Through PPSG-facilitated policy dialogue, a model regulation was drafted to simplify procedures and designate palliative care institutions as Recognised Medical Institutions (RMIs), shifting oversight from Excise Departments to state Drugs Controllers under the Health Ministry. In 1998, the Government of India instructed all states to adopt the amendment, reframing opioids as essential medicines rather than criminal substances. Between 1998 and 2007, PPSG, Pallium India, and the Indian Association for Palliative Care conducted implementation workshops across 13 states and one union territory, training officials, drafting standard operating procedures (SOPs), and establishing state advisory panels of palliative care clinicians. By 2007, 13 states and 1 union territory had formally adopted simplified NDPS rules, though only Kerala achieved full operationalization.

Treatment coverage in Kerala is now estimated to be >60%. Kerala Care, the Government of Kerala's Initiative for palliative care, had treated 167,269 people as of 1 October 2025 (Kerala Care, n.d.). Forecasting to represent the whole year, we estimate that it will treat a total of ~223,000 patients in 2025. If 1% of the population is in need of palliative care, and the population of Kerala is 35 million, then 350,000 people in Kerala are in need of palliative care, so coverage of Kerala Care is ~64%.

Kerala's success stemmed from sustained advocacy leadership (Rajagopal, Joranson, & Gilson, 2001), a supportive bureaucracy, and a vibrant civil-society base through the Neighbourhood Network in Palliative Care, which created public legitimacy and demand. The state established clear SOPs, trained prescribers,

maintained collaboration between Health and Excise Departments, and ensured uninterrupted morphine supply. A two-year study in Calicut (n = 1,723 patients) demonstrated safe use without diversion, bolstering government confidence (Rajagopal, Joranson, & Gilson, 2001). This success informed the inclusion of palliative care in India's National Cancer Control Programme (2007).

In contrast, other states failed to operationalize reforms: amendments were announced, but not implemented, state advisory bodies lapsed, and frequent transfers of key officials erased institutional memory and ongoing progress. Ongoing opiophobia, poor supply-chain management, and lack of prescriber training meant that morphine remained unavailable or unused in much of the country. India's reform experience demonstrated that regulatory change, while essential, is insufficient without concurrent investment in education, stable leadership, and administrative continuity. Kerala's achievement (representing a success rate of 7% of Indian states where the intervention was introduced) proved the model's potential, while the broader national picture underscored the fragility of progress in the absence of systemic capacity and sustained political will.

Vietnam

Multisectoral leadership within the Ministry of Health drove historic opioid policy reform and service expansion, yet deep-rooted opiophobia and uneven access continued to limit impact.

Vietnam's participation in the International Pain Policy Fellowship (beginning in 2006) produced one of the most comprehensive opioid access reforms among LMICs. Two Ministry of Health (MoH) officials, supported by the PPSG and Harvard Medical School, led a full legal review of 38 opioid-related laws and regulations that had severely restricted prescribing, dispensing, and importation (Cleary & Maurer, 2018).

A national opioid policy workshop convened in 2007 unified key ministries and international partners, including the MoH, Drug Administration of Vietnam (DAV), Ministry of Police, WHO, and UNODC under a shared reform plan. This collaboration enabled the MoH to revise prescribing regulations in 2008, extending

prescription duration for terminal patients from 7 to 30 days, removing the 30 mg/day ceiling, permitting district hospitals to stock opioids, and shortening documentation requirements from five to two years (Krakauer et al., 2015). Parallel DAV reforms broadened pharmacy eligibility to dispense opioids to those meeting Good Pharmacy and Storage Practices, while stipulating that if a district lacked a private pharmacy stocking opioids, the district hospital must maintain supply.

Under this framework, Vietnam issued its first National Guidelines on Palliative Care for Cancer and AIDS and embedded the WHO's four-pillar public health model—policy, drug availability, education, and implementation—into national planning. Methadone substitution therapy and 10 mg oral morphine tablets were integrated into the national formulary, and a large-scale training program was launched, reaching over 1,000 physicians, 340 nurses, 1,469 health officials, and 300 pharmacists (Krakauer et al., 2015). The number of hospitals offering palliative care rose from three to 15, while medical morphine consumption increased ninefold (0.06 to 0.46 mg per capita, 2003–2010), and total opioid use, including methadone, rose 29-fold (0.25 to 7.35 mg per capita, 2003–2011) (Pain Policy & Palliative Care, 2015).

Key enablers included strong and consistent leadership within the MoH, early engagement of the Ministry of Police to address diversion concerns, sustained technical assistance from PPSG and Harvard, and the adoption of WHO's "balance" principle in controlled substances policy (Krakauer et al., 2015). This multisectoral partnership, combining legal reform, clinical education, and cultural sensitivity to Vietnam's historical experiences with opium and heroin, was internationally recognized as a model for safe access expansion in LMICs.

However, persistent opiophobia among clinicians, officials, and the public remained a major barrier. Many providers continued to avoid morphine, and oral morphine was still unavailable in "most" of Vietnam's 525 districts (Krakauer et al., 2015). Regulatory gaps also limited outpatient dispensing from district hospitals despite formal policy provisions. While Vietnam achieved unprecedented progress in aligning policy, supply, and education, deeper cultural change and sustained public education, particularly a national campaign on pain relief supported by the Ministry of Police, were essential to overcome the entrenched historical fear of

opioids and to translate regulatory reform into equitable patient access nationwide (Krakauer et al., 2015).

Sierra Leone

Fellowship advocacy created the country's first legal morphine supply and compounding lab, proving feasibility in a fragile system, but regulatory inertia and resource gaps hindered scale-up.

Before the International Pain Policy Fellowship (2006), Sierra Leone had no legal pathway for importing or dispensing morphine. The drug was unregistered, importation required multiple Ministry-level approvals (Pharmacy Board, Health, Finance, Customs), and no facility or personnel were licensed to handle or reconstitute opioids. Morphine was perceived primarily as a drug of abuse, and palliative care services were virtually unknown.

Working with the Pharmacy Board and Ministry of Health and Sanitation (MoHS), the IPPF Fellow (Executive Director of Shepherd's Hospice) secured authorization to import 500g of morphine sulfate powder in 2008, marking the first legal supply in the country's history (Bosnjak et al., 2011; Cleary & Maurer, 2018). A small compounding lab was established at Shepherd's Hospice to produce oral morphine solution, complete with standard operating procedures, electronic inventory tracking, and staff training.

Clinical use began in February 2009, and by April 2010, 63 patients had received morphine treatment. Demonstrated safe use, confirmed through auditable spreadsheets showing zero diversion, led to regulators allowing double the quantity to be imported the following year (1 kg), establishing proof of concept that controlled opioid access could be managed safely in a low-resource context (Bosnjak et al., 2011; Cleary & Maurer, 2018).

Subsequent years, however, exposed the fragility of these early gains. Between 2010 and 2023, morphine availability was intermittent, reliant on small donations of Oramorph or morphine tablets from UNICEF and NGOs. Persistent licensing and procurement delays, high costs of laboratory equipment (initial setup costing

approximately £400 per 20 litres of solution), and a shortage of trained personnel all contributed to disrupted local reconstituting efforts.

