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Social and Chronic Pain: Veterans Sharing a Path in Developing a Patient-Centered Response to the COVID-19 Pandemic

PROGRAM PROFILE

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ABSTRACT

The COVID-19 Pandemic limited access to healthcare, engagement in research, and disrupted formal and informal peer and community support systems. As a result, a multistate project using Think Tank Meetings (TTMs) to uncover the needs of veterans experiencing chronic pain was expanded. The expanded project sought to identify factors supporting social engagement, describe COVID-19 pandemic-related dilemmas, and provide recommendations for researchers seeking to engage veterans during times of pandemics and social isolation. The project team used field note templates to summarize veterans' dialogue during TTMs. Collated summaries were analyzed using open and axial coding. In total 151 veterans and stakeholders participated in TTMs across four US states: Florida, Georgia, New Jersey, and New York. Discussions focused on the following aspects of participants' pandemic experiences: managing chronic pain, managing social isolation, veterans' research priorities, and strategies that researchers might use to engage veterans in research during a pandemic. Recommendations for clinical practice, public policy, and future research are presented. Derived from veteran recommendations, a Veteran-Centered Coronavirus Toolkit for Researchers was developed and consists of: (a) field note templates used in this project, (b) veterans' recommendations for effective researcher-veteran engagement strategies during times of social isolation, (c) a checklist for Veteran-Centered Research Engagement that can guide researchers during times of widespread social isolation, (d) a veteran-generated COVID-19 pandemic Patient-Centered /Comparative Effectiveness research agenda including examples of novel Comparative Effectiveness Research (CER) questions. The researcher toolkit is available at https://nursing.fau.edu/documents/cpaww/val-toolkit.pdf. Information presented in this paper is intended for veterans and key stakeholders to collaboratively engage in chronic-pain-related patient-centered outcomes research and comparative effectiveness research.

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PROJECT BACKGROUND

Veterans' capacity to engage socially, foster social support, and navigate the healthcare system are important for managing their psychological, physical health, and chronic pain during pandemics. Understanding how to increase this capacity can inform successful strategies and interventions that serve the veteran community during times of crisis. In 2019, prior to the COVID-19 outbreak in the US, The Veteran's Action League 2.0, a multistate project, was established to study chronic pain among US veterans and explore what veterans need to improve pain management and treatment. The project provided a neutral platform for key stakeholders to share opinions, obstacles, and research ideas for improving chronic pain management. In September 2020, the project responded to the pandemic crises by creating project enhancement units in several US states. The overarching goals were to increase veterans' capacity for social engagement and to describe and provide recommendations for effective approaches to the unique dilemmas that veterans and key community stakeholders face during pandemics.

In 2020 the World Health Organization declared the novel coronavirus to be a pandemic. The spread of COVID-19 led to a presidential pronouncement of a nationwide emergency in the US, the implementation of travel bans, social distancing, masking and testing protocols, and healthcare system strains (American Journal of Managed Care (AJMC, 2021). Alarming rates of COVID-19 illness, hospitalizations, and mortality rates, as well as efforts to mitigate these consequences, dominated public discourse and driven broad adaptations and painful disruptions to daily lives. At the same time, the pandemic has contributed to increased psychological distress, anxiety, and depression, thus heightening concerns over the population's mental health (Cooke et al., 2020; Salari et al., 2020).

RATIONALE INFORMING THE PROJECT

Among the many negative impacts of the current pandemic on the physical and mental wellness of individuals, its effect on social connections, particularly among marginalized populations, is often overlooked yet increasingly evident. Veterans were at-risk for social isolation and loneliness before the pandemic. Unfortunately, veterans are now increasingly isolated due to attempts to mitigate community spread of COVID-19 (Fitzke et al., 2021; Krause-Parello et al., 2021). There are risk factors associated with being socially isolated such as anxiety depression, sleep problems, suicidal ideation, post-traumatic stress symptoms, and an increased risk for and other mental and physical limitations. Moreover, compared to civilians, veterans have a higher prevalence of physical conditions, psychological stressors, chronic pain, and a history of psychiatric disorders (Hill et al., 2021; Nahin, 2017). Management of these conditions frequently require more, rather than less, interaction with providers and significant others. However, there is scarce information regarding veterans' perspectives on the effects of pandemic-related isolation on the management of their mental and physical health, including the management of chronic pain (Purcell et al., 2021).

