

COMMUNITY-BASED PAIN EDUCATION IN EXTENSION



AUTHOR NOTE

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ABSTRACT

With the nation's opioid overdose crisis among the most pressing rural public health concerns, mitigating it is of utmost importance. Pain management education offered by Extension may help. This review of four Extension-implemented strategies providing community-based pain management education includes (1) self-management workshops, (2) pain education with opioid monitoring, (3) a pain management integrated support group, and (4) focused informational materials. Implementation barriers and advantages of each method are discussed, with many effective in disseminating knowledge. Nonmedical pain management resources are under-resourced and are an impactful way that Extension can meet the land-grant mission to support vibrant, healthy communities. In 2021, the nation lost over 100,000 individuals to substance-related overdose deaths (National Center for Health Statistics, 2021), with almost 275 lives lost each day. Overdose deaths related to prescription opioids quadrupled between 2000 and 2014, with consensus forming around the importance of safe medication and pain management as critical to addressing the opioid overdose crisis (Compton et al., 2016).



There are 50 million adults in the U.S. who experience pain daily, and over 19 million of those have high-impact chronic pain which interferes with the ability to conduct normal daily activity (U.S. Department of Health and Human Services [HHS], 2019). While urban areas may have multiple resources to help patients manage pain, many rural areas served by Extension have limited resources. As a result, patients in rural areas are prescribed opioids more often, report more pain, and may misuse prescription opioids earlier or more often in adolescence (García et al., 2019; Keyes et al., 2014; Monnat & Rigg, 2016), resulting in higher opioid overdose rates than urban

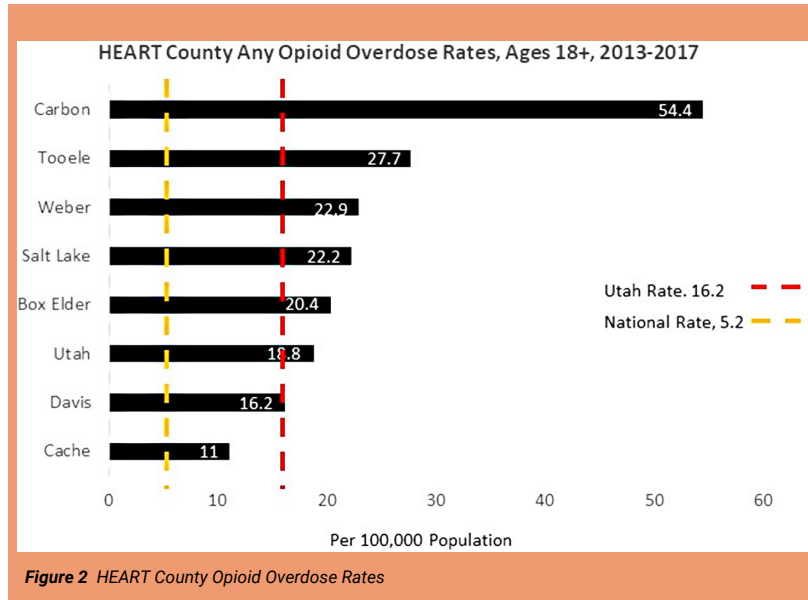
populations (Mack et al., 2017). Several factors increase the risk of opioid-related overdoses in rural communities, including a lack of resources that comes with rural living, such as limited treatment services (Corso & Townley, 2016). Opioid medications are easy to disperse and are low-cost treatments for pain. Yet an alarming 21-29% of patients misuse prescription opioids, and 80% of individuals who use heroin first misused opioid prescriptions for pain (National Institute on Drug Abuse [NIDA], 2018). Experts indicate that prevention strategies, including safe medication disposal and alternative pain management, must be included in pharmaceutical care for pain to adequately prevent Opioid Use Disorder (OUD) (Kertesz & Gordon, 2019; Volkow et al., 2019).

A study examining the circumstances preceding opioid fatalities in Utah found that 63% of individuals were unemployed, and 59% had experienced recent financial setbacks (Porucznik et al., 2011). For these individuals, highly effective alternative pain management options such as massage, physical therapy, and acupuncture may not be affordable or accessible options. Affordable access to pain management education might help alleviate the financially motivated over-reliance on opioids. Given the pervasiveness of pain, gaps in pain management resources, and lack of awareness about opioid risks, Extension can further serve the public good by providing pain management education.

OBJECTIVES/PURPOSE

Pain management education has the potential to produce great impacts in efforts targeted toward the opioid overdose crisis harm reduction. This issue was raised as a priority in Utah, where overdose rates have consistently been much higher than the national average (HHS, 2019). Addressing the opioid overdose crisis in Utah requires recognition of unique aspects of rurality. Rural locations have limited resources and unique constraints on providing access to adequate healthcare, such as limited clinical staffing and geographic challenges in dispersing resources (Rosenblatt et al., 2015).