In 2024, Palliative Care Sierra Leone (Shepherd's Hospice now falls under PCSL) and the Palliative Care Unit succeeded in importing 1 kg of morphine powder, producing 100 bottles (200 ml, 5 mg/5 ml) of oral solution, and dispensing 30 bottles within the first month, an important step toward limited government-sector access (Bunn, 2024). Six pharmacy interns were trained, but operations faced new regulatory hurdles from the National Narcotics Board, including mandatory quality-control testing, proof-of-need documentation, and new record-keeping procedures, which delayed release by three months (Bunn, 2024).

Despite these challenges, Sierra Leone's fellowship impact remains significant: it created the country's first lawful opioid supply chain, demonstrated safe clinical use, and built local compounding capacity where none had existed. Yet sustainability remains fragile, dependent on donor funding, ad-hoc licensing, and a small number of trained staff. Without stable financing, streamlined regulation, and formal government adoption of palliative care services, the integration of opioid access into the public health system remains a partially achieved goal.

Kenya

Integration of palliative care into public hospitals established national morphine access, but institutional and financing gaps persist.

In the mid-2010s, the Kenya Hospices and Palliative Care Association (KEHPCA) partnered with the Ministry of Health (MoH) to integrate palliative care and opioid access into 11 Level 5 public hospitals, embedding morphine supply, training, and recordkeeping within the national health system (Ali, 2016). Working closely with the Kenya Medical Supplies Agency (KEMSA), advocates secured national procurement of morphine powder and standardized SOPs for controlled-drug management. Over 220 health professionals were trained in rational opioid use, stock control, and documentation, and oral morphine became available in all 11 provincial hospitals through KEMSA distribution (Ali, 2016). By 2020, morphine

availability was sustained and extended to 30 county hospitals, which now serve as training and mentorship centres for opioid stewardship (Ali, 2016).[13]

However, opioid procurement has not yet been fully institutionalized, and there is no dedicated financing line for palliative medicines under universal health coverage, leaving the system reliant on donor support and periodic MoH collaboration to sustain supply.

Rwanda

Strong Ministry of Health leadership and legal reform produced a rapid, 226-fold increase in morphine consumption and national service integration.

Through the African Pain Policy Fellowship, two Rwandan fellows (a palliative care physician and a Ministry of Health pharmacist) worked with the PPSG to revise national opioid policy. This collaboration informed the National Palliative Care Policy and Strategic Plan (2011) and the Law on Narcotic Drugs (2012), which aligned with WHO "balance" principles and authorized all doctors and trained nurses to prescribe morphine within regulated limits (Krakauer et al., 2018).

The MoH established a single national reconstitution facility for oral morphine to ensure quality and cost control, integrated palliative care into NCD services and residency training, and created standard national forms for opioid management. Within 12 months of introducing morphine reconstitution and distribution, consumption rose from near zero to 0.85 mg per capita per year (Krakauer et al., 2018); by 2019, the total use of morphine had increased from nearly zero (supplying zero patients) to 10 kg (supplying 5,000 patients) (Ntizimira & Uhagaze, 2019; Grant, Murray & Leng, 2020). By 2020, a list of palliative care medicines was accessible at district pharmacies, with a nurse-prescribing pilot in 11 districts, reaching ~6,000 people (Luyirika et al., 2022). The Rwanda Palliative Care and Hospice Organization (RPCHO) institutionalized national procurement planning and routine consumption reporting.

[13] No specific quantity changes could be found, just qualitative measures for increasing access to opioids e.g. "more than doubled in recent years, particularly in hospitals in Nairobi" according to a personal communication in Cleary & Maurer (2018).

Remaining challenges include continued reliance on international procurement, insufficient domestic financing for ongoing training and supply, and persistent hesitation among some clinicians despite demonstrated safety and zero diversion reports.

Tanzania

Faith-based collaboration and decentralized reconstitution expanded morphine availability from 65 to 114 hospitals, though equity and training gaps persist.

Tanzania's early palliative care expansion began with the Continuum of Care for People Living with HIV/AIDS in Tanzania (CHAT) project (2007–2010), implemented by the Evangelical Lutheran Church of Tanzania (ELCT) with PEPFAR/USAID and FHSSA support. CHAT established palliative care teams in 13 rural hospitals, training 517 home-based care volunteers (HBCVs) and 52 health professionals (nurses, clinical officers, chaplains, social workers) (Nanney et al., 2010; FHSSA, 2010). By mid-2007, 621 patients had received care, rising to over 6,500 patients by late 2009 and a cumulative total of approximately 12,000 patients within three years.

Building on this, the Government of Tanzania adopted a National Palliative Care Policy in 2016, followed by OSIEA-supported expansion (2017–2020) to 23 hospitals and five health centres (Luyirika et al., 2022). High-level advocacy in 2019 created regional morphine reconstitution task forces, trained pharmacists, and accredited regional sites for production and dispensing. By 2019–2020, hospitals with oral morphine rose from 65 to 114, and the government introduced a dedicated morphine procurement and distribution budget, marking a major structural advance (Luyirika et al., 2022). Palliative care was incorporated into the National Health Insurance Fund (NHIF) for Silver and Gold policyholders, extending partial Universal Health Coverage.

Yet persistent barriers include regulatory delays, training shortages, and financial exclusion for lower-tier NHIF members. Ongoing supervision of regional production sites and nationwide pharmacist training remain essential to ensure quality control and equitable morphine access.

Uganda

A regional pioneer in integrating palliative care and morphine access, Uganda's nurse-prescribing model and local production underpin one of Africa's most established opioid access systems, though obtaining data and financing have proved challenging.

Uganda represents the most mature and well-documented example of palliative care integration and opioid access reform in sub-Saharan Africa. Under Ministry of Health (MoH) oversight, palliative care was recognized as an essential health service and incorporated into the National Health Sector Strategic Plan, with the National Pain Control Guidelines and a Draft National Palliative Care Policy developed. The landmark Statutory Instrument No. 24 (2004) authorized nurses and clinical officers to prescribe oral morphine, dramatically extending access beyond tertiary hospitals (Sharma, Donaldson & Plant, 2020; Clark, 2007).

Hospice Africa Uganda (HAU), supervised by the MoH, began local production of oral liquid morphine, distributed free to patients via National Medical Stores (NMS) to more than 200 accredited facilities, each requiring at least one trained prescriber. The Palliative Care Association of Uganda (PCAU) coordinates a "Morphine Partners Forum" (MoH, NMS, NDA, HAU, PCAU), ensuring oversight, mentorship, and monthly coordination. As of 2020, nearly 90% of the population was covered by an accredited palliative care facility (Kagarmanova et al., 2022), although actual access to morphine may vary by location.

Education and workforce development have been central to Uganda's success. The Institute for Hospice and Palliative Care in Africa (IHPCA) and PCAU have trained hundreds of prescribers, while Makerere University and HAU offer BSc and Diploma programmes in Palliative Care (Fraser et al., 2018). The integration of legal and human rights through PCAU, UGANET, and the Uganda Human Rights Commission has framed pain relief as a fundamental right, supported by advocacy from OSF and OSIEA. Community sensitisation has reduced, though not eliminated, opiophobia.

Despite these achievements, several barriers remain. Morphine quantification still relies on estimates rather than real consumption data, leading to

under-procurement, with studies showing that actual use meets only ≈2.3% of national need (Ooms et al., 2019). Urban–rural disparities persist, and weak data systems, fragmented referral pathways, and limited financing, still heavily donor dependent, continue to constrain service equity and sustainability. Uganda's experience nevertheless demonstrates how regulatory reform, local production, and workforce task-shifting can achieve national-level morphine access, offering a scalable model for other LMIC settings.

