



Vet to Vet Maine: A Pilot Study Measuring Effectiveness of a Veteran Companion Program in Reducing Social Isolation and Loneliness

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RESEARCH



ABSTRACT

Maine veterans represent 11.8% of Maine's population, twice that of the United States. Veterans are at risk for social isolation, loneliness, and suicide. This pilot study assessed (a) the Vet to Vet (Vet2Vet) Maine program mission to reduce veterans' social isolation and loneliness; and (b) effects of the program on care-partners. Mixed-methods research spanned 6-months from 2019–2020. Trained older Veteran Volunteers-VV (eight men/two women) were paired with older Veteran Friends-VF (eight men/two women); also Veteran Friend's Care-Partners-CP (one man/three women) participated. VVs completed pre/post Veteran Rand 12-Item Health Survey (VR-12) and Patient Health Questionnaire-9 (PHQ-9). VFs completed pre/post VR-12, PHQ-9, and Late Onset Stress Symptomatology (LOSS) Short-Form. CPs completed pre/post Zarit Burden Interview-22. After 6-months, VV and VF qualitative interviews were conducted in pairs; CPs were interviewed individually. Data (pre/post assessments) were analyzed with the Wilcoxon-Sign-Test and NVivo 12+ Qualitative Software. Pre/post data failed to exhibit significance ($p = .05$); however, trends supported mental/physical health scores improvements for VFs. COVID-19 was a confounding variable as state stay-at-home orders occurred at the study mid-point. Four qualitative themes were selected: (a) Veteran Volunteers and Veteran Friends; (b) Effects of COVID; (c) Care-Partners; and (d) Three-Words. Despite differences in interests or military background, VV and VFs valued their commonality as veterans. CPs confirmed the importance and benefits of these relationships. All requested an expansion of the program as it was deemed highly valuable. The Vet to Vet Maine companion program pilot research successfully paired veterans fostering companionship, friendships, mentoring, assisting with benefits, and supporting independence.

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INTRODUCTION

This study pilots an effort to evaluate the Vet to Vet Maine companion program effectiveness in reducing social isolation and feelings of loneliness, especially for Veteran Friends, those veterans wanting companionship, as well as Veteran Volunteers. An added component to this study is the inclusion of Veteran Friends' Care Partners to determine if the Vet to Vet Maine companion program provided any positive effects for them.

Social isolation and loneliness have long been recognized as significant factors of well-being particularly for older adults (Kuwert et al., 2019). Human beings are social by nature, and high-quality social relationships are vital for health and well-being. Like many other social determinants of health, social isolation (i.e., an objective lack of social contact with others) and loneliness (i.e., the subjective feeling of being isolated) are significant yet underappreciated public health risks (Cacioppo & Patrick, 2008). Social isolation and loneliness are associated with poor physical and mental health outcomes including higher rates of mortality, depression, and cognitive decline (National Academies of Sciences, Engineering, and Medicine [NASEM], 2020).

A narrative review of studies on military veterans' loneliness and social isolation conducted by Wilson et al. (2018) pointed out that individuals experience loneliness in highly individualized ways. While seeking companionship, individuals often have particular preferences about the demographic and socioeconomic characteristics they desired in a companion (Cohen-Mansfield & Eisner, 2020). Loneliness emphasizes the fact that social species require not simply the presence of others but also the presence of *significant* others whom they can trust, who give them a goal in life, with whom they can plan, interact, and work together to survive and prosper (Cacioppo & Patrick, 2008). Moreover, merely the physical presence of significant others in one's social environment is not a sufficient condition; one needs to feel *connected* to significant others to not feel lonely.

