

## Abstract

Suicides are highly prevalent and present a major challenge to public health in the United States and worldwide<sup>1</sup>. Suicide rates have increased by nearly one-third in the United States from 1999 to 2018 and suicide is the 10<sup>th</sup> leading cause of death. In the State of Wisconsin, the suicide rate increased by 40% from 2000 to 2017, has been higher than the national rate, and in 2018 was ranked as the 10<sup>th</sup> leading cause of death<sup>2,3</sup>. The suicide rate among Wisconsin Veterans has also been increasing over the past 20 years and in 2017, accounting for age differences, the rate was significantly higher than the national Veteran suicide rate, the national suicide rate, and the Wisconsin suicide rate.

There are several risk factors for suicide which are different for Veterans than for non-Veterans. Veterans who die by suicide are more likely to use a firearm, to have physical health problems, and to have experienced a recent death of a friend or family member. Research has shown that limiting access to firearms can decrease the rate of firearm suicide. Firearm ownership in the US is a highly protected right and Veterans are especially proud to own firearms and are more likely to own them for self-protection than non-Veterans. Therefore, decreasing someone's access to their legally owned firearm through legal limits or other means is not feasible especially in states like Wisconsin that do not have Extreme Risk Protective Orders allowing firearms to be removed from an individual in crisis. However, a viable alternative suicide prevention strategy is to promote, educate, and encourage Veterans and non-Veterans to voluntarily use safe storage options for firearms at home or ideally store them outside of the home when someone is experiencing suicidal thoughts.

The Veterans Health Administration (VHA) has mandated lethal means training for all of its health care providers. However, this intervention will only potentially reach the 1/3 of Veterans that access VHA healthcare systems. Therefore, the general public and especially the family and friends of Veterans need to be aware of these issues so they can intervene and help save lives. There are various messages and messengers that have been developed to provide this type of intervention with Veterans, (i.e., Hold My Gun, Have a Brave Conversation, Just F\*\*king Ask) and with non-Veterans (End Family Fire). However, there are no published research studies reporting the effectiveness of these messages using a sustained advertising campaign that targets Veterans and their friends and family.

Another important message addresses inaccurate beliefs or myths that suicide death is always the result of mental illness and that it is not possible to stop once suicide is seriously considered. It is more accurate that more than half of those that die by suicide do not have a mental illness. Therefore, it is vitally important that not only Veterans with mental illness but those with other crises such as homelessness, financial issues, relationship problems, or physical health concerns be informed of the options for obtaining help without feeling stigmatized and learn ways to limit their access to firearms, increase their safety, and get support.

This study will report outcomes by using a statewide mass media and social media public health messaging campaign designed to increase help seeking behavior and decrease the incidence of firearm suicides among Veterans. The advertising message will be designed to encourage Veterans to seek help when they feel suicidal without strictly focusing on mental illness and to be aware of and decrease their risk of suicide by encouraging safe storage of firearms. The message will focus on the respect of Veterans' ownership of firearms but with the counter conversation that firearms should never be used in "friendly fire" against oneself. The messaging will be specifically designed and promoted by Veterans through focus groups and message testing/refinement over the course of 12 months.

Message effectiveness will be measured by surveying a panel of subjects representing the Wisconsin population at multiple times: 1) baseline data and 2) after 3 distinct advertising campaigns. A comparison group will also be surveyed at the end of all advertising. It is expected that the message will increase intent to seek help and safely store firearms among both groups but more so in the intervention group. Advertising effectiveness will be determined through standard marketing methods across social media, TV, radio, and digital venues. The final product will be an evidence-based mass and social marketing message paired with an advertising campaign designed to impact suicide rates of Veterans along with evidence of reach and effectiveness of this campaign. Additionally, message development and implementation regarding firearms and suicide will provide new ideas for the development of this type of message among non-Veterans. The research team is well versed in this line of research and will be able to effectively publish and present the results in nationally recognized journals and conferences.

**Project Strategies: Discovery: Target Population:** According to the CDC, suicide rates in the United States have increased by nearly one third over the past 20 years and suicide is the 10th leading cause of death overall. Veteran suicide rates surpass the general population suicide rates. In 2017, the suicide rate for Veterans was 1.5 times the rate for non-Veteran adults. Additionally, about 75% of Veterans that die by suicide are not receiving VA healthcare. The age- and sex-adjusted suicide rate among Veterans with recent Veterans Health Administration (VHA) use increased by 1.3% between 2016 and 2017. However, the age- and sex-adjusted suicide rate among Veterans who did not use VHA care increased by 11.8% between 2016 and 2017. Help-seeking behavior by Veterans, especially among those who own firearms, has been noted to be less than the general population. In fact, it has been reported that Veterans do not seek mental health support due to the mistaken belief that if they are diagnosed by the VA with a mental illness (e.g., PTSD), they will lose their right to own guns<sup>4</sup>.