3.3 Evidence on broader impacts and spillover effects

Available LMIC evidence qualitatively reports no diversion or misuse under supervised programs, though reporting bias is possible.

Organizations across Uganda, India, Rwanda, and Sierra Leone documented "no diversion" results, and safe audits supported continued or expanded import quotas. To the best of our knowledge, no quantitative misuse rates were reported (though Sierra Leone's case study noted an Excel spreadsheet of data on diversion/misuse records was created). Broader evidence indicates that misuse problems in high-income countries arose mainly from chronic-pain prescribing, not palliative contexts, aligning with expert opinion that the risk in palliative care remains low. In addition, there is a lack of documented side effect cases for opioid use in these settings, though it is very unlikely that patients experience no side effects.

4 Expert views

As part of our investigation, we consulted four people familiar with this space:

- Dr. Stephen Connor, Executive Director of the Worldwide Hospice Palliative Care Alliance (WHPCA), a global alliance of national, regional & other hospice and palliative care organizations in 103 countries
- Mr. Samuel Dupret: Research Manager, Happier Lives Institute (HLI)
- Mr. Ben Stewart: Research Analyst, Happier Lives Institute (HLI)
- Mr. Lameck Thambo, Executive Director, Palliative Care Association of Malawi (PACAM)[14]

Our findings from these conversations have influenced our decision-making across the reporting. This section summarizes the key findings from the consultations not mentioned elsewhere.

Dr. Stephen Connor

Dr. Connor is in favor of this intervention and emphasized that improving opioid access in LMICs requires coordinated reform across regulation, education, and culture, recommending palliative care as the most feasible entry point and highlighting Uganda's Hospice Africa model as a leading example of effective NGO-led implementation and government adoption.

Limited opioid access in LMICs is not driven by opiophobia alone, but by a complex interplay of regulatory, educational, and cultural barriers. He described the opioid access system as a "pipeline with many valves," where failure at any stage—medicine registration, International Narcotics Control Board (INCB) reporting, import and storage, prescriber training, or lack of public acceptance—can halt access. He noted that misconceptions about the INCB process often add unnecessary constraint, since countries can revise their estimated opioid needs at any time by submitting an updated justification.

[14] Consultation over email.

Interventions to improve access to essential medicines, including opioids, should begin with palliative care, where the risk of misuse is minimal, and the humanitarian case is strongest. Uganda provides a strong proof of concept: Hospice Africa Uganda pioneered a model for compounding and distributing liquid oral morphine solutions, combining NGO leadership, government partnership, and professional training. This model has since been replicated in other African countries, providing a robust foundation for future efforts. Uganda's success, while instructive, is not unique; other countries have made progress through different strategies, including establishing domestic opioid production facilities—Russia being one recent example.

Dr. Connor emphasized that sustained progress requires multi-level coordination, combining regulatory and policy reform with prescriber education and public awareness to normalize dying and affirm the right to pain relief. Cultural denial of death and inadequate training perpetuate systemic resistance, while the U.S. opioid crisis has heightened caution globally. He observed that the misuse problem in the United States largely stemmed from expanding opioid use beyond palliative and cancer care into chronic pain management. He added that some chronic pain patients who have exhausted non-opioid and non-pharmacological options still require opioids, but access should come with strict oversight to prevent misuse.

Dr. Connor also highlighted the need for leadership development, particularly among nurses, and noted that families and communities provide the majority of palliative care in practice. In addition, morphine's three-year shelf life presents an operational barrier that discourages procurement in low-demand contexts. Smaller and more frequent orders, or pooled purchasing mechanisms, could be potential solutions to address this constraint.

Dr. Connor recommended that AIM's ToC expand its focus on demonstration and leadership, supporting NGO-led pilots, strengthening regulatory systems, shifting cultural narratives through public education, and building coalitions through WHPCA, IAHPC, HAU, and ICPCN to align advocacy efforts. Meaningful change will require alignment between regulation, education, culture, and

leadership, framing morphine not as a dangerous drug but as an essential medicine for human dignity and pain relief.

Samuel Dupret & Ben Stewart

Happier Lives Institute (HLI) is conducting an in-depth analysis of palliative care and other pain relief interventions. This is a follow-up to their initial shallow exploration of pain relief (Dupret, McGuire, & Plant, 2023).

Their preliminary findings suggest that systems-level interventions (policy reform, regulation, education to bolster prescriber confidence, and coordination) are more promising than direct palliative care delivery. HLI sees value in a meta-charity coordinating between NGOs, funders, and policymakers, similar to OPIS[15]; ideally, this charity would conduct monitoring and evaluation, as data on "need met" in this space is very poor[16] - they cite Pure Earth's mapping efforts as something that would be valuable in this space. Another valuable option for this meta organization would be to vet existing small, local palliative care organizations and redistribute funds as it would be difficult for HLI or other funders/evaluators to do this work themselves.

HLI sees **clear room for additional actors** - particularly those focused on **coordination, data infrastructure, and government engagement** - and sees that the **space remains highly neglected and somewhat tractable** (especially in geographies where the policy reform barrier has been lifted), with no EA-aligned charities currently active. They identify Pallium India as a strong model, and Hospice Africa Uganda as a valuable context-specific case (with Uganda now being relatively well-covered i.e., less room for counterfactual impact). HLI notes that successful reform depends on regulatory variation, local champions (e.g., doctors with government connections)[17], and government buy-in, and that early

[15] Similar to the PPSG's work during the IPPF.
[16] Our findings indicate that this data was once provided by the PPSG, whose publications linked to maps hosted on their former University of Wisconsin–Madison website. Those links now return 404 errors. The PPSG has since moved to Indiana University under the Walther Global Palliative Care & Supportive Oncology Group, whose current site appears not to include these mappings, as far as we can tell.
[17] Mirroring commonly reported successes in the IPPF body of evidence, the Fellows were doctors, or worked in the Ministry of Health in the target countries.

efforts might best target countries where the legal groundwork exists but implementation lags.

They kindly shared a draft of their unpublished report, which was immensely helpful in the creation and grounding of our cost-effectiveness analysis.

Lameck Thambo

In Malawi, access to pain relief medicines follows the WHO analgesic ladder but remains uneven. Basic (level 1) analgesics are widely available, though distribution is hindered by **weak supply chains and poor infrastructure**. Mid-level (level 2) drugs such as tramadol and codeine are rarely stocked due to **high cost and reliance on donor procurement**. Strong opioids (level 3), mainly morphine, are government-procured and supplied free to patients but face multiple barriers: **restrictive legislation** prohibiting use in rural facilities, **limited prescriber authority** (doctors, surgeons, and clinical officers only), **high costs for private providers**, and **limited knowledge among eligible prescribers**. **Patients often travel long distances to reach hospitals with morphine supplies**.

Advocacy has produced some policy shifts—government procurement of opioids began after lobbying and exchange visits, and clinical officers are now permitted to prescribe morphine, though the national policy has not yet been formally updated. **Support from the African Palliative Care Association (APCA) has been instrumental, providing technical assistance, funding, and facilitating exchange visits by policymakers.**

Mr. Thambo identified Africa as the highest-priority region for improving access to pain relief.