The aforementioned studies provide insight into the importance and design of the Vet to Vet Maine program. Military veterans represent 11.8% of the population of Maine, nearly twice that of the United States (US). As the oldest state, Maine has a high percentage (50.69%) of veterans over the age of 65 (US Census, 2017). The costs of social isolation and/or loneliness for 14% of the Americans who completed the joint National Institute on Aging and Social Security Administration survey have been estimated to add nearly \$7 billion to federal health care expenditures. These costs do not include the emotional and social costs to affected families and

individuals (Cudjoe et al., 2020). An increasing number of veteran-focused research studies point to the Veterans Administration (VA) health provider awareness of the relationship between age, isolation and loneliness, and the need for mental and physical health services (Cacioppo et al., 2008; Bass et al., 2012; Kuwert et al., 2014; Wilson et al., 2018). There is variability of affect with individual responses to different intervention strategies in addressing isolation and loneliness.

A VA study (Greden et al., 2010) tested the effectiveness of using trained Army National Guard veterans as outreach coordinators in a Buddy-to-Buddy program (Stanford Medical School, 2014). This program, designed to improve Gulf War veterans' participation in mental treatment, adherence, and clinical outcomes, was shown to reduce the risk of suicide through improved treatment and adherence to modalities. Age Scotland, a community-driven volunteer effort, addressed the needs and interests of veterans aged 65 and older and their families by training communities in veteran awareness; providing resources, encouraging activities for veterans; and supporting family caregivers (Age Scotland, 2020). Maine has a notable number of veteran-focused programs providing opportunities for improving veterans' quality of life through social activities, therapy programs, homeless supports, companions, etc. The efficacy of many of these programs remains to be determined. It appears that multifactorial interventions that emphasize bolstering of social support and reduction of depressive symptoms may help mitigate loneliness in the population of older veterans (Kuwert et al., 2014). However, as the National Academies experts point out, little scientific evidence exists concerning the results of social prescribing interventions on social isolation and loneliness (NASEM, 2020).

VET TO VET MAINE PROGRAM

Vet2Vet Maine (aka Vet to Vet) is unique in its formality as a veteran-to-veteran companion program. This is accomplished through an intentional partnering of trained volunteer veterans with veterans seeking veteran companionship. Vet to Vet currently serves veterans in York and Cumberland Counties and has been in existence since 2014, first funded in part by the Southern Maine Area Agency on Aging. It was incorporated by the state of Maine as an independent organization in June 2018 and was recognized as a 501(c)(3) non-profit entity in March 2019. The mission of Vet to Vet is to connect veteran volunteers with fellow veterans to provide companionship, offer assistance with benefits, support independent living, and to foster friendships and mentoring between paired veterans.

METHODS

This 6-month evaluation project spanning 2019–2020 was conducted with a mixed-methods research design—quantitative pre/post assessment measures and qualitative interviews. It was approved by the University of New England Institutional Review Board.

The volunteer participants [$n = 24$] in this project were veterans ages 45–96 ($n = 20$); ten were Veteran Volunteers (VV) and 10 were Veteran Friends (VF); along with four Care Partners. The cohort included 17 men and seven women. Trained Veteran Volunteers (eight men/two women) were paired with Veteran Friends (eight men/two women); four of the Veteran Friends indicated Care Partners (one man/three women). Recruitment of the VVs was conducted by the Vet to Vet executive director. They then participated in Veteran Volunteer training. Pairing with the Veteran Friends occurred over the next 2 months with each Veteran Friend paired with a Veteran Volunteer. The pairs of veterans were asked to participate in the study; all agreed. The Care Partners also agreed. The VV and VF participant inclusion criteria required (a) that they were veterans who served in active, reserves, and/or guard of the armed forces of the United States; they were enrolled in the Vet to Vet program on or before August 2019; (c) they exhibited good cognition per the intake process when vetted by the Vet to Vet Social Work staff; and (d) the VFs had a “home” space where the visits could take place.

PART I: QUANTITATIVE METHODS

The hypothesis for this study was that the Vet to Vet Maine companion program creates positive outcomes in physical and mental health assessments for Veteran Volunteers, Veteran Friends, and the Care Partners.

Each VV, VF, and CP completed the demographic sheet. Standard assessments for the VVs included the Veteran Rand 12-Item Health Survey [VR-12] (Schalet et al., 2015; Selim et al., 2006; Selim et al., 2009; Spiro et al., 2004; Kazis et al., 2006) and the Patient Health Questionnaire 9-Item assessment ([PHQ-9] (Kroenke et al., 2001). The VR-12 is used to determine how veterans are doing in terms of their mental health and physical health. The PHQ-9 is used as a depression assessment.