This project was an enhancement award to the parent project entitled Veterans Action League 2.0. Information about the parent project is described elsewhere Patient-Centered Outcomes Research Institute, 2022). Neurologic and psychological evidence supports the overlap between social and chronic pain (Sturgeon & Zautra, 2016). According to evidence, social circumstances may increase susceptibility to chronic pain through trauma and exposure to socially distressing circumstances such as social distancing and isolation due to the coronavirus (Karayannis et al., 2019; Sturgeon & Zautra, 2016; Zautra et al., 2015). Sustaining social engagement, enhancing social intelligence and effective navigation of the healthcare system, may yield benefits in improving social and chronic pain (Krause-Parello et al., 2021). Moreover, social support networks can help patients make informed healthcare decisions and improve health outcomes during a pandemic (Claver, 2011; Gage-Bouchard, 2017).

PROJECT STRUCTURE/PROCEDURES

This veteran-driven community engagement enhancement project built upon successful methods developed during prior patient engagement projects (Flynn et al., 2019). Building on our previous research and community engagement work, the objectives of this enhancement project were to: (a) describe dilemmas and health management challenges facing veterans and key community stakeholders during the COVID-19 pandemic; (b) provide veteran and stakeholder recommendations for successful approaches to resolving those dilemmas, (c) increase veterans' capacity for social engagement during times of social isolation, and (d) increase veterans' capacity for research engagement across all phrases of patient-centered outcomes research (PCOR) and comparative effectives research (CER) projects. In order to accomplish these objectives, this project selected two Veteran Action League (VAL) units from the parent project, Florida and Georgia, and added two new VAL units in New York and New Jersey due to their high COVID-19 incidence and transmission rates.

The project began in September 2020 and concluded in August 2021. The Project Leadership Team consisted of the Project Lead, Project Co-Lead, and Project Manager. A university based Collaborative Academic Research

Member (CARM) and a Veteran Unit Leader (VAL-UL) who demonstrated substantial relationships with the veteran community led each of the four VAL Units. The Project Leadership Team used a virtual conferencing platform to conduct training sessions with the CARMS and VAL-Uls. During these sessions, project goals, processes, Institutional Review Board procedures, and dissemination strategies were reviewed. The project was reviewed by associated university Institutional Review Boards and deemed exempt or not human subjects' research.

At the inception of the project, a Committee on Coronavirus (COC) was created and was comprised of the Project Lead, Co-Lead, CARMS, VAL-ULs, Military Consultant, Project Manager, and Research Assistant. The COC created three COVID-19 pandemic field note templates to generate and guide dialogue during the TTMs with veterans and community stakeholders. The templates were designed to gain understanding of veterans' health and chronic pain management, access to care, challenges related to social isolation during the pandemic, as well as recommendations on strategies to reduce social isolation and effectively navigate the healthcare system. Templates were also designed to elicit stakeholder and veterans' descriptions of strategies to increase veterans' engagement in all phases of PCOR and CER during times of social isolation and distancing.

The Project Leadership Team recognized that military veterans are frequently reluctant to participate in the discussion of sensitive topics and harbor concerns regarding risks to privacy (Flynn et al., 2019; Littman et al., 2018). To reduce veteran participants' concerns about privacy, the dialogue occurring during the TTMs was not recorded. Instead, dialogue was summarized by the CARM on the Field Note Template, and no information was recorded that could identify participants. As a form of member checking, the CARM in each TTM ended the session by reading the dialogue summaries and then obtained feedback from participants to ensure accuracy and support the credibility of the summaries.

Leveraging their veteran networks and veteran advocacy organizations, CARMS and VAL-ULs sent open invitations via email, social media, and word of mouth to the veteran community, veteran family members, and community stakeholders in their respective states. This project addressed the interests of different stakeholder groups; however, the priority group were veterans and their welfare. All TTMs were held virtually using a conferencing platform. A verbal consent script was read by the VAL-UL prior to the beginning of each virtual TTM, giving the participants the opportunity to freely leave the meeting. During the TTM participants' sex, stakeholder type, and veterans' branch of service was collected by the CARM. The VAL-UL guided the discussion and dialogue, and the CARM summarized the discussion using the field note template. Each TTMs convened for approximately 1 hour.