5 Existing activity, funding, and geographic assessment

This section reviews existing activity in this space and assesses where a new organization could operate effectively, based on disease burden, feasibility, and the level of current activity.

Interviews with experts suggest that this area remains substantially under-served relative to the scale of unmet need. We therefore do not expect overlap with existing efforts to limit impact. The countries identified as the most promising for this work are listed in Table 3 below.

5.1 Existing activity and funding

We think there is clear room for additional work on opioid access for palliative care in LMICs, given the large suspected unmet need and the relatively small scale of current activity*. The organizations we identified operate in specific countries or regions within a country with modest budgets and staffing, and most deliver a mix of advocacy, training, and services rather than the full sequence of regulatory, authorization, and training, and supply tasks (as proposed in our ToC). We have not seen evidence that these efforts are close to saturation in any country.*

We expect some overlap with (inter)national palliative care associations (where they exist), but their mandates and resources suggest that key functions of this intervention remain underserved. *On this basis, we think that additional, coordinated capacity focused on system implementation—not only service delivery—would fill gaps.*

Actors delivering this intervention

Here, we focus on how many actors we have identified that deliver this intervention. Due to time constraints, we time-capped this section after we found

the easiest-to-identify actors in this space. It is likely that there are more organizations in the palliative care space working to increase access to opioids for palliative care in LMICs, including the Walther Global Palliative Care group (previously PPSG, though it's unclear the current status of the group's work). We present the information gathered in Table 2.

Table 2: Existing organizations working on increasing access to opioids for palliative care

Organization	MANGO/ FoNGO[18]	Scale/coverage	FTEs	Funding
Pallium India	FoNGO	Currently operate in Kerala State in India.	138 FTE, plus >150 active volunteers (Pallium India, n.d.)	$1,049,706 (Pallium India, 2024) Note: Policy reform has already happened in India, so this budget does not allocate anything to policy reform.
Hospice Africa Uganda	FoNGO	Uganda primarily. Also works in Senegal, Burkina Faso, Malawi, Mozambique, Lusophone Africa (not explicit which countries), Mauritania, Congo-Brazzaville, Democratic Republic of Congo, Ethiopia, and Eswatini.	87 staff members in total, unsure if all are FTE (Hospice Africa Uganda, n.d.)	$940,763[19] (Hospice Africa Uganda, 2023)
Palliative Care Sierra Leone (The Shepherd's Hospice now falls under PCSL)	FoNGO	Sierra Leone	4 trustees, 5 volunteers (Charity Commission for England and Wales, n.d.)	$24,329[20]
Douleur Sans Frontières	MANGO	Mozambique, Cambodia, Haïti, Madagascar, and Armenia.	-	-
African Palliative Care Association	FoNGO	Supported a total of 22 palliative care providers across Malawi, Uganda, Kenya, Zambia, Sudan, Togo, Ethiopia, Burkina Faso, Cameroon, South Africa, The Gambia, and Tanzania (African Palliative Care Association, 2024).	'Personnel' section of their website has 8 people, but there must be more staff than this.	$738,687 (African Palliative Care Association, 2024)

[18] Multi-armed NGO (MANGO) and Focused NGO (FoNGO). See Chapter 8 of the World Happiness Report to learn more about this distinction (Plant et al., 2025)
[19] Exchange rate of 0.00027 on 14/11/25.
[20] Exchange rate of 1.32 on 14/11/25.

Organization	MANGO/ FoNGO[18]	Scale/coverage	FTEs	Funding
			(African Palliative Care Association, n.d.)	
Palliative Care Association of Malawi	FoNGO	Malawi	At least 17 (not including board of directors, secretariat, or general assembly, no explicit numbers cited on org chart (Palliative Care Association of Malawi, n.d.)	$65,803[21] (International Aid Transparency Initiative, 2020)
Kenya Hospices and Palliative Care Association	FoNGO	Kenya	8 staff members and 7 board members (Kenya Hospices and Palliative Care Association, 2024)	$302,405[22] (Kenya Hospices and Palliative Care Association, 2024)
Organisation for the Prevention of Intense Suffering	MANGO	Burkina Faso (Organisation for the Prevention of Intense Suffering, n.d.)	-	-
			Total Funding	**$6,556,589**

Attention and Funding

The combined reported income for the six FoNGO organizations identified is approximately $3.12 million, averaging around $0.52 million each. Annual reports and audit filings list varied revenue sources, including advances from trustees and senior staff, public donations, and grants from firms in life sciences, banking,

[21] Exchange rate of 1.32 on 14/11/25
[22] Exchange rate of 0.0077 on 14/11/25

insurance, philanthropy, universities, policy think tanks, hospice groups, and cancer societies[23].

Academic attention to opioid access and palliative care in LMICs has been steady but limited in scale. Peer-reviewed work from the OSF, the PPSG, and WHO collaborating centres has produced country case studies over several decades, documenting regulatory barriers, prescribing constraints, and low morphine consumption in settings such as Nepal, Vietnam, India, Sierra Leone, Kenya, Rwanda, Tanzania, and Uganda. These studies consistently show chronic under-use of essential opioids, including in countries that have completed or initiated policy reform. They also review two decades of palliative care support and how national associations and health ministries have attempted to expand training, opioid availability, and regulatory reform. The Lancet Commission on Palliative Care and Pain Relief consolidated this evidence in its 2017 report and subsequent updates and commentaries, describing the "access abyss", quantifying the gap in morphine-equivalent availability for countries across Africa, and call for movement "towards opioid access without excess" (see Quality of evidence).

Gray literature mirrors these findings. WHO's Cancer Pain and Palliative Care Program introduced the three-step "pain relief ladder" in 1986, and morphine has been included on the WHO Model List of Essential Medicines since 1977. WHO guidance issued since continues to call for balanced opioid policy and improved access for LMICs that are largely "left behind in pain" (Anekar, Hendrix & Cascella, 2023; WHO, 2023b). It seems that civil society organizations generate most of the field's public-facing attention. Their work is advocacy-driven rather than spontaneous media uptake. For example, KEHPCA runs campaigns, community sensitization activities, and social media outreach, including the #PCMashinani initiative, to increase awareness of palliative care across Kenyan counties (Kenya Hospices and Palliative Care Association, 2024). APCA reports media and community engagement reaching more than 23,000 people in their 2023/2024 annual report, and tracks public engagement across its communication platforms,

[23] Specific examples include IQVIA, Allianz, Federal Bank India, MRF Foundation, The Pakhar Foundation, The True Colours Trust, Global Partners in Care, American Cancer Society, Global Institute of Psychosocial, Palliative and End-of-Life Care, Irish Hospice Foundation, King's College London, RAND Corporation / Foundation, University of Birmingham, University of Leeds, Veta Bailey Charitable Trust, Open Society - Africa, and Hospice Africa France. Notably, APCA has also granted money to palliative care facilities in the 11 countries they mention they support in their annual report.

alongside the provision of open-access training and reference materials (African Palliative Care Association, 2024)[24].

5.2 Geographic assessment

We conducted a preliminary geographic assessment to understand which countries should be modeled in our cost-effectiveness analysis.[25]

Table 3 provides what we think are the top ten candidate countries for this work.[26] This includes modeled cost-effectiveness results. Table 4 describes the criteria used and weights assigned in our model.