Each VF completed the VR-12, PHQ-9, and the Late Onset Stress Symptomatology (LOSS) Short Form (Potter et al., 2013; Brady et al., 2018). LOSS is used to assess combat-related issues such as PTSD.

Care Partners (CP) of the VFs completed the Zarit Burden Interview 22-Item assessment [ZBI-22] (Bachner et al., 2007; Bédard et al., 2001; Cummings et al., 2002; Hagell et al., 2017; Higginson et al., 2010). The ZBI-22 is used to assess experiences with burden in caregivers.

After 6-months, each assessment was completed again for the post assessment phase of the study. Since the VV and VF pairs as well as the Care Partners were paired over a 2-month period (October–November); the post-assessments were staggered over the same time period (May–June) to ensure each participant was in the program at least 6 months.

Quantitative Data Analysis

Each assessment was scored according to the scoring protocols. The VR-12 was scored with an online tool to calculate the Physical Component Score (PCS) and Mental Component Score (MCS) for each pre/post assessment completed by the VVs and VFs.¹ The PHQ-9 scoring rubric was accomplished by adding each column of numbers and then adding each column to attain the final score. LOSS scoring was accomplished by tallying the numbers in each of the five columns (0–4) of the 11-item assessment and adding the total. The LOSS assessment was only completed by the VFs applying the pre/post assessment method. ZBI-22 scores were determined by adding the circled numbers (0–4) for each of the 22-items. Once totals of pre/post data were completed, data were then analyzed with the Wilcoxon Rank Sign Test (IBM Corp, 2019; Chan, 2003).

PART II: QUALITATIVE METHODS

The assumptions for this study included that the Vet to Vet Maine companion program would: (a) have a positive effect on the lives of the VFs as expressed by them and/or their CPs; (b) have a positive effect on the lives of the VVs by serving another veteran; and (c) foster the comradery of veterans through the VV and VF pairing regardless of age, type of military background, or whether they were combat veterans or not.

Once a VV/VF had been meeting for at least 6 months, a semi-structured interview was scheduled at the convenience of the VV/VF pairs. Due to COVID-19, the interview plan was adapted to take place by conference call with the VVs/VFs and a direct call with the CPs. The i-Phone app “Tape a Call Pro” (Epic Enterprises LLC, 2019) was used to record each conversation. In addition, as a backup, each call was also audiotaped. Each interview was planned for 30 minutes. Each interview was transcribed through the Tape a Call Pro Artificial Intelligence (AI) app. The second author conducted a comparison of each AI transcript with the back-up audiotape and corrections were made in all transcripts.

Qualitative Data Analysis

Qualitative data were analyzed for emergent themes first manually and then with NVivo 12 Plus Software (QSR International, 2020). Edited transcripts ($n = 15$) were

read through by two researchers for preliminary theme identification. These outcomes were compared between the researchers for congruence. The two qualitative researchers created a codebook that described each theme with a concrete definition and an example quote from the data (Creswell, 2014). Themes and example quotes were agreed upon through discussion. A separate step-by-step deductive formulation of content presented in the interview transcripts were coded by each qualitative researcher applying the codebook as a guide. Some quotes were double-coded or assigned into two different themes (Denzin & Lincoln, 2005; Mayring, 2000). Revision of themes and associated content continued in an iterative process to ensure continued interrater reliability (Maxwell, 1992; Smith & Deemer, 2000) through formative and summative checks, such as reflection and conversations between the qualitative researchers (Denzin & Lincoln, 2005; Mayring, 2000). Additional Boolean, String, Text and Word Frequency searches were conducted.