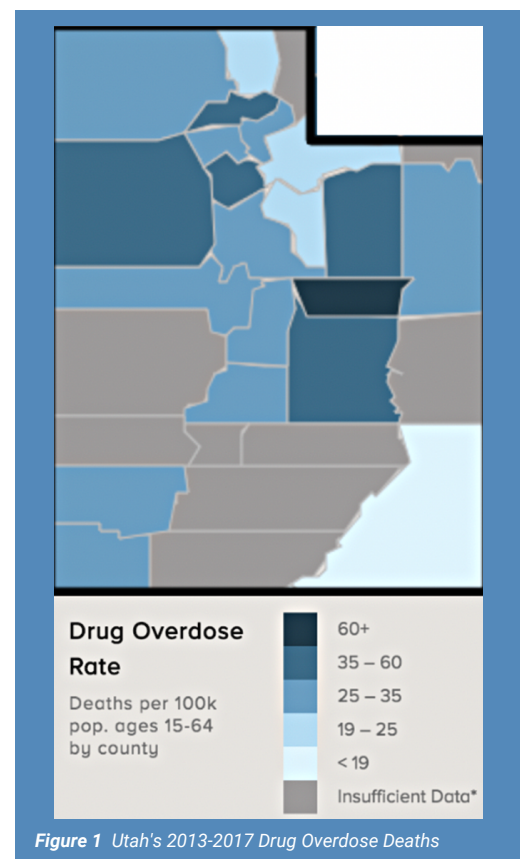
The Utah land-grant Extension program took on a bold initiative in 2018 to broaden its health focus to address the opioid overdose crisis, maximizing Extension's collaborations at both the local and state level. Utah State University Extension created the Health Extension: Advocacy, Research, and Teaching (HEART) Initiative adding



five new multidisciplinary health-focused faculty members in nine of the greatest-need counties in Utah as established by the Centers for Disease Control and Prevention (see Figure 1; NORC, n.d., and Figure 2; CDC, 2019). The HEART Initiative empowered faculty to conduct needs assessments and develop local coalition prevention models, building rural and urban partnerships to bring needed evidence-based health resources and programming into local communities.

The HEART Initiative quickly began identifying programming needs, acquiring new funding partners, and establishing new collaborators to expand Extension's role in region-specific health education.

Rural communities voiced a critical need; better access to alternative pain management options (HEART, 2018). In response, HEART faculty have attempted to bring pain education resources to communities in Utah through multiple evidence-based methods (Yaughner et al., 2020; Yaughner et al., 2021). The evidence-based approaches focused on: (1) appropriate screening for opioid misuse through opioid monitoring in prescription databases (Patrick et al., 2016), (2) adequate access to alternative pain management strategies (Penney et al., 2016), (3) chronic pain support programming (Finlay et al., 2018; Subramaniam et al., 1999), and (4) community education about the best practices for pain management (Lovell et al., 2014). This multifaceted approach facilitated by Utah State University Extension sought to fill gaps in pain management education and equip those in rural communities with evidence-based pain management tools.



METHOD 1 LIVING WELL WITH CHRONIC PAIN (LWCP) WORKSHOPS

LWCP is a Stanford-produced, evidence-based self-management workshop series based on self-efficacy theory (Lorig, 2015). The Stanford Chronic-Disease Self-Management Program began with a focus on chronic conditions and has since expanded to focus on subsets of chronic conditions, including pain (Groessler et al., 2011; LeFort et al., 1998). Self-management teaches topics such as goal-setting, communication, exercise, nutrition, and others. Self-management is a promising general strategy for addressing chronic conditions, showing more than two decades of success (Lawn & Schoo, 2010; Lorig et al., 1999; Ory et al., 2013).

Self-management has been tested successfully with different populations like Veterans and stroke patients (Battersby et al., 2009; Beattie et al., 2013; Wellington, 2001). The approach of coupling self-management with education can be used simultaneously as prevention and as a targeted intervention (Grady & Gough, 2014; Schulman-Green et al., 2012), making it relevant and ideal for community implementation.

The LWCP workshop format is an intensive, six-week series of small-group sessions lasting 2.5 hours addressing the stated self-management strategies (Grady & Gough, 2014; LeFort et al., 1998). Implementing this evidence-based community class requires intensive facilitator training, obtained by coordinating with state-level, grant-funded programs. Two faculty members and two community volunteers received the training. Extension faculty worked with local health departments, locally funded community organizations, senior centers, and state agencies to share staffing and materials costs and promote the workshop series. One Extension and one partner representative facilitated the 15-hour courses teaching evidence-based strategies for chronic pain self-management.