Each TTM was limited, by project design, to 8 English-speaking veteran/ stakeholder participants who self-identified as 18 years of age or older. Based on our past veteran-driven community engagement projects, this number of participants generates a balanced dialoged. In total, 6 TTMs were conducted in each of the 4 project states; 2 TTMs per field note template, resulting in 24 TTMs held during this project.

Veteran and community stakeholders were given the opportunity to provide an email address of their choice, to which an electronic meal gift card to a national store chain and an electronic gift card to an online retailor was sent as a token of appreciation. Thereafter, the field notes were sent to the Project Leadership Team for analysis via open and axial coding (Summer et al., 2017). As a validation strategy, the themes recommendations and research priorities that emerged from analysis were made available to each CARM and VAL-UL for review and comment.

FINDINGS/OUTCOMES

In total there were 151 individuals, of which 81 were male and 70 were female, who participated in the TTMs. Of these, 128 (84.7%) self-identified as veterans and the remainder self-identified as stakeholders, consisting of healthcare providers and family members. Among the 128 veterans who participated, they indicated that they had engaged in the following wars or conflicts: Vietnam (n = 13), Gulf War (n = 51), and Post 9/11 (n = 64).

Although this engagement project was not deemed to be human subjects research, the methods were informed by a qualitative descriptive design that is traditionally used to describe a community perspective derived from focus groups or group dialogue (Kim et al., 2017; Lambert & Lambert, 2012). During the TTMs veterans authentically shared their experiences, challenges, and recommendations related to coping with physical and social pain during this unprecedented time in their lives. Outcomes are reported on the following aspects of their pandemic experiences: (a) managing chronic pain, (b) managing social isolation, (c) identifying relevant research priorities, and (d) engaging veterans in research.

MANAGING PAIN CHRONIC: VETERANS' EXPERIENCES

Although some veterans had positive experiences accessing healthcare services, most veterans in all 4 states described major obstacles accessing care due to the pandemic. They reported longer than normal wait times for appointments with their Veterans Health Administration

(VHA) providers during the COVID-19 lockdown. Several veterans experienced the cancellation of appointments without warning and without the ability to reschedule, and much difficulty contacting VHA staff to even request an appointment. Some veterans described that their phone calls to providers and outpatient facilities were not returned for weeks. Many veterans explained that they simply did not know who to contact or how to access healthcare during this time because outpatient facilities either shutdown or markedly curtailed operations. Veterans also expressed increased anxiety due to the uncertainty of healthcare access. Similarly, they reported that accessing healthcare with non-VHA providers and out-of-network providers was equally problematic and characterized by many of the same challenges. In addition, many veterans in all 4 states reported difficulties and delays in filling and renewing prescription medications, accessing physical therapy and complementary therapies, and scheduling necessary diagnostic tests.

Veterans' satisfaction with telehealth, when it became available, was mixed. Although most veterans seemed to welcome these virtual visits with providers, others felt that the virtual format was inadequate for accurately assessing their physical health and for formulating an appropriate care plan.

Overall, veterans overwhelmingly reported that the reduced access to healthcare and difficulty filling prescriptions, resulted in added anxiety caused by the COVID-19 pandemic led to poorly managed chronic pain and consequently, markedly reduced quality of life. They expressed concerns that they were losing the battle for the control of chronic pain and wondered if they would ever regain the pre-pandemic level of pain management that they lost.

Accessing Healthcare: Veterans' Recommendations

Derived from their experiences and challenges, veterans provided recommendations for healthcare systems to consider during epidemics, pandemics, or similar public health crises. These recommendations include the following:

- Use multiple methods of proactive and timely communication with veterans including personal phone calls, emails, text messages, newsletters, recordings, websites, and multiple virtual info sessions to provide information on appointment scheduling, alternative sources of care, medication refill requests, pharmacy access, and other relevant information needed during times of curtailed operations.
- Facilitate appointments with available providers, even if they are out-of-network.
- Organize and schedule multidisciplinary teams of health care providers who meet simultaneously via a virtual platform with veterans to develop a coordinated plan of care.
- Increase virtual access to navigators, such as the Veteran Service Officer or navigation nurse, to assist veterans in obtaining healthcare, medications, and other necessities.
- Increase the availability and use of small satellite care centers or mobile vans that can triage to an emergency department or provide basic care while limiting patient inflow and viral exposure.
- Streamline and improve mail order medication systems.