In Wisconsin between 2013 to 2017, suicides were highest among men (78%) versus women (22%), highest among 45- to 54-year old and among White, non-Hispanics and American Indians/Alaska Natives<sup>3</sup>. In 2017, the suicide rate for Wisconsin Veterans was 33.8 per 100,000 and accounting for age differences, the rate was significantly higher than the national suicide rate, national Veteran suicide rate, and the overall Wisconsin suicide rate. The average age of Veterans that died by suicide was 59 versus non-Veterans at 43 and the proportion of veterans who died by suicide was greater in the older age groups than the younger age groups. The rate of suicide is higher in rural Wisconsin counties than urban counties, and this also applies to Veteran suicides.

There is no one cause (why) or method (how) contributing to Veteran suicide; however, there are many recommended strategies to prevent Veteran suicide<sup>5</sup>. This project will focus on the “how” by implementing a way to decrease ready access to firearms, since research has found that limiting the ease with which at-risk individuals can access firearms prevents suicide<sup>6</sup>. Additional research has found that the time from suicidal thoughts to a suicide attempt is typically within 1 hour for 70% of those that attempt suicide<sup>7</sup> highlighting the critical need to limit access to highly lethal means when an individual is in crisis. In a review of data on violent death, the use of firearms is the most frequent mechanism of injury in suicide, higher even than in homicide. Firearms are quite prevalent in the United States and the per capita registered guns in Wisconsin is 11.9 per 1000, with about 43% of households with a firearm<sup>8</sup>. Firearms were the method of suicide in 70.7% of male Veteran suicide deaths and 43.2% of female Veteran suicide deaths. In contrast, approximately half of suicides in non-Veteran adults involved firearms. Additionally, 33.3% of Veteran firearm owners store at least one firearm loaded and unlocked<sup>9</sup>. Firearm suicide attempts result in death 90% or more of the time<sup>10</sup> and interventions to limit easy access to highly lethal means can make a difference. This is especially evident during the time of the current COVID-19 pandemic which has increased suicide risk factors such as job loss, financial stressors, loss of a loved one, limited access to healthy coping mechanisms, isolation, and limited access to health care. Compounding these risk factors is the increased sale of alcohol and firearms in the past year (up to 85% more than previous years)<sup>11</sup>. Providing information to Veterans on how to access help when they are having suicidal thoughts and help them dispel the stigma of mental illness with the option to have firearms safely stored during a difficult time is vitally important to reduce Veteran overall suicide rates.

**Gap in Knowledge:** Public health messaging through public service announcements (PSAs) are known to influence health behaviors in several areas (e.g., smoking, sedentary behavior, sexual health, stroke & heart disease prevention, texting while driving, etc.)<sup>12,13,14</sup>. However, mass communication methods to engage Veterans in health care and in suicide prevention are not generally used by the VA, whereas the US health care industry spends \$30 billion per year on advertising. Suicide prevention strategic plans by the VA<sup>15,16</sup>, CDC<sup>17</sup>, US Surgeon General<sup>5</sup> and the Department of Defense (DOD)<sup>18</sup> recommend the use of societal interventions which involve the use of mass and social media messaging to reduce suicides. However, these plans do not specify advertising campaigns, messages, or ways to evaluate this approach with Veterans.

The Ad Council was formed in 1941 with the war bond campaign and is one of the largest PSA developers and implementers. It has implemented iconic campaigns such as Smokey the Bear to prevent forest fires and “Friends Don’t Let Friends Drive Drunk.” In a review of all current and past advertising campaigns of the Ad Council<sup>19</sup>, there are no campaigns with a combined focus on Veterans, suicide prevention, and firearms. However, they have developed recent relevant campaigns to address suicide with the “Seize the Awkward” campaign and in partnership with the Brady Foundation “End Family Fire,” which highlights the risk of suicide due to unsecured firearms in the home. There are

other agencies that are working to decrease Veteran firearm suicide deaths through public messaging using variety of different messages: VHA, “Be There” & “REACH<sup>20</sup>”, the National Shooting Sports Foundation (NSSF) and American Foundation for Suicide Prevention (AFSP), “Have a Brave Conversation<sup>21</sup>”, Casey Woods at the FORGE with the Overwatch + Project, “Just F\*\*king Ask<sup>22</sup>”, Dr. Marian “Emmy” Betz’s “Lock to Live” and Sarah Joy Albrecht’s program “Hold My Gun.<sup>23</sup>” There were no published research articles investigating the outcomes or impact of these campaigns with Veterans. However, in looking at messaging effects on Veterans, researchers found that Veterans in mid-life have treatment beliefs which are formed and saturated, so rather than changing current beliefs, it is important to help them develop new beliefs in help-seeking behavior<sup>24</sup>. Research is needed to ensure that the message is effective and communicated appropriately, since the message and the manner in which suicide is portrayed in the media can cause harm through contagion or “copycat” suicides if not done appropriately<sup>25</sup>.