METHOD 2 VETERANS AFFAIRS (V.A.)-MODELED PAIN EDUCATION

The Veterans Affairs (V.A.)-modeled Pain Education and Opioid Safety program adopts a proven prevention strategy that screens for opioid misuse and reduces opioid overdose deaths (Patrick et al., 2016). Opioid monitoring with urinalysis screenings coupled with patient education was implemented with proven success at the V.A. Salt Lake City (SLC) Health Care System (HCS) (Marszalek et al., 2020). This innovative program combines patient education on the specifics of opioid safety, opioid monitoring, and alternative pain management education to reduce opioid overdose risk (Clinton-Lont et al., 2016).

The program's education portion is facilitated by attending a workshop just once every 6-months for the duration of prescription opioid treatment combined with a personal health assessment which includes opioid monitoring from a medical provider. The workshop addresses a wide array of opioid-related topics. For example, participants learn opioid safety basics, emergency overdose response (e.g., naloxone education), safe medication storage practices, and evidence-based nonpharmacological treatments for chronic pain such as behavioral therapy.

METHOD 3 PAIN EDUCATION SUPPORT GROUP

The pain education support group was developed in response to the time and cost-intensive nature of the LWCP program, as a cost-effective and community-based alternative pain management strategy. Peer support is the process of giving and receiving nonprofessional and non-clinical assistance, and it typically occurs with individuals who share characteristics or conditions (Tracy & Wallace, 2016). Peers serve as trusted information sources and can reduce barriers to accessing care (Gidugu et al., 2015; Lauckner & Hutchinson, 2016; Purcal et al., 2019).



Peer-based facilitation has been recommended in the American Medical Association (AMA) journal of ethics (Mendola & Gibson, 2016; Moos, 2008). Akin to the growth of community health workers, rural locations with limited options for alternative pain management (e.g., yoga classes, tai chi, or athletic gyms) can benefit from a peer support model to provide sustainable access to health education.

Extension personnel developed a curriculum for the Pain Education and Community Empathy (PEACE) program using evidence-based complementary alternative medicine (CAM) approaches successful in treating pain. The most commonly utilized CAM therapies reported by pain patients are massage therapy (27%), chiropractic care (18%), acupuncture (8%), herbs/supplements (7%), and yoga (6%) (Fleming et al., 2007).

PEACE incorporates the self-management CAM modalities and cognitive techniques that have proven benefits for pain (Garland & Howard, 2018; Grady & Gough, 2014; National Academy of Sciences, 2011). The curricula developed were peer-reviewed and addressed CBT education for Pain, Yoga/Tai Chi, Mindfulness, Visualization, Acupressure, Heat Therapy, Massage, Muscle Relaxation, Breathing, Nutrition, Supplements, Hydration, Exercise, and Sleep.

The PEACE class starts with a brief 15-minute instruction in a pain management method that is scripted for easy facilitation and includes an experiential exercise. The remaining time (typically 35 minutes) is spent in group sharing, with question prompts provided in the facilitation manual. Facilitating the PEACE support group includes paraphrasing a prepared script, leading the group in an outlined experiential activity, and leading a discussion period.

METHOD 4 FACT SHEET DISTRIBUTION

Fact sheets are one to four-page informational briefs on a specific topic in an easy-to-access format. They are written in layman's terms, simplify complex ideas, use present-tense language, talk briefly about crucial constructs, and use lists and charts to visually represent data (Center for Rural Health, 2020). In Extension, Fact sheets are evidence-based and subjected to a peer-review process to ensure the presented information's viability, readability, and accuracy. Fact sheet development solicited input from communities and faculty statewide. Three fact sheets were proposed based on community-expressed interest and a review of evidence-based practices addressing mindfulness-based approaches for pain management (Voss et al., 2019), alternative pain management techniques (Condie et al., 2020), and cognitive-behavioral practices for managing pain (Swensen et al., 2020). After peer-review, published fact sheets were made available online and printed for community distribution.

RESULTS

LIVING WELL WITH CHRONIC PAIN

LWCP workshops were provided to all adults aged 18 years or older at no cost and with no exclusion criteria. One hundred and two (102) community members with varying health conditions, including fibromyalgia, arthritis, and back pain participated in in-person LWCP workshops. A total of eight in-person workshops were held across three counties and four physical sites offering a total of 464 hours of self-management training to community members co-facilitated by Extension faculty. Three (3) of the series were held in rural areas and five (5) in urban areas.