Table 3: Top countries identified

Country	Overall score	PPP (z-score)	Total SHS burden (z-score) (Knaul et al., 2025)	Average SHS per capita (z-score) (Knaul et al., 2025)	$/DALY
India	3.2	1.13	5.96	-0.53	$147
Nigeria	1.7	1.66	2.28	0.15	$145
Lesotho	1.5	0.75	6.88	-0.21	$673
Eswatini	1.3	0.70	5.97	-0.26	$1,096
Zambia	0.9	0.89	0.13	2.75	$190
Mozambique	0.8	0.49	0.35	2.45	$178
Tanzania	0.8	0.95	0.58	1.14	$157
Malawi	0.8	0.98	0.05	2.22	$200
Ethiopia	0.7	2.24	0.19	-0.11	$148
Kenya	0.6	0.71	0.39	1.08	$177

Table 4: Criteria used

[24] APCA specifically mentions the following platforms: Facebook, X, YouTube, LinkedIn, and Instagram. They registered over 17,000 followers on Facebook, and 4,800 on X.
[25] We are trialling a new way of carrying out geographic assessments, focusing on fewer—more standardized—variables to order countries based on a rough prioritization. We focus more time on cost-effectiveness modeling across more countries.
[26] Reported as of 05.01.2026—note the models are live and may be subject to tweaks or (in rare occasions) large changes that may not be reflected in the text if carried out after publication.

Criteria	Data source and manipulations	Strengths/weaknesses	Weight
Price level ratio of PPP conversion factor (GDP) to market exchange rate	World Bank - Normalized or standardized	A proxy for the purchasing power of philanthropic dollars in a country, usually Gross Domestic Product per capita.	30%
Total Serious Health-related Suffering (SHS) burden and average SHS per capita	Knaul et al., 2025 - Normalized or standardized. The SHS burden is presented both as the number of people experiencing SHS due to life-limiting or life-threatening conditions (count in 1000s of people with SHS) and as the number of symptom days of SHS experienced in the paper. We use the total burden (50% weight) and the average per capita burden (20% weight) using the count in 1000s, plus the population size to calculate the average SHS burden per capita for this Geographic Assessment. Without this adjustment, only countries with very large populations rank at the top due more to the population size than the SHS burden per person within the country.	The Lancet Commission on global access to palliative care and pain relief introduced the concept of SHS to quantify the need for palliative care and pain relief by in 2017. SHS directly measures the metric this investigation is interested in. The 2025 update refined estimates using the 2021 Global Burden of Diseases, Injuries, and Risk Factors Study data, reduced double-counting of diseases, better accounts for those who have terminal and chronic conditions that include moderate-to-severe pain, and included more disorders to capture diabetes-related SHS. Fixed multipliers determine the proportion of deaths and prevalent cases that require palliative care and do not vary over time or place (are not country-specific and do not account for medical advances) Estimates derived depend on published data and expert opinion from a small group of palliative care providers across the globe. Social, spiritual, and financial dimensions of SHS and vectors of suffering are excluded, as SHS exclusively explores physical and psychological distress[27].	70%

[27] This is a major reason why household spillover effects (albeit weak estimations) are included in this analysis. As HLI have reported, it seems likely that chronic pain may negatively impact other members of the household, and extreme pain may result in extra losses beyond the negative impact of the pain on wellbeing alone, such as relationship breakdowns, or unemployment (Dupret, McGuire, & Plant, 2023).

Further thoughts on geographic prioritization

Our model aimed to identify the top countries based on burden factors. This allowed us to narrow down our selection of countries included in the cost-effectiveness analysis.

A team scoping locations for this work will likely wish to narrow down country selection based on cost-effectiveness and qualitative assessments of neglectedness and tractability. Uganda, for instance—ranked 11th in this analysis—is often cited as the leading LMIC example of successful advocacy for increased opioid and palliative care access. The Hospice Africa Uganda model has proven impactful and has been successfully replicated across other African countries. APCA also operates in 11 countries, increasing the capacity of healthcare workers and providing evidence that opioids can be safely used to alleviate pain in palliative care patients. Regarding tractability, experts interviewed advised that choosing countries/regions within countries that have already overcome restrictive policies/laws may be the most tractable to target. See Table 2 in Section 5.1 for more information on countries that have ongoing opioid access advocacy.

We believe that work on opioid access is severely neglected. Our tentative conclusion for a team starting this work is that neglectedness is unlikely to be a core concern for country selection.

We expect that work in many countries will face regulatory delays, staff turnover, and fragile supply chains, as seen in comparable settings, which is likely to slow implementation. Selecting a country will require assessing the reliability of the narcotics authority, existing Ministry of Health commitments, and the availability of training partners.

Narrowing down on tractability will likely include country visits and key informant conversations. Beyond that, we suggest that the following indicators may prove helpful:

- Measures of government effectiveness and regulatory quality (e.g., World Bank Group, n.d.)

- Measures of pre-existing opioid access (e.g., Richards et al., 2022)

6 Cost-effectiveness analysis

Link to our model - 2025 - W - #13: Promoting access to effective pain relief in palliative care in LMICs CEA

6.1 Results

Our model estimates that advocacy for increased access to opioids for palliative care in LMICs can avert a DALY for an average of $151 across our top 10 geographic priorities. This intervention meets our cost-effectiveness bar for this round of $220/DALY averted in 8 out of the 10 countries modelled. Within our 10 selected countries, the cost-effectiveness is expected to be highest in Nigeria ($145 per DALY averted) and lowest in Eswatini ($1,096 per DALY averted).

Table 5: Cost-effectiveness analysis results ($/DALY)

Average	India	Nigeria	Lesotho	Eswatini	Zambia	Mozambique	Tanzania	Malawi	Ethiopia	Kenya
$151	$147	$145	$673	$1,096	$190	$178	$157	$200	$148	$177

For each country, we assume a 50% probability of advocacy success and, conditional on success, coverage of 0.6% of the population, based on estimates that 1% of the population requires palliative care each year (Dupret, McGuire, & Plant, 2023) and that a well-functioning new charity can reach 60% of those in need at scale, as observed in Pallium India's treatment coverage in Kerala (Kerala Care, n.d.)).[28]

Other models

Happier Lives Institute has created two cost-effectiveness analyses on advocacy for increased access to opioids for palliative care in LMICs.

- Dupret, McGuire, & Plant, 2023 created a BOTEC modeling the cost-effectiveness of this intervention, which estimates that it could be 93 times more cost-effective than GiveDirectly at **~$54.57/DALY**.
- In 2025, HLI then created a more up-to-date and in-depth model to estimate the cost-effectiveness of extending Pallium India's work. This model is currently unpublished, but it greatly informed our model. The *preliminary* results of the model yield a wide cost-effectiveness range of **26–163 WELLBYs per $1,000 invested (which would roughly translate to $23.4-146/DALY)**.
- In 2026, HLI plans to write an even deeper report on palliative care and will update its modeling again.

[28] Kerala Care, the Government of Kerala's Initiative for palliative care, had treated 167,269 people as of October 1st 2025 (Kerala Care, n.d.). Forecasting to represent the whole year, we estimate that it will treat a total of ~223,000 patients in 2025. If 1% of the population is in need of palliative care, and the population of Kerala is 35 million, then 350,000 people in Kerala are in need of palliative care, so coverage of Kerala Care is ~64%.