Research on the outcomes and impact of public health messaging in Veteran suicide prevention is a new and developing area of study<sup>26</sup> with research generally indicating that this is a promising way to reduce Veteran suicide. One study used three different messages to measure the impact of the “It’s Your Call” campaign which is designed by VHA to encourage the use of the Veterans Crisis Line (VCL). They found that one message was not as effective as using a mix of message to increase help-seeking behavior (i.e., crisis line use)<sup>27</sup>. Another study investigated the perceptions of three very different messages to facilitate help-seeking in Veterans who had a recent suicide attempt. They found that Veterans preferred novel, emotionally intense stimuli. Messages with solemn themes and darker imagery were perceived by these Veterans to be more engaging. However, the study did not measure actual behavior change (i.e., crisis call use)<sup>26</sup>. They concluded that different messages may be indicated for Veterans in periods of high risk versus those not experiencing a crisis and that effective design of public health messaging when targeting Veterans at risk of suicide should include those with lived experience. Another study specifically evaluated the use of three different PSAs on firearm safety and suicide prevention using a randomized study design among US Veterans. In this study, Veterans in two intervention groups and one control group were exposed to a short-term (two minutes) PSA on firearm safety messages, once per week for three weeks. The results revealed that there were no significant changes for intentions or safe storage practices across exposure groups. At baseline, participants’ attitudes and beliefs were generally supportive of safe firearm storage. The firearm safety message yielded small increases in agreement with the concept that secure storage is “important during emotional or stressful times.” Other significant changes in awareness and beliefs were found, but across all study conditions. The research group concluded that there is a critical need for considerable research and testing prior to the widespread implementation of public messages to increase the likelihood for desired impact and effects<sup>28</sup>. Mass communication methods to encourage Veterans to engage in health care and to decrease their access to firearms when they are in a mental health crisis could reduce the overall suicide rates in Veterans.

Veterans are trained to use firearms to protect themselves and their country, giving them a special connection to and respect for firearms. Therefore, it is unfortunate and paradoxical that a firearm is the most prevalent method of suicide in the Veteran population. It is hoped that communications from this study will impress on Veterans, their family and friends, so that they can help change the dialogue with firearms and suicide and ultimately become positive messengers to help decrease the overall use of firearms in suicides. The proposed study aims to address Veteran suicide rates by developing, implementing, and evaluating the impact of a mass multi-media communication campaign, aimed at reducing firearm suicide among Veterans by alerting them to the impact of firearms on Veteran suicide rates and encouraging them seek help through VA or non-VA healthcare systems, when they have thoughts of suicide and to safely store firearms. Key outcomes will be 1) an effective message, 2) effective advertising which increases reports of Veterans’ intent to: 3) seeking help when having suicidal thoughts, and 4) safely storing firearms. Evidence on these outcomes will be disseminated widely to address the identified gaps in knowledge in this area.

**Project Design:** The project is designed to: **Aim 1)** develop the most effective message(s) across Wisconsin to increase Veterans’ help seeking and firearm safe storage attitudes and behaviors and **Aim 2)** determine the most effective state-wide advertising campaign(s) that will impact Veterans, their families, and friends with the primary goal to engage Veterans who are experiencing suicidal thoughts and encourage them to seek mental health care and to safely store and secure their firearms in a time of crisis. Family and friends of Veterans will also be targeted by messaging as they can influence Veterans’ behavior especially if the Veteran is averse to help seeking.

Developing and measuring the outcomes of a public health messaging campaigns is complex and specialized. This study will use the evidence-based strategy used by the FDA<sup>29</sup> and CDC<sup>30</sup> to drive the design of these messages that includes four iterative steps occurring from focus groups post-interviews: (1) creative development, (2) concept testing, (3) message testing, and (4) expert review. The CDC Guidebook on social marketing<sup>31</sup> will also be used to direct our messaging and marketing plan. The proposed study will use these techniques to develop impactful messages, to evaluate the effectiveness in reaching the target audience, and to evaluate the ability to change attitudes and behaviors.

The evaluation of the study aims will follow a logic model which includes the following phases: 1) conduct focus groups to develop an appropriate and engaging message for Veterans, 2) test the effectiveness and modify the message by reviewing questionnaires of a panel of subjects pre and post advertising, 3) implement three separate mass multi-media advertising campaigns, 4) analyze data and disseminate findings.