Table 1
Participant Demographics and Select Survey Responses

	Response category	% (Count)	
How old are you? (285 responses)	18-39	18% (52)	
	40-59	35% (99)	
	60-69	23% (66)	
	70+	24% (68)	
How much did this program contribute to your confidence in managing your pain? (156 responses)	Not at all	3% (5)	
	Very little	5% (8)	
	Somewhat	48% (75)	
To a great extent	To a great extent	44% (68)	
	Because of this program, I have felt an improvement in my ability to move and do daily tasks (157 responses)	Strongly disagree	3% (5)
		Disagree	5% (7)
		Neither agree nor disagree	24% (38)
		Agree	35% (55)
Strongly agree		33% (52)	

In 2020, COVID-19 policy changes allowed the Stanford-based program to be offered in virtual formats for the first time. An additional 224 individuals in 68 Utah cities received a combined total of 612 hours of pain management education through synchronous online access. Three Extension offices in Utah participated in this expanded virtual program offering. Online access created additional implementation barriers but facilitated broader reach with no reported differences in outcomes. The virtual-access training added burdens in shipping the required course materials and manuals to participants. With 47% of participants aged 60 years and older, technology facilitation required additional support.

The online program also had higher attrition rates (approximately 50% attendance compared to 75% for in-person offerings). All workshops showed self-reported improvements among participants (see Table 1).

The LWCP program requires a 10-day initial facilitator training and ongoing lengthy 6-week workshops for implementation. Turnover in trained volunteers increased the burden and cost of facilitator training demands. The price of manuals is an additional ongoing concern, as the Stanford-based program does not provide online or free access to manuals. The investments of time, training, and material costs are barriers to implementing this highly effective, evidence-based approach.

VETERANS AFFAIRS-MODELED PAIN EDUCATION

Full implementation of the V.A. Pain Education and Opioid Monitoring program was not achieved. Separating the education components from the clinical monitoring proved too great a challenge for the non-clinical structure of the Extension education system. While the program obtained institutional review board (IRB) review and approval, implementing the program to fidelity created legal concerns regarding protecting patient confidentiality in an Extension system that does not have patient privacy protections in place. The failed model led to better communication in offering Extension programming to community-dwelling veterans and defining Extension's scope in health services.

PAIN EDUCATION SUPPORT GROUP

The PEACE pain support group achieved Utah State University IRB determination #11743, as non-human subjects research for community implementation in 2021. PEACE was piloted in four settings; a community classroom, online, at senior centers, and inside jails for incarcerated persons. Program promotion did not differ from other Extension programs in levels of effort, but participation rates varied substantially by site type. Community classroom recruitment for the class resulted in low attendance, with only five attendees across three sessions. Virtual attendance was low, with one attendee across five offered sessions. Senior Center attendance was slightly higher, with 19 attendees across seven sessions. Finally, utilization was highest in the jails, with 165 attendees across 18 offered sessions, likely due to the access to participants in a single location for an ongoing period.

Additionally, online and in-person participation in the LWCP model used clinic-based referrals, which might explain the higher participation rate than seen in the PEACE community referral model. IRB approvals have not been authorized for publishing data from the incarcerated population of program attendees, and there was insufficient data to analyze the program outcomes of the other pilot sites. Anecdotally, participants in both community and jail settings expressed knowledge gain and awareness of how pain management information can lead to behavior change and improved wellness.

FACT SHEETS

All published pain education fact sheets have been utilized in multiple community settings. Two community partners provide fact sheets as part of regular resource sharing, and paper copies of the fact sheets are distributed at Extension offices across the state. There have been over 500 virtual downloads of the first fact sheet published in 2019, over 400 downloads of the second, and over 100 downloads for the third fact sheet published late in 2020. Additionally, the fact sheets have been incorporated into the PEACE community class.

A strong feature of Extension is its ability to provide non-formal education that emphasizes knowledge gain with the utility and practicality of consumer-based information (National Institute of Food and Agriculture, 2020). Fact sheets are another productive method to provide evidence-based information on pain that can reach the targeted audiences and serve as an effective dissemination strategy for Extension faculty.

CONCLUSION

It has been established that patients need access to education and preventive methods for managing pain in the current era of opioid risks and overdoses. Extension has a key role to play in filling this education gap, especially in rural areas. The innovative programming through the Extension system in Utah has explored and tested multiple models: Living Well with Chronic Pain, Veteran Affairs-Modeled Pain Education, Pain Education Support Group, and Fact Sheets, finding immediate success by partnering with other agencies to offer pain workshops and producing evidence-based fact sheets. Ensuring that Extension offerings do not cross into territory that could be considered clinical in nature will be critical for the success of future efforts. Another lesson learned from recruitment efforts is that pain management education is a specialized topic that may not be as relevant to community-wide promotion. The specialized topic is perhaps better if targeted to specific populations who have higher levels of need and thus may increase attendance at these targeted groups.

An overall emphasis on collaboration with partner agencies engaged in community health promotion has been a strength of Extension programs. Part of the value of Extension programs is the ability to deliver low-cost, evidence-based materials to community members. More time is needed to explore the utility of the peer and volunteer-based community approaches to pain management education. The time-intensive and well-resourced, high-cost programs produced more engagement and better outcomes in the piloted communities. Pain education as a community health priority in reducing the opioid overdose crisis is a promising area for Extension educators addressing community health needs.



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