TELEHEALTH: A PROMISING APPROACH TO THE ISSUE OF POOR ACCESS TO MULTIDISCIPLINARY PAIN MANAGEMENT

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ABSTRACT

Chronic pain is a national public health problem. Poor availability of treatment leads to increased costs, unnecessary suffering for patients, and a significant economic burden to society. The experience of chronic pain is multifaceted; while it is a physical phenomenon, it is often accompanied by complex psychosocial effects. Chronic pain is better understood through the biopsychosocial model. This biopsychosocial model highlights physiological, psychological, and social impacts and how they can prolong or exacerbate the pain experience. Effective treatment of this complex condition requires a management and treatment strategy that covers the full scope of the disease experience.

Multidisciplinary pain management is an evidence-based, holistic approach to treating chronic pain that addresses the complexity of the condition by assembling a multidisciplinary team of medical experts to develop a thorough treatment strategy for the patient and treat pain through the lens of the biopsychosocial model. Compared to conventional methods of managing chronic pain, which ignore the psychosocial aspects of chronic pain and place more emphasis on its physical component, this treatment is more efficient and less expensive. The best ethical course of treatment for those with chronic pain is a multidisciplinary one that addresses all facets of the pain experience. Unfortunately, there is a widespread lack of access to this care due to a lack of availability, funding, and awareness of this treatment style.

Today, telehealth and internet-based platforms provide new ways for patients to access outpatient treatment and other forms of healthcare remotely. This kind of access can be a cost-effective, accessible, and convenient way for patients to engage with

multidisciplinary pain management and provides a solution to the challenges of delivering multidisciplinary pain management.

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CHAPTER 1: CHRONIC PAIN

Chronic pain is described as pain that lasts for three months or longer after an acute painful incident or a pain duration longer than necessary for average tissue recovery (Zelaya et al., 2019). Chronic pain denotes that the experience lasts for a prolonged period and is marked by persistent symptoms that can be persistent and incapacitating. Pain is defined as unpleasant experiences of both a physical and emotional nature (Bevers et al., 2016). It is crucial to understand that the experience of chronic pain comprises various biological, psychological, and social elements in addition to physical symptoms. Because the pain sensation is complicated, assessment and treatment of pain must be multi-dimensional. Chronic pain is one of the most frequent reasons patients seek medical care. For patients and society, chronic pain's enormous prevalence has serious ramifications.

Chronic conditions, specifically chronic pain, require ongoing monitoring and treatment and more complex management strategies. This is because most chronic pain syndromes do not have a cure. For this reason, treatment of the pain, as opposed to treatment of the underlying condition, is often inadequate. Because the inadequate treatment fails to resolve the pain, it may result in longer or repeated treatments that, in the aggregate, have a much higher total cost economically and on the patient. A 2020 analysis of National Health Interview Survey data by the Centers for Disease Control and Prevention (CDC) found that 20.5 percent (50.2 million) of adults in the United States suffered from chronic pain, and 10 percent of adults (24.4 million) had severe chronic pain with work limitations (Yong et al.,2022). Women had the highest incidence of chronic and severe high-impact chronic pain. Also, patients who resided in more remote

and rural locations were more likely to experience chronic pain. While there were no appreciable differences between non-Hispanic white and non-Hispanic Black people, severe chronic pain affected non-Hispanic white adults more frequently than Hispanic and non-Hispanic Asian adults (8.4%, 5.3%, and 2.2%, respectively) (Jimenez et al., 2022). According to a review from 2011, American Indians and Alaska Natives have a higher prevalence than the country's population (Jimenez et al.,2022). The prevalence of chronic pain in older persons might surpass 40%, with osteoarthritis and low back pain being the most common causes (Johannes et al., 2010). According to the 2016 National Survey of Children's Health, 6% of American children reported having chronic pain (Tumin et al., 2018).

Severe physical, emotional, and societal consequences are associated with chronic pain. It is difficult to estimate the cost of chronic pain in the United States alone. However, in 2010, it was estimated that there were over $560 billion in direct medical costs, lost productivity, and disability programs, not including the cost of caring for children and military personnel, institutionalized adults, and family caregivers (Institute of Medicine (US) Committee on Advancing Pain Research). According to the 2010 International Global Burden of Disease Survey, low back pain, musculoskeletal diseases, and neck pain were the leading causes of years of life lost to disability in the United States (Murray et al., 2014).