6.2 Modeling choices

Costs

Most of our fixed cost estimates are based on standard AIM assumptions. We model our initial and at-scale fixed costs using standardized assumptions — $145,000 in the initial year, and $280,000 at scale. We also make the standard assumption across all policy interventions that the non-profit would employ 5 locals to aid the advocacy process, uniformly adding 5 times the salary for a medium-skilled occupation in each country (using ILO data) and $10,000 in overhead costs for each hire.

A significant one-off fixed cost for this intervention is the lab setup costs for creating morphine. We estimated that the total costs for the initial equipment, training, calibration, and facility preparation for compounding would be $7.8M on average, which is annualized over the 5-year lifespan of the charity. To calculate this, we:

- Calculated the total cost of supplying opioids for 14 days per patient based on HLI's estimate in their 2023 model that morphine costs about $8 per patient for 90 days' worth of treatment (Dupret, McGuire, & Plant, 2023).[29] We then multiplied this by the estimated number of people reached and applied a 30% overhead to be conservative.
- Based on data from Sierra Leone, we then multiplied these total opioid provision costs by 3, as lab setup costs were approximately three times the first-year running cost for compounding morphine for IAPHC (Bunn, 2024).

[29] HLI reviewed this report and highlighted that this estimate was just a rough back-of-the-envelope calculation based on a number that can't be accessed anymore. The original source used by HLI was a MSI which now leads to a 404 error. Many other studies also refer to this broken source.

We also found other estimates that were much less than $8 per patient, but we thought that these were unrealistic. For example, Knaul et al., 2018 estimate costs of $3 per capita for a package of palliative care interventions: "The Commission designed an essential package of palliative care medicines, basic equipment, and human resources that could alleviate much of avoidable suffering in LMICs. This essential package must be part of universal health coverage platforms and the drive to achieve the Sustainable Development Goals by 2030. The cost of this essential package in LMICs is about US$3 per capita." Note that it is unclear what the treatment duration is for this $3 estimate.

We continue to use $8 although this may be an overestimate.

We also model two variable costs: training healthcare workers and opioid provision. To calculate training costs, we:

- Calculated training costs of $289 per healthcare worker, taking averages of $383 and $369 from African Palliative Care Association annual reports (African Palliative Care Association, 2019[30]; African Palliative Care Association, 2024[31]), applying a 30% discount as APCA focuses on multiple countries at once whereas we assume a new charity will work country by country, and converting prices to 2023 USD.
- Estimated the number of trainees required in each country. We assume that each healthcare worker can serve 60 patients based on Henderson et al., 2019. Our estimates differ slightly from those of Henderson et al., as they focus on training both palliative care physicians and resource nurses, whereas we focused solely on palliative care physicians.

We detailed how we calculated opioid provision costs above.

Effects

The impact of this intervention is measured by the total number of DALYs averted per person successfully treated by opioids during palliative care.

We estimate that the DALY burden per patient treated with opioids in palliative care is 0.02 DALYs. Here, we assume that the length of palliative care is 14 days and we use the average disability weight of all diseases (cancers, kidney disease, liver disease, renal disease, motor neuron disease, cardiovascular diseases, tuberculosis, HIV/AIDS, stroke, dementia, heart disease and heart failure, chronic obstructive pulmonary disease, and Parkinson's disease) requiring palliative care from the Global Burden of Disease.

Based on work by HLI, we assume that there will be a per patient spillover effect of 16.24% per additional person in the household (McGuire et al., 2024).

[30] Palliative care integration costs (core training, curriculum, service rollout) of $330,243 and 861 healthcare workers trained → $383 per trainee.

[31] $761,471, with 58% on program costs ≈ $441,654 and 1,198 health workers trained → $369 per trainee.

We also account for side effects, which we estimate will impact 3.15% (2.7-3.6%) of patients (McNicol et al., 2003). We assume that side effects will have a disability weight of 0.004 based on the weight given to "has pain in the belly and feels nauseous. The person has difficulties with daily activities." by the Global Burden of Disease.

We take all this together and adjust for the probability of treatment success, assuming, conservatively, that 90% of people respond to opioids and that there is an 80% reduction in pain from response to opioids (Paice et al., 2023; Wiffen et al., 2017)

Scaling

At scale, this intervention averts an average of ~146,000 DALYs per year with a range between ~1,000-1M DALYs depending on the country modelled.

Based on analysis by HLI, we assume it takes 5 years for the intervention to reach scale. We model a 50% probability of reaching at-scale delivery and a 5% chance per year that this would happen without the new charity.

Sensitivity analysis and Considerations

Table 6: CEA considerations

Reasons this intervention could be more cost-effective than modeled, all else equal.	Reasons this intervention could be less cost-effective than modeled, all else equal.
• If the length of time patients are in palliative care is longer than 14 days. It could be as long as 90 days. • If advocacy speeds up the introduction of opioids to palliative care by more than 6.5 years (this could be 8 years or more). • If there are more than 2 additional people in the patient's household, the spillover effects of this intervention will be larger. • If opioids are cheaper than we have modelled. We currently use an estimate of $8 per patient for 90 days	• We can reach <60% of the people who need palliative care. • If it takes more than 5 years to reach scale (advocacy success). This could be as much as 10 years.

Reasons this intervention could be more cost-effective than modeled, all else equal.	Reasons this intervention could be less cost-effective than modeled, all else equal.
worth of treatment, but Knaul et al., 2018 suggest a per capita cost of <$3 (though we are unclear what the treatment duration is for this estimate).	

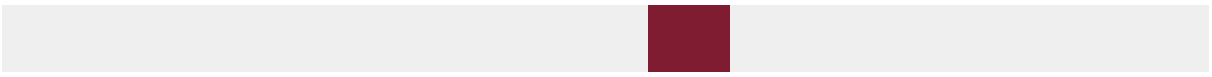
7 Implementation considerations

This section discusses implementation factors that we think are of relevance for both 1) deciding whether we should recommend the idea, and 2) the entrepreneurs considering taking the idea to scale.

7.1 What operating this charity would look like

Figure 3 notes how we would characterize this proposed idea along an explore-exploit continuum.[32] This report assumes the organization works in a setting where regulatory barriers remain, and reform is part of the model. We place the idea two thirds of the way toward the exploit end of the spectrum: policy change introduces design work, government engagement, and an uncertain likelihood of success, but there is precedent for achieving reform, and the other elements of the model draw on established practices used by existing organizations over the last two decades.

A post-reform entry path would sit further toward the exploit end of the spectrum (for example, working in another Indian state outside of Pallium's reach or a Ugandan district outside of HAU's reach), since it builds on existing legal foundations and extends familiar training and supply-chain activity, much closer to replicating exactly what is done in the other regions of that country. HLI noted this lighter path as feasible, but it was not examined in this report.



Explore **Exploit**

Figure 3: Explore-exploit continuum for the proposed charity

The organization would work on three linked areas: regulatory reform, training, and supply-chain support. Day-to-day work is a mix of policy engagement, technical design, and operational support.

[32] Our recommendations can be characterized along a spectrum between exploration and exploitation—ideas closer to exploration require more research and design, and involve riskier bets and wider confidence intervals; ideas closer to the exploit side of things usually have narrower confidence intervals and rely more on replication/expansion of well-developed and concrete interventions.

The PPSG, through its IPPF, has created a framework that has proven successful, and a new organization will be focused on replicating it alongside learnings from established organizations in the space (HAU, APCA, Pallium India, etc.).