MANAGING SOCIAL ISOLATION: VETERANS' EXPERIENCES

Veterans transitioning to civilian life may be socially isolated or even choose to be at times; however, many participants felt a foreign sense of disconnection due to the COVID-19 social isolation mandate. They described the loss encountered as the inability to visit relatives and friends, socialize with colleagues at work, or physically be with other veterans. Unlike the general population, several veterans indicated that it is more difficult for a veteran to manage social isolation in a civilian world because civilians are more independent and not as "team oriented" as veterans transitioning from a military culture. Many veterans described the core values military culture to include teamwork, purpose, and achievement. They reported that these values make it more difficult to cope with isolation and loneliness. One veteran summarized an intense feeling of loneliness saying that they could die, and no one would know; other veterans indicated that social isolation from friends, relatives, and coworkers caused them to question their purpose. Overall, many of the veteran concluded that the social isolation they experienced was devastating.

It is important to note that some veterans described themselves as introverts and the social isolation experienced due to the pandemic was not stressful for them. In fact, some veterans reported that they were more relaxed, had more time to take care of themselves, and spent less time driving due to social isolation. Nonetheless, most of the veterans seemed to feel that the stress of social isolation and worry about family members exacerbated their chronic pain. Other pandemic-related social stressors that added to their chronic pain were also reported. These

stressors included job loss and financial concerns affecting veterans or their family members, as well as worries about elderly family members in long-term care facilities, whom they could not visit.

Managing Social Isolation: Veterans' Recommendations

Considering their experiences with social isolation, most veterans reported that they attempted to engage in activities to reduce their personal feelings of isolation and stress. Obviously, the success of such activities was highly personalized; what was effective for one veteran was not necessarily effective for another. Their collective list of recommendations to reduce social isolation and stress include the following:

1. Physical and Mindful Activities
   - Exercise–Create a home gym
   - Exercise–Take nature walks
   - Form an outdoor exercise group
   - Engage in an outdoor sport such as fishing or horseback riding
   - Meditation
   - Reconnect with your faith
   - Plant a garden
2. Social Activities
   - Develop a new hobby such as woodworking, photography, etc.
   - Schedule outdoor meetings in a public park to share hobbies or photos
   - Regularly schedule "connection calls" with friends, family, and other veterans
   - Create a buddy system and check in with each other daily
   - Schedule small, outdoor meetings with friends/fellow veterans, observing Center for Disease Control (CDC) guidelines
   - Schedule outdoor meetings in a public park to share hobbies or photos
   - Invite friends and family to virtual social gatherings (e.g., birthday celebrations, coffee chats)
   - Create and post a video to inspire others
   - Become a resource and mentor to other veterans
   - Organize an outdoor community event, observing current CDC guidelines

PANDEMIC-RELATED RESEARCH PRIORITIES

The COVID-19 pandemic has generated many questions and new programs of research. Yet, a patient-centered approach to research requires including patients and stakeholders as partners who assist in the development of research questions most important to them. Consequently, a crucial topic of discussion during the TTMs centered on the research questions and topics that participating veterans identified as priorities. Thus, the veteran-generated pandemic research agenda emerging from the TTMs includes the following:

1. Activity
   - Are there associations among transition to civilian life, social isolation, and chronic pain among veterans?
   - Does exercise, even when social distancing, decrease social isolation?
   - Do virtual walks have an effect on social isolation and chronic pain?
   - What are the relationships among outdoor activities, nature appreciation, social isolation, and chronic pain?
   - Does the use of alcohol increase social isolation?
   - What is the effect of distraction activities on social isolation and chronic pain?
2. Alternative treatments options
   - What are the effects of human-animal interaction on chronic and social pain?
   - What are the relationships among medical marijuana use, social isolation, and chronic pain?
   - What is the comparative effectiveness of mindfulness versus cognitive behavioral therapy on chronic pain management?
3. Methods
   - What is the comparative effectiveness of telehealth versus in-person provider visits in managing/diagnosing health problems?
   - Is there an association between successful re-entry into civilian life following discharge, and successful re-entry into public life following the pandemic?
   - What is the comparative effectiveness of virtual contact versus personal contact on social isolation and chronic pain during an epidemic/pandemic?
   - What is the effectiveness of mobile apps on veterans' navigation of the Veterans Health facilities?
   - What are the most effective methods to deliver information to the veteran community?
   - What are the effects of case management, care navigation, and healthcare staffing levels on veterans' health outcomes and care satisfaction?
   - How can care coordination during emergencies, disasters etc. be improved at VHA facilities to provide seamless care to veterans?