Chronic pain also has several psychosocial impacts. Chronic pain affects physical health and significantly impacts a person's social functioning and emotional well-being, which can affect daily activities and overall quality of life. The experience of chronic pain can lead to inconsistencies in the patient's living situation, underemployment, and

overall disability (Tauben, 2022). Another impact of chronic pain is isolation, which results from a diminished ability to participate in various levels of social function. This impact can be economic, financial, and emotional, and these types of reduced functioning can reinforce each other.

Chronic illness can have long-lasting negative impacts on emotional health, which can result in psychological comorbidities, including Anxiety and Depression. A person's personality might be impacted by pain in other ways, leading to mood swings, irritability, and lack of motivation. Primary psychiatric comorbidities such as Depression, Anxiety, Post-Traumatic Stress Disorder, Substance Use Disorder, and other psychiatric illnesses are common in people with severe chronic pain. These comorbidities can complicate the management of pain syndromes and directly worsen the experience of chronic pain. It has a mutually reinforcing effect: chronic pain can cause Depression and Anxiety, which can hinder effective treatment, while sleep difficulties, appetite loss, fatigue, and decreased physical activity all contribute to a condition of debilitation (Fishbain et al., 2014).

Unfortunately, many people who suffer from chronic pain also face stigma and discrimination in society, not only within the healthcare system but also in their social environment. This stigma can make it difficult to access appropriate care and can negatively impact the patient's support system. This effect is disproportionately pronounced among groups of lower socioeconomic status because they already face experience an unequal amount of available resources, which can exacerbate the problem (Tauben, 2022).

Several patient factors increase the risk of developing chronic pain, including genetics, patient fears, anxiety and expectations, previous poor pain-related treatment

outcomes, psychiatric and behavioral comorbidities, adverse social circumstances, older age, and long-term opioid use (Tauben, 2022). Socioeconomic status, geographic location, access to health care, ability to exercise, and cultural views all impact the pain experience and treatment options. Cases of chronic pain should therefore be evaluated in light of these aspects, considering the patient's sensory, cognitive, and emotional factors. Chronic pain is a multidimensional problem; therefore, a comprehensive and holistic approach is needed to address pain's physical and psychosocial impact.

CHAPTER 2: MULTIDISCIPLINARY PAIN MANAGEMENT

The traditional biomedical model, which focuses on the disruption of body systems and underlying physiological, anatomical, or pathological processes, often provides inadequate treatment for patients with chronic pain. The biomedical model, which may be suitable and successful for people with acute pain as it strongly emphasizes curing or at least significantly reducing pain, is ineffective for most chronic pain (Bevers et al., 2016). The biopsychosocial model, which stresses the intricate and dynamic interaction between physiological, psychological, and social elements that prolong and potentially exacerbate the pain experience, helps us better understand chronic pain (Bevers et al., 2016). This more nuanced perspective is crucial since pain is intimately connected to developmental, social, and emotional settings rather than being a solely physical occurrence. Therefore, when it becomes a chronic problem, its management usually requires multidimensional, structured assessment and treatment that addresses biopsychosocial concerns rather than the simpler biomedical model of diagnosis and treatment that is often effective for short-term or acute pain.

Multidisciplinary pain management takes a more holistic approach to treating chronic pain, involving a team of professionals with expertise in different fields. This allows the patient with chronic pain to be helped from multiple perspectives and receive assistance in the different aspects of the pain experience. According to this approach, rehabilitation is the predominant therapeutic objective. In recent years, the objectives of managing chronic pain have changed from curing pain to helping manage pain to restore the patient's independence and enhance their overall quality of life. It is significant to highlight that the development of the multidisciplinary approach to pain management is

because it is more successful than previous approaches to treating chronic pain (Loeser, 2004).

Multidisciplinary pain management programs have similar frameworks and treatment strategies but have yet to be standardized; over the years, there have been significant differences among various groups; what they have in common is their emphasis on the biopsychosocial model and their inclusion of physical, psychological, medical, and occupational aspects in treating chronic pain patients (Loeser, 2004). In multidisciplinary pain management programs, patients are often treated in groups of five to fifteen for eight to twelve sessions, which occur once or twice weekly in an outpatient setting. This group setting allows participants to learn from one another's experiences and normalize living with chronic pain. Every session usually has the same format, emphasizing exercise, education, skill development, relaxation, and homework assignments specific to that session. The sessions cover physical, psychological, medical, and career-related themes (Hylands et al., 2017). Programs frequently prioritize individual and group therapy, physical exercise, medication management, learning coping and vocational skills, and education on pain and body physiology, depending on the patient's needs.