**Phase 1, Message Development and Revision:** The initial message and framework, messenger, and delivery method will be developed through two focus groups; one group primarily from rural areas that have relatively higher suicide rates and another from urban areas. The creative design-advertising team will be integrated with the focus groups to provide feedback and track qualitative information to develop the message/messenger from concept to completion and to ensure agreement with all research team members and the Veteran advisory team. The focus groups will consist of a diverse group of Veterans, Veteran family members and friends of Veterans. Focus groups are planned to be conducted up to two times per message in-person, but virtual options may also be used in conjunction with in-person meetings to ensure engagement of individuals who might have concerns of meeting due to the COVID-19 pandemic. Also, the meeting size will be adjusted based upon community recommendations related to COVID-19. The project will follow CDC recommendations to consider cultural factors in development of the message content, structure, sources, and channels. Past and current messages being used in the media will be searched to be considered in the development of the messages. The message will be modified after four months of advertising for a total of three unique message campaigns over the course of 12 months based upon surveys of a subject panel, feedback from advertisers, a Veterans advisory panel, and the focus groups. UWM marketing faculty will provide final expert review of each message to ensure that it accurately targets the population, provides a safe message, and that the message is on target.

**Phase 2, Message Effectiveness:** The message will be tested between each advertising campaign by surveying a subject panel and focus groups which includes Veterans and their friends and family.

**a) Subject Panels:** The subject panel will involve emailing approximately 5,000 Wisconsin residents to obtain a response of 400 over the course of the study. The subject panel will be asked to respond to the survey four times over the course of the study (at baseline and after each message change). Therefore, initial panel is expected to be 500 (anticipating a 10% response rate which is consistent with online survey response) with another 20% or 100 subjects to be lost to attrition over the time of four survey samplings. This will provide 80% power with an alpha of 0.05. Sample demographic proportions will be consistent with the general population, except that we will oversample Veterans (who are 8% of the population) at 20%. This is to ensure there is enough power to make valid comparisons in this group.

**b) Survey:** The survey will consist of about 15 -20 questions to include basic demographics, history of suicidal experience with self or others, likelihood to seek help for self or others during times of suicidal crisis, gun ownership, (type and number), gun storage practices (locked, loaded, stored, etc.), and whether they have seen advertising regarding firearm safety, suicide prevention, or crisis lines. A panel of three VA psychologists, familiar with questionnaire development, will provide expert review of the questionnaire to ensure it is on track to measure the message and study aims. Qualtrics XM will be used to send out the questionnaire, which provides a platform for survey development, response rate analysis, and statistical analysis. Additionally, Qualtrics XM has methods to reengage the subject panel and integrate incentives. Incentives for survey participation will be integrated with Rybbon.net to assist in maintaining the subject panel. Gift cards (\$10.00) will be provided to panel participants each time they complete two surveys: 1) after advertising of the first message and 2) conclusion of the study after advertising of the last message.

**c) Testing:** The survey results will be analyzed between non-Veterans and Veterans at baseline and after each advertising campaign to determine the reach and effectiveness of the messaging between groups and between advertising which will be used to inform on subsequent advertising delivery and message modifications. (See phase 4 for data analysis details.) A comparison group of unique subjects with a similar demographic composition as the original panel will be surveyed after the final message campaign and provided a gift card for completing the survey. The

comparison group will provide an assessment of the effectiveness and reach of the messages that will not be affected by previous surveys. This final survey includes additional questions for each group to assess whether they have seen or recognize each of the three messages and the approximate number of times they have seen each message.

**Phase 3, Advertising campaign (3 campaigns per 4 month period: total 12 months):** The project will use a campaign logic model to develop and enhance the communications campaign to incorporate various advertising methods which will include: paid media with social and digital media, small group presentations, education seminars and news stories (“earned media”). Media partnerships will be used to enhance the paid media with value-added market exposure as on-air personalities “adopt” the campaign. We will deliver our tested messaging via different strategies dependent upon the geographic location and we will adjust the message based on social media analytics, Veteran advisory team, focus groups, and from the subject panel surveys. Advertising will target the Veteran population at higher suicide risk as well the general public and will direct activity to digital targets or **landing sites (website)** which will have a full range of resources from national, state, and local private, non-profit, and government agencies. Highlighted on digital media will be the Veteran resource project as facilitated by the Southeastern Wisconsin Task Force on Veteran Suicide Prevention (SeWIS-TFVSP). This project connects Veteran psychosocial and clinical resources on Impact 211 phone and website system with the Center for Veteran Issues (CVI) smart phone application (CVI Help).