Although patient and stakeholder engagement across the spectrum of the research enterprise is highly

recommended, it remains a challenge. Unfortunately, the veteran community is no exception to this challenge. Thus, a final topic of discussion in the TTMs was aimed at eliciting veterans' recommendations for engagement strategies. Veterans reported that many veterans have difficulty trusting civilian researchers, because they fear that civilians have little or no knowledge of military life. Therefore, they recommended that including a veteran on the research team would help build trust and provide a connection to other veterans. Veterans also overwhelmingly reported that a personal invitation and word of mouth are among the most effective ways to engage veterans in the research enterprise. They also explained that researchers need to take extra care to be transparent and fully disclose the purpose, procedures, and risk associated with the study. Veterans further suggested that research teams need to explain how and why the research study is important to veterans and how it will be relevant in improving or protecting their wellbeing. Veterans also stressed that research participation needs to be convenient for the veteran and that remote participation may be an attractive option. A final veteran-recommended engagement strategy for research teams focused on hosting outdoor events and activities such as music or sporting events so that they could connect with veterans, network with them, and listen to their concerns, challenges, and ideas.

A VETERAN-CENTERED CORONAVIRUS TOOLKIT FOR RESEARCHERS

A Veteran-Centered Coronavirus Toolkit (VC-CVT) was created that includes: (a) Three newly created COVID-19 pandemic field note templates to guide stakeholder input across all phrases of PCOR/CER, (b) recommendations for stakeholder engagement techniques that PCOR research teams might use during the COVID-19 or other pandemics, (c) revised PCORI resource: VAL Checklist for Veteran-Centered Research Engagement Strategies that reflects important strategies in times of social distancing and isolation, (d) a translation of veterans' recommendations into a COVID-19 pandemic PCOR/CER research agenda. The link to the Toolkit can be found at https://nursing.fau.edu/documents/cpaww/val-toolkit.pdf.

IMPLICATIONS FOR CLINICAL PRACTICE, PUBLIC POLICY, AND FUTURE RESEARCH

CLINICAL PRACTICE

The clinical implications of social isolation, due to a worldwide COVID-19 pandemic, for those suffering from chronic pain are just beginning to be examined and explored. Disruption of continuity of care or inability to initiate new treatment therapies as needed for exacerbation of pain associated with inactivity and psychological/emotional duress have been identified as potential domains needing further investigation. Chronic pain is challenging to treat, particularly pain from traumatic injuries. To manage chronic pain effectively, it is frequently necessary to employ a multimodal approach to pain management that includes noninvasive and invasive interventions, pharmacotherapeutics, physical and occupational therapies, and biopsychosocial support. Loss of even one component of the multimodal strategy can have a negative impact on the wellbeing of the patient. Sudden withdrawal of all pain management strategies simultaneously can lead to symptomology regression and/or exacerbation of current neuropathic and musculoskeletal pain (Cisternas et al., 2020; El-Tallawy et al., 2020).

Traumatic and musculoskeletal injuries are the most common underlying causes of chronic pain in the veteran population and many of those injuries are sustained from improvised explosive device (IED) explosions, which can cause neuropathic pain to develop over time. Over 40% of all veterans are reported to suffer from chronic pain, which is higher than the general population (Bader, 2018; Young-McCaughan et al., 2017). Inactivity during the COVID-19 pandemic may also contribute to increased perception of pain. This is particularly true for musculoskeletal pain (Chatkoff et al., 2021; Cisternas et al., 2020). Inactivity can lead to loss of muscle strength, atrophy, and bone demineralization. Additionally, weight gain and loss of cardiopulmonary fitness can exacerbate chronic musculoskeletal pain.

Many veterans are highly dependent on the VHA system for all their healthcare needs. They cannot easily transfer care from this single source system to a private entity. When US veterans lost continuity of care with the VHA, they were immediately thrust into situations that could not be overcome by themselves, triggering uncertainty and increased perceptions of pain (Chatkoff et al., 2021).