Instead of focusing on what the care providers do, multidisciplinary pain management focuses on what the patient does. The objective is to enable patients to take ownership of their care by empowering them to create and track progress goals. Patients are provided with the knowledge and skills they need to attain their desired outcomes and measurable goals. Healthcare professionals serve as mentors, guides, informational resources, and sources of encouragement. They also help to assess a patient's readiness

for change and offer problem-solving support (Maeng et al., 2018). To effectively manage multidisciplinary pain, several healthcare specialists must work together, including but not limited to physicians, nurses, psychologists, physical therapists, occupational therapists, vocational counselors, social workers, and support staff (Loeser, 2004).

Multidisciplinary pain management is an effective treatment option for many chronic pain suffers; effectiveness can be seen in the reduction of pain, a decrease in the need for or elimination of inappropriate medication, a decrease in healthcare utilization, an increase in physical activity, return to work, a decrease in iatrogenic complications, and patient satisfaction.

An essential outcome of multidisciplinary pain management is quantifiable pain reduction, ranging from 20% to 40% after treatment. This reported pain reduction was also maintained at a two-year follow-up. (Loeser, 2004). This efficacy compares favorably to conventional medical and surgical treatments, which show lower long-term pain reduction effects than multidisciplinary pain management (Loeser, 2004).

Multidisciplinary pain management has been shown to reduce inappropriate opioid use in chronic pain patients and decrease overall medication use. This is an important effect of treatment, as has been made clear by the ongoing opioid epidemic. Up to 100% of individuals reduce opioid use (the percentage varies by program) at the time of completion of multidisciplinary pain management (Loeser, 2004). Since many multidisciplinary pain management clinics want to assist patients in stopping these medications, maintaining opioid-free status following therapy is a better gauge of efficacy. According to several follow-up studies, at one year, more than 65% of treated

patients are still opioid-free (Loeser, 2004). In contrast, opioid consumption often stays at similar levels when treating patients with conventional treatment methods. Even in nations with public health insurance, this effect of noticeably lower overall medication use in multidisciplinary chronic pain care is seen (Schatman, 2011).

Multidisciplinary pain management decreases healthcare utilization, which is advantageous for individual patients and the economy. Even in nations with national health insurance, patients who receive multidisciplinary chronic pain management use fewer medical services than those who receive alternative treatment for their chronic pain (Manchikanti et al., 2020). In a three to twelve-month follow-up period after their therapy, 62% to 90% of patients did not seek additional pain relief treatment (Loeser, 2004). Patients who received comprehensive pain management consistently had higher rates of decreased healthcare utilization than those who received medication and/or surgery (Loeser, 2004).

Critical goals of multidisciplinary pain management include restoring function and increasing activity. These goals seek to improve the quality of life of the patient as well as focus on the pain reduction necessary to achieve these goals. Patients treated with multidisciplinary pain management experienced more significant increases in activity levels (65%) than patients treated conventionally (35%) (Loeser, 2004). This improvement in functional status is significant as it is essential for the patient's well-being and is associated with improved physical health and increased social activity. This improvement may reduce reliance on medication and improve the psychological state.

The capacity of a patient to return to work is influenced by various circumstances outside of the chronic pain condition, such as the current labor market. Nonetheless,

because the same socioeconomic elements are relevant in both situations, comparing the results of various pain therapies is conceivable. Several studies demonstrate that patients who attend multidisciplinary pain management have a significantly higher chance of being able to go back to work. The rate of return to work is much greater among patients treated with multidisciplinary care (67%) than among conventionally treated patients (24%), according to the results of 11 studies (Loeser, 2004). Studies of back pain patients treated in multidisciplinary pain centers show that between 50% and 150%, more patients return to work following therapy than after surgery and noticeably more after spinal cord stimulation (Loeser, 2004).

Iatrogenic complications can occur with any form of treatment. Accordingly, as there are a wide array of treatments for chronic pain, there is a diverse set of possible complications. As discussed previously, the impact of opioid usage on patients must always be considered, and other medications may also produce adverse side effects, as can surgical and non-surgical procedures. In contrast to these treatment options, significant iatrogenic problems are rarely reported after treatment with multidisciplinary pain management. This is important to recognize as iatrogenic complications not only contribute to disability in chronic pain patients but also significantly increase costs, which can potentiate the pain experience.

