

Poorly Controlled Chronic Pain Among Sickle Cell Patients in Minnesota



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Abstract

Sickle Cell disease is a genetic disorder that disproportionately affects African Americans. The hallmark of the disease is chronic pain which affects an individual's ability to attend school or work. Medical marijuana is made available for chronic pain syndromes but not for Sickle Cell disease. This paper addresses the magnitude of this problem in Minnesota and recommends policies to increase medical marijuana access for this special population.

Problem

Sickle Cell disease (SCD) causes poorly controlled chronic pain and affects about 500 individuals in Minnesota [1]. SCD primarily affects African Americans and is caused by a genetic mutation in which red blood cells take a sickle shape, leading to pain. SCD is lifelong and can reduce life expectancy by 30 years, with pain intensifying as patients age [1]. Frequency of hospital admissions for pain is a strong predictor of premature death [2]. Unfortunately, the current standard of care for chronic pain management in SCD patients is opioid medications [2, 3].

Issues contributing to this problem:

- Opioids are the standard of care
- Fear of opioid tolerance or dependence by patients and providers
- Expense of alternative therapies
- Lack of education among providers about alternative therapies

Magnitude of the Problem

Minnesota has a considerable number of SCD patients. This includes approximately 500 existing patients plus an additional 30 babies born each year with SCD [4]. Results from a study of trends in opioid use among 219 adult SCD patients indicate that most patients utilized short acting opioids when experiencing pain [5]. This suggests that most SCD patients utilize opioids for chronic pain control. A minority of individuals did not utilize analgesics and instead relied on alternative therapies for pain management [5]. This may indicate that SCD patients are not aware of alternative therapies or do not have access to them.

SCD patients who suffer from pain have difficulty working due to frequent emergency room visits and hospitalizations [3]. For children and adolescents, frequent hospital or clinic visits for pain management can mean less time spent in school and with friends and family, leading to behavioral and mood complications [6].

SCD pain control is opioid based and side effects include tolerance and dependence [5]. The estimated prevalence of opioid addiction in the SCD population is 10% [7]. National data indicates that SCD patients with opioid dependence had longer hospital admissions and higher associated costs than non—opioid dependent SCD peers [8, 9].

According to the CDC, the cost of hospital admissions due to SCD complications was estimated at \$484 million in 2004 [10]. 15 years on, as chronic pain in SCD patients continues to be poorly controlled, the costs can be projected to rise.

Main Issue to Address

The high rate of poorly treated chronic pain among SCD patients in Minnesota must be addressed. With improved access to alternative pain control treatments, patients will have more pain free days.

The Policy Question

How can the Minnesota State legislature address the need for adjunctive treatments for poorly treated chronic pain among Sickle Cell patients in Minnesota?

The Problem Trajectory

There are many forces that affect the problem of poorly controlled chronic pain in SCD patients.

Political forces include the fact that 40—50% of SCD patients utilize Medicaid or Medicare and thus have limited access to chronic pain care beyond the standard of care, leading to poorly treated chronic pain [6]. Social forces include how race and culture may predispose a medical provider to undertreat chronic pain, which leads to fear and distrust from the patient and contributes to the problem of poorly controlled chronic pain in SCD patients. Economic forces include the financial costs associated with poorly controlled chronic pain in SCD patients. When pain is poorly controlled, patients seek care at Emergency Departments where they often get hospitalized, resulting in higher costs to the medical system and the patient.

Previous Policies

1. HF400 (2019): While addressing the need for tighter opioid control, this bill did not introduce alternative pain therapies beyond acupuncture. It placed aside grant funding for Native organizations while leaving out the African American community which includes almost all SCD patients in Minnesota [6].

2. The Affordable Care Act (ACA) created better access to medical care in general. If the ACA were to be repealed, this would put SCD patients at jeopardy since their disease would be defined as a pre—existing condition, which would increase the cost of chronic pain care.

Pressure for Action

SCD is not an uncommon condition and affects many in Minnesota. The repercussions of poorly treated SCD chronic pain are numerous and must be prevented with better pain control strategies.

Policy Options

Policy Solution A: Add Sickle Cell disease to the current list of qualifying conditions for medical marijuana as outlined in MN Statute 152.22 Subd.149

While there is a growing movement to incorporate alternative therapies to treat chronic pain (e.g. massage, acupuncture, meditation), the use of opioids for pain symptoms remains the standard of care for SCD. Medical marijuana, however, is an alternative treatment option for chronic pain sufferers [5]. As its use becomes more

mainstream and widely accepted, it is imperative that the state of Minnesota remains abreast of these changes.

Effectiveness

There is established evidence that medical marijuana has a role in chronic pain relief [11]. SCD mouse models have confirmed the anti—pain effects of cannabinoids [11]. Additionally, in a study of 50 adult SCD patients who were certified to obtain medical marijuana in the state of Connecticut, a statistically significant decrease was seen in hospital admissions for pain in the six months following medical marijuana use [12]. Researchers discovered that patients with more severe types of SCD were more likely to apply for and obtain certification for medical marijuana than those with milder types. This indicates that current pain control measures are inadequate for the cohort of SCD patients who experience the most severe and debilitating pain [12].