During the VAL TTMs, veterans and stakeholders from all 4 states discussed the unexpected loss of care continuity and its impact on their individual health. Telehealth visits and phone calls did provide some supportive measures, but it was not sufficient to prevent increased perception of pain or regression/exacerbation of chronic pain. Many veterans described feeling anxious about where they would get treatment or prescription refills. Rationing medication became a necessity leading to undertreatment of chronic pain. Other veterans discussed concerns on how they would be able to get their pain "back under control" once the quarantine was over. The anxious feelings became more prevalent as the COVID-19 pandemic continued to impact

access to health care. Anxiety descended into despair and depression for some participants.

A well-established link exists between emotional/psychological trauma and pain perception. People experiencing unstable emotional states may have an increased perception of pain (Bader, 2018; Baliki et al., 2015; Lippa et al., 2015). There is evidence that emotional and psychological trauma can lead to physiological changes in the brain in those suffering from chronic pain. This may lead to increased pain perception or a decreased response to prescribed treatment modalities. Poor coping mechanisms and inability to adhere to a treatment plan can contribute to an inadequate management of pain and decreased quality of life (Bushnell et al., 2013; Chatkoff et al., 2021). As supported through VAL TTMs dialogue, veterans who did not have previously established community resources (e.g., internet, local pharmacy, primary care provider) faced increased difficulty during the pandemic in locating alternative healthcare facilities able to provide the specific services to assist them in managing their chronic pain. This led to a complete cessation or undertreatment to manage their pain.

All TTM participants were asked what strategies they felt would be suitable to manage chronic pain during a pandemic. Many veterans stated that the VHA should expand the telehealth option and healthcare providers and staff trained on how to expertly navigate the system. Others suggested robust mobile health initiatives with all-inclusive physical and occupational therapy, pharmacy and mental health counseling services that could be tailored to meet individual health needs. Further examination is needed to fully understand the impact the COVID-19 pandemic had on management of chronic pain.

PUBLIC POLICY

The COVID-19 pandemic has given significant cause to rethink public policy, including those surrounding the treatment of veterans suffering with chronic pain. Like many chronic issues, chronic pain can become difficult to manage when the systems that are supporting its mitigation are disrupted or suddenly disappear. This can happen far too easily when traditionally stable social structures are no longer functional due to health concerns and restrictions during a global pandemic. The perspective of the TTM participants highlighted several areas where public policy changes are required to address the needs of veterans experiencing chronic pain during a pandemic.

Having experienced the disruptions resulting from the COVID-19 pandemic, TTM participants voiced that similar disruptions should be anticipated. Public policies focusing on preparation are needed. Comparable to other emergency management services such as active shooter, fire, and natural disasters, plans for rapid response to future requirements for social distancing should be considered.

ACCESS TO HEALTHCARE

Healthcare access was a major concern of TTM participants. Individuals with chronic pain may be more susceptible to infection during a pandemic, as chronic pain has been known to cause a diminished immune response (Clauw et al., 2020). This in combination with the high prevalence of comorbidities among veterans could put veterans experiencing chronic pain at high risk during a global health emergency. Healthcare access is already of particular importance to veterans with chronic pain, since chronic pain requires constant assessment and intervention. Access to healthcare becomes all the more important during a pandemic, when the necessity of treatment and the opportunity of infection are at their highest. Unfortunately, the response throughout much of the world was to restrict general healthcare access during the pandemic to ensure adequate resources were available to address the threat of COVID-19 pandemic. An unfortunate consequence of this action might have been to increase the susceptibility, and potentially rate of infection, among veterans experiencing chronic pain. In order to properly maintain public health in future pandemic-like situations, while also addressing the needs of special populations such as veterans experiencing chronic pain, public policy needs to be constructed that can balance the nuances of demands on healthcare resources and increased needs of marginalized populations.

PAIN MANAGEMENT

While it is clear that the pandemic disrupted and altered the access to and the delivery of healthcare related to chronic pain management, the nature and degree of the resulting consequences varied. This variation suggests that public policy should allow for individualization of care during a pandemic. For example, some veterans thrived with alternatives to traditional healthcare including access to services outside of the VHA system and technology enhanced visits, while others were unprepared to navigate or embrace such a change while trying to manage chronic pain. Policies are needed to address a range of approaches and accessibility.