There is no absolute cure for chronic pain; thus, completely eradicating chronic pain with any treatment cannot be anticipated. Nonetheless, there is strong evidence that multidisciplinary programs for managing chronic pain give patients a significant reduction in their suffering and a return to a functional way of life. Over time, these advantages remain constant. These advantages have been demonstrated to extend to

behavioral factors like returning to work, reduced healthcare system usage, and improved pain, mood, and disability (Manchikanti et al., 2020). This data demonstrates that this kind of treatment is as efficient as a pharmacological, medical, and surgical option in reducing pain, decreasing healthcare usage and terminating disability claims, boosting functional activities, and enabling patients to return to work (Manchikanti et al., 2020). Clinical concerns and the interrelated behavioral issues of persistent impairment, anxiety, and medicine reliance must be addressed in multidisciplinary programs. A follow-up examination of patients 13 years after treatment revealed that the gains were maintained regarding the duration of the advantages of integrated multidisciplinary programs (Manchikanti et al., 2020).

Patients who were treated with conventional methods, as opposed to those who were referred for multidisciplinary pain management, reported more chronic pain, more emotional distress, more work-related injuries, significantly lower levels of education, high levels of health care use, high levels of opioid use, high levels of functional impairment, and negative attitudes toward the future (Loeser, 2004). This shows that individuals who are particularly resistant to improvement or do not react to conventional therapy methods may benefit from multidisciplinary pain management.

Multidisciplinary pain management is an effective form of treatment. It must, however, be more affordable than other forms of chronic pain management currently on the market in the for-profit healthcare system. While it is true that multidisciplinary treatment is expensive, so is the cost of any other treatment. In the long term, the cost of multidisciplinary pain care is less expensive than the cost of traditional treatments. Multidisciplinary pain management has a superior cost-benefit ratio than chronic opioid

therapy, physical therapy, surgery, implanting stimulators or pumps, and chronic physical therapy. Also, compared to alternative therapies, this increased efficacy at a cheaper cost is linked to a much-reduced complication rate (Loeser, 2013).

By comparing the reductions in medical expenses and the cessation of disability claims that this type of treatment encourages, we can assess how cost-effective this treatment is. As was said earlier in examining the efficacy of multidisciplinary pain management programs, this type of treatment has resulted in decreased medical services, which immediately lowers costs. According to one study, treatment in a multidisciplinary setting resulted in a 62% reduction in medical costs (Loeser, 2004). As was already said, patients who receive comprehensive pain care are more likely to return to work. When reintroduced to the workforce, this allows for the closure of disability claims, another high economic cost.

According to my understanding, the Geisinger Department of Pain Medicine undertook the first study in the United States to look at the long-term effects of an outpatient multidisciplinary program using actual health insurance claims data for patients treated. There has been a comprehensive pain program there since 2014, and between 2014 and 2016, its effects on care utilization and expenditures were studied. Data analysis reveals that patients who participated in the program utilized pricey diagnostic imaging less frequently and were hospitalized less frequently. Overall care expenses were reduced as a result of decreased healthcare utilization. According to these statistics, multidisciplinary pain care helps people with chronic pain achieve better health outcomes. Notably, it was discovered that the multidisciplinary pain program was linked to a $754 decrease in total monthly care expenditures for members, including prescription

drug costs, and an $846 decrease in total monthly medical costs, excluding prescription costs. These financial savings resulted from fewer acute inpatient admissions and less use of expensive high-end diagnostic imaging. This study offers a case study of how multidisciplinary pain management is cost-effective and works in practice in the US (Maeng et al., 2018).

Issues With Accessibility to Treatment

The number of multidisciplinary pain management programs in the United States has dropped rather than expanded, despite the abundant literature supporting multidisciplinary chronic pain care programs. The United States currently has very few programs that provide this method of pain management (Manchikanti et al., 2020). In the United States, the number of programs in 1998 was 210, which decreased to 84 in 2005. (Schatman, 2011). In 2005, the Commission of Accreditation Rehabilitation Centers granted accreditation to 84 pain programs in the United States. However, there also were multidisciplinary pain programs that were not accredited. One estimate of the total number of multidisciplinary pain programs in the United States in 2005 was 200, of which 84 were Commission of Accreditation Rehabilitation Facilities accredited. If this ratio holds, approximately 150 multidisciplinary pain programs were remaining in 2011 (Jeffery et al., 2011). Unable to find more current data on the number of multidisciplinary pain programs in the United States, it can be assumed that this decline ratio has continued, leading to a need for treatment options for pain patients. On the other hand, if the number has appreciated or held constant, there is still a lack of accessibility to this treatment method. The cost of therapy, competition from other pain management methods, accessibility issues, lack of knowledge about these programs, and patient

resistance despite the apparent cost and effectiveness advantages all seem to contribute to this drop in the number of multidisciplinary pain management programs in the United States (Loeser, 2004).