Political feasibility

There is already legislation that supports the use of medical marijuana for certain conditions, indicating that this is a discussion that is already occurring in our government and is accepted on a bipartisan level [5, 13]. In this regard, simply adding an additional condition to a pre—existing list should be politically feasible. 30 states and the District of Columbia currently have medical marijuana laws in place for individuals suffering from chronic debilitating conditions and 5 states list SCD as a qualifying condition, demonstrating the political feasibility of this policy [5].

Financial and administrative feasibility

Since this policy will not require the creation of new infrastructure or systems, it should be financially and administratively feasible for the Minnesota Department of Health to implement [14]. The medical marijuana system is already in place in Minnesota with a pre—existing certification process [15]. The registry charges an initial fee of up to \$200 to maintain a database, and monthly recertification fees thereafter [14]. The Office of Medical Cannabis requests \$500,000 for two years of operation which is a fraction of the \$40 billion—plus budget Minnesota’s legislature will assemble this year [16].

Ethical feasibility

Expanding access to a form of treatment that will improve pain outcomes and increase quality of life is ethical. Furthermore, since medical marijuana is only available to those over 18 years old, adding SCD to the list of qualifying conditions will not put children at risk. Additionally, inaccessibility to medical marijuana may force SCD patients to seek out marijuana via illegal or unregulated ways. This places patients at risk of violating

local drug laws. Depending on the amount of marijuana in possession, patients can be subjected to fines or jail sentences [16]. Patients who access medical marijuana via legal means may qualify for reduced fees to help afford medical marijuana [15]. Alternatively, although medical marijuana requires a physician to apply for access, there is always a risk for abuse as with all medications, even those that require a prescription.

Finally, in a 2018 survey of 62 Minnesotan providers, a majority of providers (76%) believed that medical cannabis was a legitimate medical therapy [17]. If a small minority of providers are uncomfortable prescribing medical marijuana, there are still many accessible providers in Minnesota who patients can be referred to for prescriptions. This would alleviate the ethical uncertainty a provider might experience if they are not comfortable prescribing medical marijuana to SCD patients for their chronic pain.

Policy Solution B: Improve education on the management of chronic pain from sickle cell disease among health care providers

The Centers for Disease Control and Prevention and the American Association of Pain Medicine published guidelines for providers on how best to treat chronic SCD pain, but few providers are able to translate these guidelines into practical approaches to chronic pain treatment for SCD patients [18]. There is not enough state—specific information about implementing these guidelines in the complex context of real—world medicine [19]. It is up to hospital systems and local governments to implement these broad recommendations in their hospitals and clinics.

Educating and supporting medical providers to adequately treat chronic SCD pain would require a statewide approach to educating those in the emergency department, inpatient setting, and outpatient setting. This would also require cooperation among various hospital systems (particularly in cities with high incidence of SCD) to create and use a consistent algorithm for chronic pain control.

Effectiveness

Improving education on chronic pain from SCD is important to inspire long lasting change among providers. In a 2017 Johns Hopkins study, 96 emergency department providers were recruited to watch brief educational videos on this subject [20]. Researchers found that these videos improved provider attitudes towards patients with SCD pain, potentially curtailing pain crises earlier while also improving health outcomes and patient satisfaction scores

[21]. Thus, there are clear societal factors which influence the way SCD pain is treated, including race and culture. Misinformation, stereotypes, and biases were directly addressed using the method employed by the Johns Hopkins researchers [21]. Identifying and addressing provider biases and negative attitudes are key to improving SCD chronic pain management. Teaching cultural humility and awareness of implicit bias might engage providers to change their methods.

Political feasibility

Improving education among Minnesotan providers would be well supported since it will lead to more prepared providers. The incidence of SCD is low in the state of Minnesota, but individuals who suffer from chronic pain secondary to sickle cell disease still deserve the best treatment possible. There is a well—established provider education portal via the Minnesota Department of Health website that includes resources and guidelines on treating chronic pain and prescribing opioids [22]. Information about SCD as a chronic pain syndrome and medical marijuana prescriber guidelines could be added to this portal.

Financial and administrative feasibility

Establishing a provider education initiative would require a budget. The legislature would need to dedicate funds to invest in educating medical professionals throughout the state of Minnesota. The current budget for the state of Minnesota sets aside about \$10,000 to the Minnesota Department of Health for health promotion and chronic diseases [23]. Utilizing a portion of these funds, the Minnesota Department of Health could create courses specifically for SCD as a chronic disease and invite community physicians to attend for continuing education credit [22].

Ethical feasibility

Improving management of chronic pain in any patient population is generally recognized in the medical community as ethical. It should be noted that some providers would have better access to these educational opportunities due to financial position scheduling and this may cause unequal access to resources.

Policy Recommendation

The two policy recommendations outlined above are adequate solutions to the problem of poorly treated chronic pain in the SCD population of Minnesota. Poorly treated chronic pain must be addressed by the Minnesota legislature. Adding SCD to the list of qualifying conditions

for medical marijuana in the state of Minnesota is a politically, financially, and ethically feasible solution. Since a system is already in place for the legal administration of medical marijuana, an addendum including SCD would be an effective and reasonable solution to poorly treated chronic pain in this Minnesota population.

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