In addition, much of present-day chronic pain management involves medications. One of the pandemic's effects was to cause disrupted access to medications. There are many reasons why this has happened. Clinics and healthcare professionals were less accessible and had resources diverted for pandemic management. Congested healthcare systems and longer wait times contributed to disruptions in chronic pain management, especially when chronic pain issues were deemed nonurgent. Restriction

of movement may also create supply chain issues and reduce local availability of medications. This can also be exacerbated if medications, or their chemical precursors, are diverted to emergency care (Clauw et al., 2020). In addition to limited access, veterans with chronic pain may also experience exacerbation of symptoms during a stressful pandemic event, increasing their need for medication (Karayannis et al., 2019; Strugeon et al., 2016). Public policy should be crafted to ensure medications for chronic conditions are available, can be made accessible, and providers are able to assess the need for dosage adjustments during future pandemic-like events. Because chronic pain management may include over-the-counter and prescription medications, policies need to be enacted to address access to both types of medications.

SOCIAL ISOLATION

Social isolation was cited as a significant concern of TTM participants. Being actively involved in positive social activities can be an effective strategy to help in the management of chronic pain. Social isolation resulting from social distancing during a pandemic can exacerbate chronic pain symptoms (Karayannis et al., 2019; Strugeon et al., 2016). However, social engagement with support networks is often used by veterans to help improve their health outcomes, gather information and make informed decisions, and explore alternative therapies (Claver, 2011; Gage-Bouchard, 2017). It is crucial that future public policy considers these factors.

During the TTM veterans considered the impact of pandemic-related social isolation and its association with mixed outcomes. While most veterans experienced worsening chronic pain management because of social isolation, a subset of veterans reported improved pain management because of decreased external stimuli. Avoiding lines, crowds, human conflict, traffic, and road rage had calming benefits and improved pain management for some veterans. The variation in response to social isolation suggests that policies should include more than one approach to social engagement. Yet we cannot overlook the basic human need for connection and the effect social isolation has on depression, potentially worsening chronic pain management and the potential for increasing suicide rates (Cooke et al., 2020; Salari et al., 2020). As a result, policies that enhance a sense of purpose and hope for veterans experiencing chronic pain should be supported.

RESEARCH NEEDS SURROUNDING CHRONIC PAIN MANAGEMENT

Veteran participants voiced concern about veteran-related research needs surrounding chronic pain management. Agencies supporting research should consider incentives for including veterans as part of the research team, veteran-specific engagement strategies, and topics of interest to veterans. TTM participants voiced questions about a variety of topics from approaches to healthcare delivery to specific interventions. Some topics are better researched than others. Policies should include funding for review and synthesis of the literature and, if appropriate, tools for translation to practice. Review and synthesis of research may be conducted with less social engagement than traditional intervention research supporting the potential shift in funding during a pandemic. For questions about which the research is inadequate, funding should be prioritized to address the range of questions of interest to veterans including alternative or complementary interventions. The TTM participants' concerns regarding study duration support the need for policies funding research with longer continuous interventions and follow-up.

While policies protecting research participants are needed, the policies as well as the funding should allow options for veteran-centered nontraditional approaches to recruitment that may be more time intensive and less rigid. Funding should include networking, team-building, and trust-enhancing activities that allow for social distancing prior to and following enrollment in research studies.

FUTURE RESEARCH

To develop chronic pain management and treatment options that are acceptable, effective, and meaningful to veterans, it is important for researchers to explore the topics generated by veterans living with chronic pain who were affected by the mandatory social distancing put in place during the pandemic. During the TTM veterans discussed several areas related to chronic and social pain that require further investigation. The research questions that were developed from these conversations may be divided into four general areas: transition to civilian life, treatment options for chronic and social pain, comparative effectiveness research, and health care management.

After separation from the military, some veterans have trouble transitioning and reintegrating into civilian life. Veterans and key community stakeholders had meaningful dialogue during the TTM about the value of research focused on the military to civilian transition especially in times of social isolation. One suggestion for research is to examine existing programs designed to transition active military personnel to civilian life and determine which programs are most successful. Perkins et al. (2020) conducted an exploratory study and surveyed veterans (N = 9,566) to determine which existing VHA and non-VHA programs, and specifically components of these programs the veteran

participants used to assist them in reintegration to civilian life. Researchers may use this baseline assessment from the Veterans Metrics Initiative (Perkins et al., 2020) as a starting point for further evaluation of these transition programs and their success. As a consequence of the COVID-19 pandemic, veterans in the TTMs also expressed interest in correlational research to determine any if associations between successful reintegration into civilian life and successful reintegration into public life after the social isolation mandates ceased. Additionally, the veterans in this project encourage researchers to explore possible associations among reintegration into civilian life, social isolation, and chronic pain.