There are various reasons for this odd reluctance of many insurance companies to finance comprehensive, multidisciplinary pain care programs. First, pain is typically not considered chronic unless the pain has persisted for several months. This offers the misleading appearance of financial advantage for pain that may only later turn out to be chronic for clinical methods that may be successful for short-term discomfort. Hence, even though evidence shows that this treatment is successful over a more extended period, insurance companies may be discouraged by the cost of a multi-week program compared to other treatment alternatives. One could also argue that the distinction between acute and chronic pain is being drawn in error. Since pain is simply the first stage of a chronic disease, short-term treatment methods for acute pain are ineffective. Second, insurers (unrealistically) assume that every patient will benefit from such treatment. The multidisciplinary approach must consider the physiologic, psychological, and behavioral aspects of the patient's condition that are less significant in the clinical management of short-term pain because the etiology of chronic pain is frequently much more complex than short-term pain. Even if the objective is to enhance the patient's well-being and experience, it is unreasonable to believe that a single therapy service will be able to solve all of the problems connected with chronic pain. Without health insurance funding, the cost can be a significant or even insurmountable barrier for patients to access multidisciplinary pain management. This type of treatment typically requires multiple

visits, and paying out of pocket for some or all of the services is prohibitive for many people.

Multidisciplinary pain management programs compete with a large and diverse array of treatment options for chronic pain, such as pharmaceuticals and interventional pain management services. These "cheaper" quick fixes attract insurers, payers, and patients, despite evidence that the pharmaceutical approach alone is often inadequate and generally less effective in the long term than multidisciplinary treatment. In addition to pharmaceutical options, there are a growing number of procedural interventions for pain management. These interventional options may be effective in some patients. However, like purely pharmaceutical approaches, they may not provide the long-lasting relief that can result from a program that addresses the multiple factors that complicate the pain experience. In addition, these interventions carry the risk of unwanted complications from surgical procedures. These options have significant support from medical device and pharmaceutical companies, while these groups tend not to support intensive programs such as multidisciplinary care. Again, this is a false comparison between treatments that may be only temporarily effective and multidisciplinary treatments that provide longer-term relief of chronic pain.

Hospital systems are reluctant to create multidisciplinary pain management centers for several reasons. Regardless of long-term effectiveness, the initial cost of creating such a center and allocating resources is a burden for many hospital systems. This treatment is labor-intensive and requires a wide variety of professionals to deliver holistic care to pain patients. For better or worse, most hospitals are businesses and, as such, tend to see costs on a quarterly basis. In contrast, the benefits of multidisciplinary

pain management are not seen immediately but are spread out over the years. Therefore, although this treatment is effective in treating chronic pain, it is unlikely to be a significant source of revenue for hospitals and other healthcare systems that must gauge their cost-effectiveness by the quarter. Along similar lines, when insurers are unwilling to fund multidisciplinary pain management programs, it tends to discourage the setting up and even lead to hospitals terminating existing programs (Schatman, 2011).

Another common barrier is a lack of awareness or understanding of this approach among healthcare providers and patients. Healthcare providers and the healthcare system may not be familiar with the benefits of multidisciplinary pain management or lack the knowledge to refer patients to this care. Patients may also be unaware of this treatment's availability or may not understand how it can help their pain management. In some instances, patients may be hesitant to try multidisciplinary pain management because they are unsure about the effectiveness of this approach or may be skeptical of the treatments used. This can be notably true for those patients who have tried other forms of pain management without success. It may also be the case that patients, confronted with the increasing reluctance of doctors to prescribe opioid treatments, see multidisciplinary treatments as a substitute for "the real thing."

Overcoming these barriers and increasing access to multidisciplinary pain management requires a concerted effort by healthcare providers, policymakers, and other stakeholders, as well as an effort to educate patients on the complex balance of short-term and long-term effectiveness of the spectrum of available treatment options.