**Phase 4, Outcome and Data Analysis: Qualitative outcomes** (e.g., reach, effectiveness, relevance) of the message will be determined by analyzing responses from the focus group meetings. **Quantitative questionnaire data** will be used to determine outcomes through significance testing (e.g., ANOVA, multiple linear or logistic regression models) of the comparisons of within-subject survey data of the panel group (baseline to final survey) and between-subject survey data between the control and panel groups (across baseline and after each ad campaign) with the expectation that there will be an increase of intent to seek help and safely store firearms following implementation of the messages and advertising campaigns. **Advertising effectiveness and message reach** will also be determined by a) using an advertising “landing” or target website which provides measurements (e.g., Google Analytics) on the total number of unique and repeat users per message campaign, time on website by user by message campaign, location of users, and follow referral links to crisis lines, Impact 211, CVI help or other relevant sites, b) social networking analytics (mentions, shares, usage of hashtags, social media followers), c) uptake in earned media spots by message campaign. Another method to measure changes in help-seeking behavior will be to review **crisis line usage and suicide rates**; a) number and changes in VA crisis calls across message campaigns and over the entire campaign, b) Veteran and overall Wisconsin suicide rates will be compared between pre- and post- advertising, however due to the variability and low incidence rate of this data it expected that on-going societal and cultural changes will be necessary to impact these rates. Community engagement effects will be measured by; a) number of people that download resource materials, view videos on the study website or social media, join or begin community coalitions for Veteran suicide prevention, and join activities developed on the website or social media (e.g., develop or provide firearm storage options).

**Engagement, Project Team:** The primary community partner, the War Memorial Center (WMC), a prominent Wisconsin Veteran organization, will provide a strong component to the Veteran messaging, along with marketing, and advertising expertise. The WMC is an important beacon of advocacy and hope for Wisconsin Veterans. Mr. Buttery (President and CEO of the WMC) is a member of the SeWIS-TFVSP, and leader of the Public Health Action Area on the Task Force. He has extensive experience in advertising and fundraising for Veteran concerns. He was the primary leader to raise funds for the Milwaukee VA’s Fisher House (\$5 million) project, which provides a residence for the family of Veterans when their loved one is hospitalized at the Milwaukee VA. Mr. Buttery’s recommendation is to use at a minimum \$200k to adequately fund the 12-month advertising component.

The project team will include MCW researchers at the Comprehensive Injury Center (CIC), who are experts in firearm violence, suicide, project evaluation, and data analysis; to include Ms. Kohlbeck and Dr. Hargarten. Ms. Kohlbeck is also a member of the Prevent Suicide Wisconsin Steering Committee, and Co-Chair of the Wisconsin Violence and Injury Prevention Program and experience with survey administration and analysis, focus group facilitation, and qualitative data analysis. She is working on a Veteran-focused AHW-funded project, Remembering the Lost, and will provide connections with that project. She has a background in suicidology and public health. Stephen Hargarten, MD, Firearm research consultant, MCW, CIC faculty will serve as a consultant and firearm suicide expert to the project team and will oversee the activities of CIC staff.

Our project team includes VA staff that have experience working with Veterans that have serious mental illness and suicidal behaviors. The PI, Dr. Bertrand Berger, is the Chief of the Mental Health Division at the Milwaukee VA and is MCW psychiatry department faculty. He has been part of ongoing Veteran suicide prevention activities for more than 20 years. He is also chairperson of the SeWIS-TFVSP. This SeWIS-TFVSP has more than 25 Veteran-centric representatives focused on Veteran Suicide Prevention with a focus on 4 action areas with measurable results. SeWIS-TFVSP members will be offered the opportunity to assist in the project. We have Veteran representation by Veteran Peer Specialists, including Mark Flower and Chris Swift, along with Dr. Michael McBride who is both a Veteran (Iraq and Afghanistan) and a psychiatrist at the Zablocki VA Medical Center. He is the recovery coordinator for the Milwaukee VA and is the chairperson of the Milwaukee VA Veteran Mental Health Advocacy Council. He will provide consultation to ensure that the voice of the Veteran population is included in the messaging approach, survey and advertising and develop a Veteran centric advisory board which has representation from Veterans who live in urban and rural Wisconsin.

Dr. Amit Bhatnagar, from the UWM marketing department, has extensive research in the application of statistics to marketing. He will provide consultation to the final development of the logic model, messages, survey, and mass media communication plan as well as provide data analysis planning and results interpretation.

**People:** Veterans, as well as their family and friends, will be targeted with this project and we expect that by applying state-of-the-art mass communications throughout the State of Wisconsin, there will be significant reach and impact across the state. Additionally, if there is a significant effect from the mass communication intervention, the project will inform the federal VA system on the best mechanism for mass communication on public messaging in Veteran suicide prevention. The State of Wisconsin has taken on the Governor's challenge to end Veteran suicides and one of their priority areas led by Jean Papalia is to develop a state-wide firearm storage program. This study will assist in informing this team on the most effective message and advertising to address Veterans in this area.

This project is intentionally engaging Veteran's groups, including the WMC, in its implementation. This is very important, as any messaging that is deployed must be culturally competent for Veterans and their families. Additionally, this project will seek input on our messaging by hosting focus groups with Veterans and by consulting with Veterans groups during message development. While the project team has the expertise needed to deploy and evaluate this campaign, it is crucial to involve Veterans in message development and testing to ensure that our message is relevant and appropriate for Veterans, particularly Veterans who are firearm owners. The inclusion of Dr. McBride, who is a Veteran himself, ensures that there is Veteran representation among the decision-makers of the project team.