RESULTS

The VVs ranged in age from 45 to 74 and consisted of eight men and two women. Branches of service included Army ($n = 5$), Air Force ($n = 1$), and Navy ($n = 4$). Education levels included two high school graduates, two with a technical degree or some college, two with bachelor's degrees, two with master's degrees, and one with a doctoral degree. VFs ranged in age from 64 to 96; eight men and two women. Branch of service included Army ($n = 5$), Marines ($n = 2$), and Navy ($n = 3$). Education levels included four high school graduates, three with technical degrees or some college, one with a bachelor's degree, and two with master's degrees. **Table 1** presents the quantitative and qualitative data collection totals.

PART I: QUANTITATIVE RESULTS

In the quantitative results below, we applied $p < 0.05$ to determine if the outcome was statistically significant; meaning, if the result from the data analysis was likely to be

attributable to a specific cause. There were no quantitative outcomes that met this threshold for significance.

Veteran Rand Health Survey-12

The VR-12 results were summarized as two scores—a Mental Component Score (MCS) and a Physical Component Score (PCS). The US population average PCS and MCS are each 50 points. Veteran Volunteer (VV) scores were presented first followed by the Veteran Friend (VF) scores.

VVs Physical Component Score (PCS)

The scores ranged from a high of 63.3 to a low of 23.9 in the pre-assessment and from a high of 63.4 to a low of 29.3 in the post-assessment scores. Scores above 50 in the VR-12 PCS indicate higher physical function and scores below 50 indicate decreased physical function. Pre-assessment scores revealed that 40% ($n = 4$) of the VVs were below the average in the PCS. At post-assessment, 50% ($n = 5$) were below the average in the PCS. Regardless of whether they were above or below average, 90% ($n = 9$) of the VVs increased their physical component score indicating that during the 6 months of participating in the Vet to Vet Program physical function had increased. Although the p value was not statistically significant at the $p < 0.05$, it was close ($P = 0.06$). Overall, results show an increase in post-mean scores (51.11) compare to pre-mean scores (48.25) and therefore indicate an increase in physical function for VVs.

VVs Mental Component Scores (MCS)

The scores ranged from a high of 46.8 to a low of 34.8 in the pre-assessment and from a high of 45.2 to a low of 34.8 in the post-assessment scores. Numbers below 50 indicate less mental stress; scores above 50 indicate increased mental stress. The range of scores indicate that 100% ($n = 10$) of the VVs were below the average in the MCS across the 6 months of the Vet to Vet study. From pre assessment to post assessment, 20% ($n = 2$) had increases in the mental component score while 60% ($n = 6$) had decreases in the MCS and 20% ($n = 2$) remained the same. This indicated that over the 6 months from pre- to post-assessment completion, 60% (6 out of 10) of the VVs exhibited a reduction in mental

PARTICIPANTS	DEMOGRAPHIC SHEET	VR-12	PHQ-9	LOSS	ZARIT BURDEN	PHONE INTERVIEWS
VV ($n = 10$)	10	10	10	N/A	N/A	9**
VF ($n = 10$)	10	10	10	8*	N/A	9**
CP ($n = 4$)	4	N/A	N/A	N/A	4	4

Table 1 Pre/Post Assessments and Interviews.

Note: * ~ 2 VFs had incomplete forms that couldn't be used.

** ~ 8 VV/VF pairs were interviewed; 1 VV & 1 VF were interviewed separately (1 VV/VF pair aborted).

stress. Overall results exhibited a decrease in post-mean scores (41.63) compared to pre-mean scores (42.02). Although, a decrease in mental stress for VVs was indicated, it was not statistically significant ($p = 0.44$). See **Table 2** for the Veteran Volunteers PCS and MCS data.

VFs Physical Component Score (PCS)

The range of scores in this component were lower than the volunteer scores (i.e., VFs had less physical function). PCS ranged from a high of 35.8 to low of 24.7 in the pre-assessment and from a high of 41.9 to a low of 18.9 in the post-assessment scores. Scores above 50 in the VR-12 PCS indicate higher physical function and scores below 50 indicate decreased physical function. The pre-assessment scores indicated that 100% ($n = 10$) were below the average in the PCS. However, from pre-assessment to post assessment, 40% ($n = 4$) had increases in the physical component score. It is interesting to note that one VF had a 12-point increase (30 to 42) while another VF had a 17-point decrease (36 to 19). From pre to post-assessment completion, results exhibited a near tie in post-mean scores (29.67) compared to pre-mean scores (29.71) indicating that over the 6 months of participating in the Vet to Vet program, physical function for the 10 VFs changed little as a cohort and was not statistically significant ($p = 0.96$).