Why Accessibility To This Treatment Is The Most Ethical Option

Access to multidisciplinary care is consistent with the four basic principles of ethics: autonomy, beneficence, nonmaleficence, and justice. It also adheres to other important ethical principles in medical treatment, such as agency and solidarity. Because it is ethically defensible, therapeutically effective, and cost-effective, it may be considered unethical not to encourage this treatment, especially when other treatments have proven ineffective. Facets of the pain experience, such as social isolation, occupational challenges, and physical and psychological concerns, can severely affect the patient's overall state, causing people with chronic pain to suffer more than they should. Multidisciplinary pain management attempts to address all these concerns.

Autonomy

In a medical context, autonomy refers to respecting a patient's wishes concerning their treatment. The opposite of autonomy is helplessness; a patient's feeling of helplessness is always a grave concern in dealing with chronic pain. Therefore, choosing a multidisciplinary pain management treatment is beneficial, as it enhances the patient's feeling of autonomy.

The ability to choose this form of care is the first step in a patient's profound participation in the course of his or her treatment. The multidisciplinary approach requires engagement and participation from the patient, and indeed both support and require this sense of autonomy. Unlike a strictly pharmaceutical approach or pharmaceuticals combined with other therapies applied to the patient, the multidisciplinary approach demands that the patient be actively involved in the treatment.

While multidisciplinary pain management treatment helps improve patient autonomy, i.e., their ability to self-govern, the treatment's primary goal is to regain function. Multidisciplinary care and the biopsychosocial model focus on regaining function and the patient's experience of pain. A course of treatment that improves autonomy can improve a patient's ability to regain control, even as improving control over their life can increase their sense of control, specifically, the control of their chronic condition.

When the choice of multidisciplinary pain therapy is denied or restricted due to financial considerations, a patient's sense of autonomy is reduced. The patient's ability to reject any provided treatment in favor of the most beneficial care is intrinsically limited when this type of care is restricted or eliminated. Therefore, the patient's capacity to choose his or her course of therapy is removed. It is less likely that a patient will regain control of his or her life if access to comprehensive pain management is restricted.

Beneficence

The ability to offer multidisciplinary pain management as an option for treatment upholds the principle of beneficence, which is the medical practitioner's ethical imperative to do good or what is right by the patient, in this case, by enhancing a patient's health, well-being, and pain management. As outlined above, the effectiveness of multidisciplinary pain management is undeniable, particularly the long-term effectiveness.

The biopsychosocial aspect of treatment in multidisciplinary care constitutes the epitome of the principle of beneficence, as it seeks to rehabilitate the patient in all aspects of the pain experience, not just the physical.

Therefore, a systematic failure to provide this form of treatment contradicts the principle of beneficence that is fundamental to medical practice. Many other forms of chronic pain management can improve a patient's health or well-being, but no treatment is effective for every patient. Resources and money are never unlimited, but withholding a form of treatment that has been shown to mitigate the various effects of chronic pain on patients' lives and appears to do so at significantly lower long-term cost is contrary to the principle of beneficence and even seems contrary to the long-term financial well-being of health care organizations. By restricting or denying access to this successful treatment method, the for-profit healthcare system has generally failed in its moral responsibility.

Finally, this approach can improve patient satisfaction and quality of life, critical ethical considerations in health care delivery.

Nonmaleficence

Nonmaleficence is a physician's obligation to actively work against harm to a patient. Under our current business-oriented healthcare system, denying multidisciplinary pain management and using other modes of treatment, such as medication and other devices to treat pain, can cause an unintentional infliction of harm upon the patient. The business-oriented healthcare system in our country can therefore be deemed to promote maleficence when more effective options, such as multidisciplinary care, are ignored or limited. At the same time, the other options available carry a greater risk of harm to these chronic pain patients. Ironically, the emphasis on less effective methods of dealing with chronic pain results in "savings" appearing primarily short-term at best.

Justice

Justice is a complex ethical principle. In this case, I will focus on the fair treatment of individuals and the equitable allocation of resources. The for-profit health care system promotes injustice insofar as it limits access to multidisciplinary pain management, preventing fair treatment and inequitable allocation of resources for those with chronic pain. Multidisciplinary care would be deemed just if it was accessible to those who experience chronic pain. Providing medical care is never entirely independent of questions of cost. The correct balance between cost and benefit is rarely straightforward, but to deny a form of treatment for severe chronic pain that is known to be effective on economic grounds should require a high and apparent cost. This appears not only to not be the case here, but in fact, the opposite is true as this is a cost-effective form of treatment. Because administrators and insurance companies act as gatekeepers, selecting who will and will not receive treatment, this for-profit system is a strong barrier to patients of lower socioeconomic levels seeking treatment for chronic pain and frequently a barrier even to relatively well-off people. Chronic pain is debilitating. People from any economic stratum or demographic bracket can suffer from chronic pain. However, many affected people have limited economic and social power (Tauben, 2022). Chronic pain disproportionately afflicts the poor and elderly, severely impacting the autonomy of groups with limited autonomy and options. Given this imbalance, it would seem that the burden of proof should be on anyone claiming that injustice is not inherent in this situation.