**Power:** Veterans are known to be strong supporters of firearm rights in the US and advocates for the use of firearms for self-protection. However, there are noted myths that Veterans have regarding mental illness and firearms. Most significant is the belief that if they seek help for a mental illness or are diagnosed with PTSD from the VA, they could lose their right to own guns<sup>4</sup> (a "gun grab"). Therefore, using a message which is developed and communicated by Veterans, as developed by the study, is of paramount importance. Since there is a general and noted respect for soldiers and/or Veterans to understand the dangers of firearms, they have a unique opportunity to change the dialogue about firearms and suicide prevention. The study outputs when adopted by Veteran and non-Veteran groups are expected to impact not only Veteran behavior but also the public. The impact of a Veteran-focused, Veteran-delivered message from this project will be highlighted with Veteran and non-Veteran stakeholders to change the perspective people have about how firearms can be protective but deadly and dangerous in the wrong situation with the focus on a "safe" gun.

This project will develop several white papers for dissemination to decision-makers involved with the Wisconsin Department of Veteran Affairs (WDVA) Governor's Challenge to End Veteran Suicide, the VHA's national research programs, and Wisconsin Department of Health Services (WDHS). The Governor's Challenge group has the power to drive Veteran suicide prevention efforts in our state, and the information that we glean from this project will provide opportunities to develop state-level messaging for Veterans through WDVA's network of Veteran County Service Offices. Additionally, this project will share findings with the injury and violence prevention program at the Wisconsin Department of Health Services (DHS). DHS is the state-level entity that guides and supports the work of Prevent Suicide Wisconsin (PSW) and can use the findings from this project to inform and influence PSW's suicide prevention efforts among Veterans and non-Veterans. Veteran groups (e.g., American Legion, Disabled Veterans of America), and first responders (i.e., EMTs, sheriff and police departments) will be provided study materials and encourage to promote the message to individuals in crisis.

## Policy and Practice

Veteran suicide is a critical public health issue in Wisconsin, and this project will provide information that can inform and influence future messaging around help-seeking behavior and safe storage of firearms for Veteran suicide prevention. Given the challenging political and social context around firearms, this project, with its inclusion of Veterans in the planning and execution of project strategies, has the potential to make a real and sustained impact on suicide prevention practice in Wisconsin.

The project will provide evidence on effective methods to implement public health messaging using mass media communication techniques to make an impact on a specific population (Veterans and their loved ones). By using locally developed focus groups from urban and rural areas of the state, this project will inform practice and policy around public health messaging which can assist efforts of public health agencies around Wisconsin and potentially nationwide.

The proposed project will also capitalize on progress made in Wisconsin policy change as began with the “Gun Shop Project” (GSP) started in 2016 by Safe Communities of Dane Co., Wis. This project replicated the New Hampshire’s Project Connect Gun Shop Project. Jean Papalia, one of our community partners, and the GSP project coordinator, reported that the firearm retailer stored firearms for 12 individuals in “safe storage” in the Wisconsin project. The public was informed about the GSP through local television and newspaper media interest, which eventually resulted in a bill being drafted in the Wisconsin State Assembly (October 14, 2019, Assembly Bill 527). This bill was written to provide grants up to \$5000 to organizations to 1) share guidelines at firearm retailers or ranges on avoiding selling or renting firearms to persons who may be considering suicide 2) provide suicide prevention materials at firearm retailer or ranges or 3) providing voluntary firearm storage. This bill was not passed in the Wisconsin State Senate in 2020. However, our study may provide new information to inform the SeWIS-TFVSP and the Governor’s Challenge team to work with elected officials to reintroduce this legislature. There are representatives on Task Force and Governor’s Challenge Committee interested in reintroducing this legislation. Additionally, Governor Evers has introduced funding into his proposed budget around firearm associated suicide prevention, and this project can provide information to support these efforts.

In March of 2021, the Captain John D. Mason Veteran Outreach Program began to promote the Wisconsin Gun Shop Project with updated materials and incorporating a state-wide map available to the public on the Task Forces website (BeThereWis.com) so that anyone in a crisis can find a gun shop which offers gun storage. Suicide prevention messaging which is focused on safe gun storage as a result of this study may be instrumental in promoting not only safe storage in the home but also the practice of gun storage outside of the home for people in a crisis.

Overall, this project will help save the lives of Veterans in Wisconsin. Research has demonstrated that suicide prevention efforts are more effective when they are informed by and driven by the population of focus. This project will work closely with Veterans to ensure that our messaging is relevant and culturally appropriate, so that it can be better received by the target audience to prevent suicide. The effect on Veterans entering health care, calling a crisis line, and/or safely storing their firearms is expected to ultimately decrease the rate of firearm suicides in the Veteran population. There is the possibility that non-Veterans might also be influenced by the mass communication since much of the project will be using public media platforms (e.g., television, radio, billboards).