VFs Mental Component Scores (MCS)

The range of scores exhibited higher mental stress for the cohort of VFs than VVs. MCS ranged from a high of 53.3 to low of 29.2 in the pre-assessment and from a high of 50.3 to a low of 23.1 in the post-assessment scores. Numbers below 50 indicate less mental stress while scores above 50 indicate higher levels of mental stress. The range of scores for the pre-assessment in our study indicate that 90% ($n = 9$) were below the average in the MCS (experiencing lower than average mental stress). From pre-assessment to post-assessment, 60% ($n = 6$) of the VFs had decreases in the MCS (range of 2–11 points lower) and 40% ($n = 4$) had

increases in the mental component score (range 3–9 points higher), indicating that over the 6 months of the Vet to Vet evaluation study, 60% of the VFs exhibited a reduction in mental stress. However, from pre to post-assessment completion, cohort results exhibited approximately a 1-point decrease in post-mean scores (37.26) compared to pre-mean scores (38.31). Overall, there was a slight decrease in VFs' mental stress scores, which was not statistically significant ($p = 0.80$) from the start to the end of the study. See **Table 3** for the Veteran Friends PCS and MCS data.

Patient Health Questionnaire (PHQ-9)

Scores of 5, 10, 15, and 20 reveal mild, moderate, moderately severe, and severe depression respectively.

Veteran Volunteers

Pre-assessment scores ranged from a high of 11 to a low of 0 and the post-assessment scores ranged from a high of 6 to a low of 0. The higher the score the more depression; a zero (0) indicates no depression. In the pre-assessment, four VVs (40%) scored a 0; in the post-assessment, three VVs (30%) scored a 0. These three VVs increased by 1 point from the pre to the post-assessment. Two VVs (20%) had pre-assessment scores that placed them in the Moderate Depression range (10–14 pts), however the post-assessment scores revealed that one of these VVs decreased the score by 5 points (11 down to 6 points) shifting to the Mild Depression range; and the other VV decreased the score by 6 points (10 down to 4 points) shifting to the Minimal Depression range. At post-assessment, accounting for the score decreases in 40% of the VVs, 30% ($n = 3$) were in the No Depression range, 60% ($n = 6$) were in the Minimal Depression range, and 10% ($n = 1$) remained in the Mild Depression range even after a slight increase in the depression score. From pre to post assessment, results exhibited approximately a 1-point decrease in post-mean scores (2.2) compared to pre-mean

<i>n = 10</i>	PRE MEAN	POST MEAN	# POST < PRE	# POST > PRE	# POST = PRE	Z VALUE	P VALUE (2-TAILED)
VR-12 Physical	48.25	51.11	1	9	0	–1.89	.06
VR-12 Mental	42.02	41.63	6	2	2	–.77	.44

Table 2 VR-12: Veteran Volunteer (VVs) Results.

<i>n = 10</i>	PRE MEAN	POST MEAN	# POST < PRE	# POST > PRE	# POST = PRE	Z VALUE	P VALUE (2-TAILED)
VR-12 Physical	29.71	29.67	6	4	0	–.05	.96
VR-12 Mental	38.31	37.26	6	4	0	–.26	.80

Table 3 VR-12: Veteran Friends (VFs) Results.

scores (3.0). Overall there was a reduction in depression scores; however, these were not statistically significant ($p = 0.61$). See [Table 4](#) for the Veteran Volunteers PHQ-9 Results.