Agency

Agency is the ability of individuals to act on their choices. Multidisciplinary pain management respects patients' agency and active involvement in their care. This treatment is a form of patient-centered care, where patients actively participate in their medical care; therefore, this treatment promotes agency. It provides goal setting, education, and empowerment, all of which are necessary for the patient's decision-making process and being involved in an active role in their care.

Solidarity

Solidarity is the sense of shared responsibility among individuals or groups. It is the idea that individuals in society should act in the community's interests, creating a just and equitable society. Treating chronic pain, specifically multidisciplinary pain management, upholds ethical solidarity as pain affects the patient and the community. By community, this can be friends and family members affected by the patient's pain experience. Multidisciplinary pain management respects solidarity as this treatment approach recognizes that pain is not just an individual problem but a societal one. This treatment encourages a collaborative and coordinated effort to address the patient's pain experience and the impact this experience has on the community (i.e., friends and family).

However, one can argue that the community respected by this treatment is the United States and the healthcare system. As we have discussed, chronic pain has high economic and societal costs. Providing adequate and ethical treatment for chronic pain patients promotes a fair and equal distribution of resources and opportunities within the community.

CHAPTER 3: TELEHEALTH FOR CHRONIC PAIN

As discussed, chronic pain and adequate treatment options are limited for many patients in the United States, resulting in the healthcare system failing many chronic pain sufferers. There must be opportunities for increased accessibility for treatment, specific treatments that focus on the biopsychosocial effects of chronic pain sufferers.

Internet-based interventions are a potentially valuable alternative to overcome access barriers to pain management in clinics and help healthcare providers meet the needs of a large patient population at a lower cost. Evidence suggests that telemedicine is a viable option and offers benefits in the care of patients with chronic pain. Telemedicine options for patients with chronic pain have been shown to provide information, decision support, behavior change support, or social support that positively impacts users, improving knowledge and perceptions of support and behavioral and clinical outcomes (Bender et al., 2011). These effects are essential regarding the biopsychosocial impact of the pain experience, which is now possible for patients with limited access to care thanks to Internet-based interventions.

A meta-analysis examining the feasibility of Internet-based interventions for pain, although not explicitly addressing multidisciplinary pain management, has provided promising evidence that Internet-based peer support group programs can improve pain intensity, activity limitation, health stress, and self-efficacy (Bender et al, 2011). Another meta-analysis has shown clinical improvement in participants adhering to online acceptance and commitment therapy for chronic pain treatment (Van de Graaf et al., 2019). This suggests that Internet-based interventions benefit people with chronic pain as a complementary or primary form of treatment.

Australia's Reboot Trail—Clinical Trail For Multidisciplinary Care Online

This opportunity to provide treatment through telehealth provides a promising solution to the problem of inaccessibility to care. However, taking it a step further, what if delivering the most ethical form of care, multidisciplinary pain management, was possible through these telehealth platforms?

A group in Australia sought to overcome the treatment barriers associated with access to in-person chronic pain management programs through an online version of a multidisciplinary pain management program based on an existing in-person multidisciplinary pain management program called *the Reboot Program*. This was a clinical trial in which participants were randomly assigned to an online multidisciplinary program (Reboot Online) or the control group, in-person multidisciplinary treatment (Smith et al., 2019).

The 16-week online course was divided into eight courses, with two weeks between each lesson to give participants time to review the material, look at resources, and practice skills. Participants were able to access these lessons whenever it was convenient for them because they were made available online. Accessibility to the next course required finishing the previous lesson before going on to the next. Courses cover material from various medical specialties, including radiology, psychiatry, anesthesiology, rheumatology, pain medicine, rehabilitation medicine, and other health specialties, such as occupational therapy. Each lesson included fundamental concepts from physical therapy and psychology. A graded exercise program focused on activity and exercise reactivation in rhythm and goal setting was incorporated into each course. Patients also got evidence-based cognitive behavioral therapy skills, such as planning

activities, problem-solving, and practical communication, to help them manage disease flare-ups and mental problems. The program sought to convert real-world treatment into an accessible internet platform (Smith et al., 2019).