Tailoring to the target country's specific needs when appropriate, day-to-day activities are outlined under the following headings (and include, but are not limited to):

Policy and regulatory reform

- Map current national laws, prescribing rules, licensing requirements, and INCB reporting processes.
- Utilize existing frameworks, such as the PPSG legislative-review model and the IPPF approach, to identify restrictive clauses, draft amendments, and prepare briefing notes.
- Support ministries with annual morphine-needs estimates, import procedures, and controlled-medicines record-keeping.
- Work with medical councils and pharmacy boards on administrative barriers highlighted in the evidence (special licences, short prescription validity, restricted prescription script pads, registration requirements).
- Facilitate exchange visits similar to the HAU model to demonstrate and learn best practices.

Training and clinical practice

- Adapt existing modules from PPSG partners, APCA, Pallium, and HAU (where possible).
- Run short courses at district hospitals and community facilities covering opioid initiation, titration, storage, and documentation.
- Include specific components on "opiophobia," misconceptions about addiction, and safe-use evidence.
- Develop simple job aids and chart templates linked to national practice guidelines (including M&E templates).

Supply chain support

- Map current procurement routes and bottlenecks.
- Work with the national drug authority to improve ordering cycles and quota submissions.
- Introduce standard diversion-prevention steps already used in controlled-medicine supply: tamper-evident seals, chain-of-custody logs, and basic serialization where feasible.
- Support facilities with storage assessments, stock card formats, and anomaly checking.

These activities follow the structure of existing models that were successful in the past. PPSG/IPPF provides a process for diagnosing restrictive laws, building a legal case for reform, and supporting ministries through the change process. Hospice Africa Uganda and Pallium India illustrate how training and supply-chain support can function once administrative barriers are eased.

7.2 Key operating factors

This section summarizes our concerns (or lack thereof) about different aspects of a new charity putting this idea into practice.

Table 7: Implementation concerns

Factor	Level of concern
Talent	Moderate
Access to information	Moderate
Access to relevant stakeholders	Moderate
Feedback loops / monitoring and evaluation	Moderate
Execution difficulty / tractability	High
Complexity of scaling	Moderate-to-high
Risk of harm	Moderate

Talent

The following backgrounds, skills or profiles would likely be useful for the co-founders or early hires in this organization:

- Understanding or experience with monitoring, evaluation, and learning for programs and pilots
- Medical background or experience working as a government official has been highlighted as a factor of success (IPPF & expert interviews)
- Experience lobbying or working with government officials
- Ability to deliver and manage complex partnerships with many stakeholders
- Strong project management skills
- Experience working in a laboratory setting

It may be possible to task shift some of this to the government to reduce talent requirements.

Access

We do not think that either of these will prove impossible to access. That said, there are some considerations we want to acknowledge that may come with challenges in the initial phases of the charity's incubation.

Information

Key laws, INCB rules and opioid-consumption data, and policy histories are public. However, opioid consumption data estimates have limitations (such as discrepancies between what a country imports versus what it *actually dispenses* to patients), and projections submitted by countries can often be symbolic (as illustrated by the Burkina Faso example). Moreover, when the PPSG moved from the University of Wisconsin-Madison to Indiana University under the Walther Global Palliative Care Group, much of the historically published consumption and mapping data did not appear to migrate , and the links to the original maps cited in

academic papers now lead to 404 errors[33]. Reaching out to authors of papers that focus on these areas is likely to help address gaps that arise (e.g., Cleary & Maurer, 2018; Knaul et al., 2025).

Relevant stakeholders

Progress and potential impact depend on cooperation from ministries, narcotics regulators, and professional councils (e.g., nursing councils). In theory, contacts are reachable, but in practice, the willingness of stakeholders to engage varies, and potential delays are common. Government official turnover has been flagged as a key reason why implementation has been hampered in previous advocacy in this space (Rajagopal & Joranson, 2007). This may occur for the new charity, so we suggest that founders network with >1 official.

Additionally, it seems like the PPSG IPPF fellows who were most successful in LMICs were those who were doctors, officials working in the target country's Ministry of Health, or who already had connections with the Ministry of Health (see Nepal, Vietnam, India, and Sierra Leone examples from Cleary & Maurer, 2018). That said, Dr. Connor was very willing to support a new organization in this space, and as such, may be able to help connect the co-founders with the relevant ministry officials. Additionally, collaborating with organizations that already operate would likely ease the route to stakeholder access (APCA, HAU; HAU specifically facilitates MoH Official exchanges, which would facilitate networking for a potential new org operating in Africa).

Feedback loops / monitoring and evaluation

We expect monitoring to rely on operational indicators rather than patient-level outcomes, since consistent outcome measurement in palliative care settings is rarely feasible. Patients may be unable to self-report due to frailty, delirium, or sedation, and no organization in this space currently captures robust clinical outcomes (to our knowledge, organizations report the number of patients treated,

[33] There are links on the Walther Global Palliative Care website, but it is unclear whether they are the same as the original ones cited by e.g. Cleary & Maurer (2018). You can find global, regional, and individual country-level data here (data to 2020, originally from the INCB).

but not the impact on their pain)[34]. As a result, the charity's feedback loops will depend on a set of policy, training, supply-chain, and clinical-use measures that allow the team to judge whether they are on the right path.

It's likely that by using the indicators below, the organization can detect whether reform is progressing, whether prescribers are active, and whether the supply chain is stable. These signals should be sufficient to guide iteration and, if needed, a decision to pivot or exit.

Policy and administrative indicators

- Number of workshops/networking events held with the MoH
- Reform milestones (and extent of relaxation: licensing rules, prescribing limits)
- Number of prescribers and facilities authorized to use morphine
- Improvement of INCB estimates submitted (closer match to actual needs vs before intervention)
- Time required for approvals and renewals

Building regulatory trust

- Track core indicators: stocks, stock-outs, order fulfillment, staff trained, prescriptions issued, home-visit capacity (where relevant), and the number of patients reached.
- Monitor for diversion.
- Document administrative delays and regulatory choke points to refine the policy/logistics strategy.
- Use patient-level outcomes and only where data collection is feasible (reduce bloat).

Training and practice indicators

- Number of healthcare workers trained on opioid use in palliative care settings (new and refresher courses).

[34] Perhaps indirect measurement can be made by asking caregivers how they perceive the patient to be (dis)improving after opioid administration.

- Change in prescribing activity (e.g., number of patients treated each month/quarter/year).

Supply-chain and safety indicators

- Amount of morphine imported, compounded, and distributed.
- Stock-outs, stock-on-hand in days, and procurement cycle times.
- Monitoring diversion or misuse (using the Sierra Leone model)
    - Reconciliation between ordered, received, dispensed, and remaining morphine
    - Logs of discrepancies
    - Facility audit scores
    - Any reported misuse or theft

Clinical-use indicators

- Number of patients receiving opioids
- Simple caregiver or clinician assessments of pain control, and/or family assessments (controlled/partial/uncontrolled)—not scalable but useful information to gather when practical
- Logged adverse effects

Knowing when to stop/pivot (if KPIs highlight early warnings e.g., the following):

- If reform stalls for 12–24 months with no progress on licensing/narcotics authority cooperation.
- If prescriber numbers do not increase despite training.
- If facilities cannot safely store or manage stock, causing repeated discrepancies.
- If prescriptions rise but stock-outs remain high, indicating supply and logistical challenges.