Veterans are often prescribed pharmaceuticals, which can range in potency from naproxen to opioids to treat chronic pain. This has contributed to a recognized epidemic of substance abuse within the veteran community (Becker et al., 2009; Teeters et al., 2017). The majority of veterans who attended the TTMs voiced concern regarding a health care provider's tendency to immediately use pharmaceuticals to "fix it" instead of considering the veterans' preferences and needs for chronic pain management. The VHA has begun to address the issue of disease-focused care through the creation of the pilot program, Whole Health System of Care, focused on disease prevention (Bokhour et al., 2020). With this broader goal in mind, the veterans suggested various lines of research to address the relationship between management and treatment options and chronic pain and social isolation. The research topics and themes included alternative physical activity (i.e., virtual walks, outdoor activities, nature appreciation, and socially distanced exercise), complementary therapy (i.e., human-animal interaction and distraction therapy). medical marijuana, and alcohol use.

A hallmark of this community engagement project was the design of meaningful CER questions for veterans with chronic pain. Examples of past CER studies in the literature are the comparison of two types of medications and chronic pain outcomes (Cohen et al., 2015; Krebs et al., 2017) and comparison of two complementary and alternative therapy options and chronic pain outcomes (Kravitz et al., 2018; Spiegel et al., 2019; Wang et al., 2018). The veterans in the TTMs expressed positive sentiments about the use of complementary and alternative therapies and suggested that a nontraditional therapy (i.e., mindfulness) should be compared to a traditional therapy (i.e., cognitive behavioral therapy) to determine if one is more effective than the other for use in chronic pain management. Another set of CER questions arose as a consequence of living in social isolation during the pandemic. Veterans engaged in this project indicated the need to compare telehealth versus in-person provider visits and their success in managing and diagnosing health problems. Additionally, they specified that researchers might consider comparing the effectiveness of virtual contact versus in-person contact on chronic pain and the social isolation caused by the pandemic.

As the COVID-19 pandemic changed the world, it also changed the way in which health care is managed. For many veterans, the pandemic influenced their continuity of care for chronic pain management. Consequently, veteran participants recommended research topics exploring the value of VHA mobile apps to virtually navigate the VHA system, determining the most successful methods to deliver information especially during times of social isolation, and retrospectively assessing the effects of case management, care navigation, and healthcare staffing levels on veterans' health outcomes and care satisfaction. Ultimately, veterans who experienced poor quality of care coordination during the pandemic stressed the importance of research aimed at improving the quality of care coordination at VHA facilities, particularly in times of national and international emergencies. Although health care changed dramatically during the pandemic and mandated social distancing policies, there are opportunities to explore the positive avenues, especially digital solutions (Willems et al., 2021), to improve chronic pain management care coordination for veterans within both VHA and non-VHA facilities.

LESSONS LEARNED

The biggest lesson learned from participating in this project was the importance of engaging veterans with concise, factual, and transparent information for the purpose(s) of conducting the proposed research. Other lessons learned include: Research members conducting virtual group meetings should be familiar with the video conference platforms and have reliable broadband internet and a backup plan if technical difficulties arise. The distribution of gift cards to participants was well received, as veterans appreciated the acknowledgement their contribution was valued. Time management is important as is starting and ending the TTMs on time and ensuring the gift cards are dispensed in a timely manner after the meeting ends. Group meetings should offer a calm, safe environment for veterans to express their thoughts, perceptions, and beliefs. One way this can be accomplished is by having a research member talk about their military experiences first. Veteran interest in participating in research projects could be expanded if the research investigators coordinated recruitment through local community resources such as veteran- centered nonprofit organizations. Many of

these organizations have established trust within veteran communities and their endorsement of a research project could generate increased willingness of veterans to participate in future research.

DISCLAIMER

The views, statements, and opinions presented in this article are solely the responsibility of the author(s) and do not necessarily represent the views of the Patient-Centered Outcomes Research Institute (PCORI), its Board of Governors or Methodology Committee.

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COMPETING INTERESTS

The authors have no competing interests to declare.

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