Participants in the Reboot online group, who completed the program, revealed gains in pain self-efficacy, pain intensity, movement-based fear avoidance, pain-related disability scores, psychological distress, and anxiety compared to the control group. At the three-month follow-up, these advancements in the online treatment group were still present (Smith et al., 2019).

This Internet intervention was beneficial because patient interaction with the multidisciplinary team was cost-effective. In this online program, the physical therapist spent 60 minutes (6 minutes per participant) providing clinical input remotely, while the clinical psychologist spent 80 minutes (10 per participant). This intervention allows for minimal clinical contact time and guidance with positive outcomes. The benefits of interventions supplied over the Internet include cost-effectiveness and ease of patient monitoring by individual doctors and services. This format allows intervention and care to be adaptable and adjusted depending on the specific needs of the patients.

There are few studies on the efficacy of online multidisciplinary care, but this one makes a compelling case for its efficiency. These positive results have significant therapeutic ramifications for efficiently treating chronic pain. More work must be done to prove the efficacy of this type of care.

Using Telehealth To Make Multidisciplinary Care Accessible

Patients in the United States may have a promising alternate route to comprehensive pain care thanks to online or telehealth solutions. The Australian Reboot

experiment provides evidence of online interdisciplinary pain therapy's viability, usability, and effectiveness. Access to healthcare, especially multidisciplinary pain management, via the phone and online has been expanding quickly in recent years, partly spurred by the COVID-19 pandemic.

Healthcare systems and providers are increasingly optimistic about internet-delivered programs while boosting service efficiency and removing barriers to accessing care (Varsi, et al, 2021). Online programs could improve access to care, whether as an adjunct to existing care or as a patient's primary access to this form of care due to accessibility issues.

Not only does Internet-delivered care improve accessibility, but it also addresses some of the economic concerns of insurers and health systems that were previously unwilling to fund such programs. As the Reboot study indicated, this intervention reduces the time requirements on paid health professionals while still providing positive patient outcomes. Online platforms also mitigate the potential costs of an in-person facility for treatment. In turn, having a way to deliver pain care online may improve this profitability and increase the willingness of health systems and insurers to provide or pay for this form of treatment.

Improved accessibility online can also improve health-provider awareness of these treatment options. Being better informed regarding these programs and their efficacy allows providers to discuss or recommend multidisciplinary pain care platforms with their patients less skeptical about the form of treatment. Flexibility and the absence of a need to travel make these programs considerably more convenient for patients, reducing hesitancy about attempting a new treatment.

It is essential to recognize the pitfalls in using telehealth to improve access to treatment. As we have seen through the increasing popularity of telehealth, only some prospective patients can use such services, whether because of a lack of technological access or understanding and usage of such technology. However, this approach still provides an opportunity to increase accessibility for a large population that could not access such treatment before this option.

CHAPTER 4: CONCLUSION

Chronic pain is a global health problem that has no single cure. However, of the many different treatment options available, the most ethical treatment for chronic pain is the one that best satisfies the criteria of beneficence, nonmaleficence, justice, and maximizing patient autonomy. This criteria supports multidisciplinary pain management by addressing all aspects of the patient's pain experience through a biopsychosocial model. Though multidisciplinary pain management is cost-effective and beneficial to the patient, it is largely inaccessible in the United States.

There is probably no single remedy for this lack of adoption. The problem is partly economic, partly rooted in an unfortunate over-emphasis on short-term costs by healthcare providers and insurance companies, combined with a need for more attention to the higher long-term costs of chronic pain. Insurance companies and providers bear the short-term treatment costs immediately and naturally wish to hold costs down, predisposing them to a more straightforward pharmaceutical approach. The long-term costs, though much more significant, are more diffuse and critical and are not all directly borne by the insurers and providers because they relate not just to medical expenses but also to productivity loss and other expenses to society and the patient.

More positively, telehealth offers considerable potential to transform chronic pain management. The telehealth approach has shown to be feasible in Australia's Reboot Trial, increasing accessibility to multidisciplinary pain management and reducing costs. The approach serves the needs of people with complex care needs, particularly those for whom physical access is difficult or unavailable, and also reduces the cost to insurers and providers. Less tangible but equally significant, familiarity with successful telehealth

outcomes for multidisciplinary pain management reduces the barrier to entry for setting up multidisciplinary pain management programs in a conventional setting.

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