Veteran Friends

The pre-assessment scores ranged from a high of 13 to a low of 3 and the post-assessment scores ranged from a high of 26 to a low of 1. The higher the score the more depression. In a comparison from the pre-assessment to the post-assessment, 50% ($n = 5$) of VFs scored between 5–9 points (mild depression) and in the post-assessment, 30% ($n = 3$) scored between 5–9 points. This decrease failed to represent a decrease in overall scores for depression as 70% of VFs ($n = 7$) exhibited increases (3 remained in the Minimal/Mild Depression range) in their PHQ-9 scores. However, 50% of these participants ($n = 5$) moved into the moderate to more severe depression categories indicating worsening depression. A change worth noting was one VF who scored 11 (Moderate Depression) on the pre-assessment and had a 15-point increase to 26 points in the post-assessment indicating severe depression. From pre to post-assessment completion, results exhibited a 3.2-point increase in post-mean scores (10.4) compared to pre-mean scores (7.2). Although three VFs had minor decreases in their scores (less depression), overall, there was an increase in depression scores. These changes were not statistically significant ($p = 0.10$). See [Table 4](#) for the Veteran Volunteers and Veteran Friends PHQ-9 data.

Late-Onset Stress Symptomatology (LOSS)

Only Veteran Friends were asked to complete the LOSS scale. In this scale, the lower the score the fewer combat-related issues. The range for each item in this 11-question assessment is 0 (strongly disagree), 1 (disagree), 2 (neither agree nor disagree), 3 (agree), and 4 (strongly agree). A total score is determined by adding the numbers circled in each column. The score range is 0–44 with 0 indicating no late onset stress symptomatology to a high score of 44 indicating a high degree of late onset stress symptomatology. PTSD is presumed if the veteran scores

a three (Agree) or higher in any item or gets a score of 23-plus. A score of 22 is considered as neutral. However, for each LOSS assessment it was important to review each item answer.

The VFs LOSS pre-assessment scores ranged from a high of 23 to a low of 0 and the post-assessment scores ranged from a high of 28 to a low of 0 for the VFs who completed this assessment ($n = 8$). Three of the VFs (37.5%) decreased their post-assessment scores compared to pre-assessment scores lessening the indication of PTSD, while three VFs (37.5%) had an increase in their scores revealing a higher indication of PTSD. The two remaining VFs (25%) had no changes in their pre to post scores. The most noticeable differences were in two VFs: one who scored 23 on the pre-assessment and had a 5-point increase to 28 points on the post-assessment. The other scored a 15 on the pre-assessment and had 6-point increase to 21 points indicating an increase in combat-related thoughts, feelings, and reminiscences corresponding with the changes and challenges of aging. The overall mean score for pre-assessment scores was 11.63 and the post-assessment scores was 11.25 indicating a minimal decrease in LOSS score that did not meet statistical significance ($p = 0.75$). See [Table 5](#) for the Veteran Friends LOSS data.

Zarit Burden Interview (ZBI-22)

Only Care Partners were asked to complete the ZBI-22, which consists of 22 items with five ordered frequency-related response categories: 0 (never); 1 (rarely); 2 (sometimes); 3 (quite frequently); and 4 (nearly always), except the final item has five ordered intensity-related response categories (0 = not at all; 4 = extremely). All 22 items are used to calculate a total score that can range between 0 and 88 (88 = more burden). A total score of 21 has been indicated as a burden cut-point—scores higher than 21 are indicative of feeling burdened.

ZBI-22 scores for the pre-assessment ranged from a high of 46 to a low of 20 and for the post-assessment scores ranged from a high of 47 to a low of 15; all CPs completed this assessment ($n = 4$). Two CPs had Burden scores

VV: $n = 10$ VF: $n = 10$	PRE MEAN	# POST MEAN	# POST < PRE	# POST > PRE	POST = PRE	Z VALUE	P VALUE (2-TAILED)
VVs PHQ-9	3.00	2.20	4	3	3	-.51	.61
VFs PHQ-9	7.20	10.40	3	7	0	-1.64	.10

Table 4 PHQ-9: Veteran Volunteers (VVs) and Veteran Friends (VFs) Results.

$n = 8^*$	PRE MEAN	POST MEAN	# POST < PRE	# POST > PRE	# POST = PRE	Z VALUE	P VALUE (2-TAILED)
LOSS	11.63	11.25	3	3	2	-.31	.75

Table 5 LOSS: Veteran Friends (VFs) Results.