Additionality and contribution

Given the apparent cessation of the IPPF program, the organizations that run opioid availability reform in LMICs are only the ones highlighted in Table 2, suggesting that the space is not yet saturated.

The model proposed is not unprecedented, but relatively few LMICs have undergone reform, and no organization (to our knowledge) is currently offering the full ToC proposed. Contribution can be assessed by comparing supported districts with non-supported districts on licensing progress, training coverage, stock-outs, and prescribing patterns. Policy contribution is observed through changes to regulations that the organization drafted or facilitated. We do not expect experimental studies to be necessary or feasible: palliative care outcomes are hard to measure, and the main uncertainties sit in policy and system-functioning, not in clinical efficacy.

Tractability

We are somewhat concerned about the tractability of this intervention. The multi-armed ToC introduces complexity, many assumptions, and multiple failure points. At the same time, based on our evidence review and consultations with experts, the intervention will not be impactful unless it addresses all three domains. Delivering this intervention requires navigating policy, administrative systems, clinical practice, and controlled-substance logistics. Some elements may be more workable at a small scale, though they all depend on actors outside the organization's control. Early progress depends on cooperation from regulators and government officials. Previous evidence of success (PPSG Fellowships, actors already working in the space) reduced the concerns somewhat.

Regulatory and administrative steps

Reform is likely achievable, based on the evidence from the PPSG and organizations working in the space. Drafting amendments, revising licensing rules, simplifying prescription requirements, and improving INCB submissions can involve multiple government agencies. Early momentum depends on access to the narcotics authority, legal units in the Ministry of Health, and the bodies that issue prescriber and facility authorizations (in addition to other departments and authorities such as the police in some cases (e.g., Vietnam)). These steps introduce uncertainty and potential delays that the organization cannot fully control.

Prescriber training

This component is likely tractable. Training materials already exist, facilities can host short courses, and nurses and doctors often welcome clearer guidance. The constraints are administrative: prescribers may not be eligible until licensing rules change (e.g., if nurses, in addition to doctors, become authorized to prescribe opioids), and some facilities may require storage upgrades or inspections before staff can use opioids (e.g., to ensure that adequate lockboxes are in place). These bottlenecks can be resolved, but they add steps to any pilot.

Supply-chain stabilization

Once the regulatory environment allows procurement, this is somewhat tractable. The difficulty is sequencing. Supply improvements rely on ministries submitting accurate estimates, import permits being issued in a timely manner, and facilities maintaining secure storage. Several of these tasks sit outside the organization's direct control, and variation in staffing, turnover, and documentation practices can impact the supply chain.

Complexity of scaling

Scaling is feasible, but it is management-intensive and coordination-heavy. The main pressures stem from approving more prescribers and facilities, ensuring secure storage across a wider network, and maintaining consistency in practice as staff numbers increase.

Scaling within a single country increases the number of facilities, staff, and administrative units the organization must work with. Training and basic monitoring scale cleanly; regulatory and supply-chain steps scale less easily.

Policy and administration

Once national rules change, the main scaling constraint is how quickly prescriber and facility authorizations can be processed. These approvals remain the responsibility of government units, and throughput varies.

Training

Training can expand quickly through standardized modules delivered at district hospitals. The main challenge is uneven uptake and staff turnover, which necessitate periodic refresher training to maintain safe practice.

Supply chain

As more facilities participate, reconciliation, storage checks, and stock-out tracking become more demanding. Maintaining consistent documentation and safe storage across many sites requires regular oversight. SOPs can be put in place using Excel templates and dashboard creation, although this requires training on how to utilize these tools.

Facility variation

Hospitals and health centres differ in staffing, record-keeping, and readiness to store controlled medicines. Expanding coverage increases the likelihood of inconsistent implementation.

Risk of harm

The main risks of harm are: diversion and misuse, clinical harm to patients, legal and reputational risks, security and operational risks, and perceived commercial influence. Case studies demonstrate that balanced policy, training, and supply improvements can increase availability without recorded increases in diversion; however, monitoring has been sparse and qualitative, and publication bias is a potential concern. To reduce harm, the organization would need simple, auditable safeguards from the outset: secure storage and reconciliation, competent prescribers, adverse-event recording, independent audits, transparent procurement, and clear separation from commercial promotion. These controls determine whether expansion improves pain relief without introducing new liabilities for patients, facilities, or the organization. Clinical harms could include (unmanaged) side effects and incorrect dosing. Theft of stocks, transport losses, or procurement delays that result in patients being left untreated are possible and

worth noting. Reputational risk could include accusations of enabling or exporting an “opioid crisis” or (perceived) collusion with multinational pharma companies who could aggressively promote opioids.

7.3 Remaining uncertainties

- Patient-level outcome data. How much pain relief and symptom improvement patients experience once opioids become available in routine palliative settings.
- Monitoring feasibility. Whether facilities can reliably collect caregiver reports, adverse events, and basic follow-up data, given the workload and patient condition.
- Reform timelines. How quickly regulatory amendments, licensing changes, and facility authorizations can move through government channels.
- Prescriber uptake. The extent to which trained and authorized clinicians will prescribe opioids in practice, given opiophobia and scrutiny concerns.
- Facility compliance. How consistently pharmacies can maintain secure storage, reconciliation, and documentation across a wider set of sites.
- Supply stability. Whether national procurement and distribution can maintain uninterrupted morphine availability after initial support.
- Diversion risk. The underlying risk of stock diversion or non-medical use in new settings, given minimal historical surveillance.
- Political response. How media or policymakers will react to increased opioid availability and whether this affects permissions or credibility.
- Government ownership. Whether ministries adopt and finance training, monitoring, and supply-chain processes once the incubated organization completes a target country pilot.

8 Conclusion

The decision board met in December 2025. It was made up of Morgan Fairless (AIM), Vicky Cox (AIM), Juan Benzo (AIM), and Martijn Klop (AIM). Samantha Kagel (AIM) provided notes for the meeting.

The board conditionally recommended this idea, pending a revision of the geographic assessment to prioritize larger countries, where fixed costs can be spread more efficiently.

Arguments in favor centered on the extreme neglectedness of opioid access, particularly given the very low cost of the underlying commodity cost. The team noted that while this analysis focuses on palliative care, opioids are essential medicines with broader applications, including cancer pain, post-operative pain, emergencies, and other forms of severe pain management. As health systems strengthen, these additional use cases could substantially increase the overall impact of improved access.

Concerns focused primarily on the cost-effectiveness model and country selection. Multiple team members expressed uncertainty about the original geographic assessment, particularly concerning the country selection methodology and whether the addressable population was sufficiently large. Based on this feedback, we updated the geographic assessment to weight total SHS burden at 50% and per-capita SHS burden at 20% (previously 70% per capita only). This adjustment shifted prioritization toward larger countries. The revised top ten countries are now: India, Nigeria, Lesotho, Eswatini, Zambia, Mozambique, Tanzania, Malawi, Ethiopia, and Kenya. The cost-effectiveness analysis was updated accordingly, improving the estimated average cost-effectiveness to $151 per DALY averted.

The board was motivated by the strong ethical case for addressing extreme pain, noting that DALY-based metrics may substantially understate the severity and moral urgency of untreated suffering.

Finally, discussion of the funding landscape suggested potential interest from organizations working in palliative care and oncology, indicating a plausible pathway for future funding and collaboration.

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