## Dissemination

**Toolkit:** Given that this project will provide valuable information on mass-media communication strategies to improve public health, we will develop a toolkit and logic model that can be disseminated to other Veteran-serving organizations, as well as public health agencies. This toolkit will include project methods, findings from our focus groups as well as evaluation findings to help other agencies hone in on possible messaging strategies for their own campaigns. We will also include a discussion of barriers and facilitators to our work to help other agencies and communities maximize the utility of our experience.

We will develop several white papers for dissemination to state-level decision-makers, Veteran-serving organizations, and suicide prevention coalitions. We will also develop and submit scientific papers based on the project findings for submission to academic journals, including *Suicide and Life-Threatening Behavior*, *Archives of Suicide Research*, and *Crisis*. We will actively disseminate our work at state, regional, and national conferences, including the Prevent Suicide Wisconsin conference, the Midwest Injury Prevention Alliance annual summit, the American Public Health Association annual meeting, and the American Association of Suicidology annual conference. Disseminating our project findings via several outlets, aimed at both the scientific community and the lay community, will ensure that the broadest audience possible will be exposed to our findings so that the findings can be translated to other communities.

We will share our project's progress and findings with Veteran-serving organizations and Veterans across Wisconsin. We will also establish a feedback loop with our survey panel and focus group participants, so they receive and understand all project findings. This understanding may assist participants with supporting their peers in times of mental health crisis, specifically around safe storage of firearms.

The PI has contacted the Ad Council to inquire about their interest in collaborating to disseminate the final message(s) in PSA formats through their program at state or national levels and this avenue will be pursued during the study. The PI has also contacted the VA national program Office of Mental Health and Suicide Prevention (OMHSP) to develop opportunities to share the results across the VA healthcare system with the intent to indicate best practices for message development and advertising to Veterans.

This project will serve as the basis for other suicide prevention efforts that are focused on Veterans in Wisconsin such as the Wisconsin Governor's Challenge to end Veteran suicide and the Southeastern Wisconsin Task Force on Veteran Suicide Prevention. These groups have action plans consistent to the overall goal of the project and will provide information to further the goals and actions of these groups. The project results will additionally provide information to develop larger comprehensive studies using the better understood mass communication methods to influence specific suicide prevention activities which would be enhanced by public messaging. A possible future study would be to develop free firearm storage facilities throughout the State of Wisconsin and use mass communication methods developed by the project to inform Veterans and the public of these resources. The storage of firearms out of the home for individuals in a mental health crisis will provide a more protective, secure and safer method to store firearms.

It is expected that by advertising, leveraging a unique tailored message, and having credible messengers deliver the message to a target population such as developed from this study, we will significantly impact Veteran attitudes and behavior when it comes to firearms and suicide. Therefore, this study will hopefully provide a basis for using public messaging with actionable activities for Veterans and other populations. There are many viable suicide prevention interventions available in the community but are not being promoted in a way they can be effective in changing the health and safety of a target population. This study could assist in developing policy which will provide a focus for using public health messaging when community interventions are developed in suicide prevention activities and research. One next step is to study the effectiveness of advertising a firearm storage program, which provides state-wide storage of guns through firearm storage establishments for individuals that are experiencing a suicidal crisis. It would be important to find out how advertising this intervention would result in the reduction of the actual number of firearms in households throughout the state.

## Reply to the AHW Reviewer Comments

### Overall Impact:

(Reviewer comments are in bold)

This is a comprehensive yet focused letter of intent. It has been developed with key stakeholders who represent the priority population and leaders in addressing the issue, statewide. The design is well thought out and it utilizes a multidisciplinary approach, including non-health experts from UW Milwaukee. The project does have potential to advance the science not only around suicide prevention, but also around the efficacy of mass media campaigns on public health-related behavior change. This is a high impact attempting to reduce suicide rates among veterans, a selected and focused population, with a clear study plan and methodology. Overall this proposal is well thought out and described. The team collaborating has a good history of working together and the assembled team reflects many backgrounds of expertise and lived experience. Response: Thank you for these comments

**I think the proposal could be strengthened by further describing the elements of the planned mass communication intervention and how it will be different from previous or existing mass communication interventions targeted at veterans.** Response: Excellent idea. So, we conducted additional research and have detailed past and current mass communication interventions targeted veterans and non-veterans as noted in the Gap in Knowledge section.

**It seems like a lot of work establishing the frame and what types of phrases resonate with veterans and what phrases (which are typically used in public health) do not resonate with them and I would like more discussion on this.**

Response: We researched the some of the current frames and phrases with veterans in research and PSA/websites and have added more details in the document. We also noted some additional studies by Dr. Karras-Pilato, who is a VA researcher at a VA research hub. We have reviewed and referenced her work. We also had a conversation with her about these studies and she provided additional suggestions on other studies to review in regard to developing public health messages to ensure we are using evidence-based approaches to ensure that the frame and message is veteran-centric and on target.

### Discovery:

**Strengths: This study aims to address this need by implementing a mass multi-media communication campaign, aimed at reducing suicide among Veterans, and then evaluate this campaign in order to disseminate findings to advance the science not only around suicide prevention, but also around the efficacy of mass media campaigns on public health-related behavior change. It is specifically targeted to Wisconsin Veterans. The application sufficiently demonstrates the need and gap in knowledge. The project design is detailed and logical.**

**High impact (and much needed research) reducing suicide rates among veterans , a selected and focused population. Clear study plan and methodology This proposal did a nice job including a variety of previous studies and summarizing them to build the need for the proposed work.**

Response: Thank you!

**Weaknesses: Mass communication can have its biggest impact when it can drive people to additional strategies or interventions that are more individual based. It is implied that the campaign will drive Veterans to VA services. If there were specific Veteran focused mental health/suicide prevention interventions or services available in Wisconsin, it will be important to name them and incorporate them into the design and evaluation.**

Response: Agree that we will want to drive Veterans to any services which can improve their health. We have included options for community resources other than VA services: CVSOs, CVI, DryHootch, American Legion organizations).

### Outcomes are somewhat weak

Response: We have provided additional details on the expected outcomes in the project design section.

**Given the emphasis on mass communications, I am curious if there are literature or other evaluations of previous campaigns re: veteran suicide and what this project is going to do differently or learn from previous attempts. This project would be strengthened with more description about the planned communications work and how frames of reference re: suicide, stigma, firearms will be changed and how. I was also curious how the pandemic would impact**

**this work and also how the pandemic is affecting veteran suicide as this was not included.** Response: We appreciate these comments and have addressed these comments in the document with additional Veteran specific research review on mass communication and help seeking behaviors. We have also provided information on the preliminary issues affecting Veterans and others from the pandemic for example the increased purchases of firearm and alcohol during the pandemic.

#### **Engagement:**

**Strengths: The make up and experience of the project team is outstanding. They make up the key advocacy and service organizations as well as the priority population. With the addition of the collaborators, the broader team sit at all the right tables, task forces, work groups and overall places where decisions can be made. Engages a statewide suicide prevention plan among the veterans with a collaboration between MCW, Marquette and UW. The team is well versed with experience and expertise. The project had a strong veteran presence, strong presence of people knowledgeable about suicide from an injury and violence lens, as well as psychiatry and communications.**

Response: Thank you – we are proud of this team and excited about the energy they express to participate in such a project.

#### **Weaknesses**

**Although most of the team and their partners represent the priority population, it could strengthen the application to consider an advisory committee to the project that is representative of the rural and urban experiences of WI Veterans.** Response: Agree and we have addressed this in the application.

**Time frame needs to be clearer.** Response: We have detailed the plan more clearly in the project plan.

**I think the power section could better reflect how this campaign will center veterans and their power in addition to decision-makers and legislators. For example, many of the best practices of suicide and firearms run counter to the narratives of firearms and suicide. How will this project address this?** Response: We have addressed this by indicating how we will be developing a Veteran focused message and be sure to have a messenger that will be able to connect with Veterans. We also discuss how we need to change the dialog in relation to firearms, veterans and suicide and how veterans can have a powerful voice to this issue to fellow veterans, active military and the general population.

#### **Action:**

**Strengths: As previously stated, the project team and partnership include the key stakeholders who can both influence policy and practice as well as disseminate. The team has also aligned their efforts with national, state and local goals related to Veteran suicide. 1. clear hypothesis, objectives and the plan 2. clear study phases 3. robust collaboration from an academic perspective, the dissemination plan seems strong. I liked the inclusion of many veteran-focused organizations.**

**Weaknesses: Study outcomes need to be precise** Response: Agree, we spent significant time to improve outcome details and the outcome expectations.

**There are other entities working in injury and violence prevention, and the communication of those efforts along a variety of IVP and non-IVP audiences that could benefit from this work and learning about it. Additionally, I am curious if any of the work that Frameworks Institute will be referenced or consulted.** Response: We consulted our UWM Marketing faculty and Dr. Karras-Pilato to confirm that using the CDC frameworks and social marketing materials are evidence based and appropriate for developing the message and the analysis of the effectiveness of the message and do not plan to consult the Frameworks Institute.

#### **Additional Feedback (optional)**

**Suggest precise study outcome measures (in addition to what is being proposed. For e.g., consider online surveys/questionnaires [pre and post intervention]).** Response: We agree that more precise outcome measures are necessary as well as incorporating online pre and post surveys. We have addressed these concerns in the document.

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