Note: * ~ Two VFs didn't have useable LOSS scores.

decrease (5 points and 3 points) from pre-assessment to post-assessment. However, the CP who's score decreased by 5 points remained in the "Little or No Burden" category; the CP who's score decreased by 3 points shifted from the "Mild to Moderate Burden" to the "Little or No Burden" category. For the two CPs that had increased Burden scores (1 point and 5 points), the CP with a 1-point increase remained in the "Moderate to Severe Burden" category; the other advanced from the "Little or No Burden" to the "Mild to Moderate Burden" category. The post-assessment mean score was 26.25 while the pre-assessment mean score was 26.75 showing an overall slight decrease in burden levels for CPs. Again, due to low participant numbers and approximately equal means pre to post-assessment this data did not meet significance of $p = 0.05$ ($p = 0.85$). See **Table 6** for the Care Partners ZBI-22 data.

PART II: QUALITATIVE RESULTS

Fifteen interviews were conducted. Eight interviews were with pairs of VVs and their VFs; four interviews were with CPs of VFs; one interview was with a VV; and one interview was with a VF. These last two interviews were conducted separately because the pair was formed and they spoke on the phone a few times, but the relationship didn't progress. One VV and VF pair met once and didn't continue the relationship for various reasons; neither person in this pair was interviewed.

Although there were eight main themes identified in the analysis four themes were not included in this article.² However, all outcomes were included in the 60-page Vet to Vet Program Evaluation final report presented to the Vet to Vet Board of Directors. The content in these themes provided feedback specific to this program that were not directly relevant to the veterans or care partners. Nevertheless, the four themes selected for these results due to the global application of the content included: (a) Veteran Volunteers and Veteran Friends; (b) Effects of COVID-19; (c) Care Partners; and (d) Three Words. Representative quotes that reflected the key points within each theme were included. See **Table 7** for an excerpt of the main themes and subthemes with associated coding statistics.

Theme 1: Veteran Volunteers (VV) and Veteran Friends (VF)

Three sub-themes provided specific data on the Companion program: (a) Heard about Vet to Vet; (b) Relationship

Building; and (c) Care Partner Perception of Benefit for Loved One. Each is developed below.

Heard About Vet to Vet

VVs and VFs heard about the Vet to Vet companion program from medical offices including Martin's Point Veteran Health Care Provider; friends/fellow vets; veteran services; Southern Maine Agency on Aging; Veterans Administration; Veterans Adaptive Sports & Training (VAST) staff; Veteran Centers; Veteran Organizations; and Diane Atwood who does interviews with older adults and publishes them online. Several of the VVs had prior experience with Vet to Vet. Veterans also stated that getting into the Vet to Vet program was straight forward and easy to join. The brief quotations illustrate the importance of these pairings for the Veteran Volunteer (VV), Veteran Friend (VF), and the Veteran Friend's Care Partners (CP).

"I found out [about Vet to Vet] through one of the state veteran meetings. They [*sic*] were a number of organizations at this meeting and someone mention it; I thought it was a great idea." (VV)

"A buddy of mine told me that he heard about a Vet to Vet program and I said okay. It didn't really register with me at the beginning. He said it is vets helping vets. And I said 'Well that's cool...What do I have to do? Bring my DD 214, or what?' He said no, 'All you got [*sic*] to do is just fill out some paperwork, send it in and you'll be a member.' And I said 'anything for vets I'm interested.'" (VF)

Relationship Building

Relationship building was initiated through a formal process. Vet to Vet Maine staff reviewed information provided by the trained volunteers and conducted in-person interviews with potential VFs. The Vet to Vet staff considered various factors when pairing a VV with a VF. Matches were sometimes discussed with and approved by the VV or the anticipated VF prior to match assignment. In all cases, both the VV and the VF were given contact information for Vet to Vet staff and urged to call if the match didn't feel right for whatever reason. Each VV received a brief bio on the assigned VF that included information about military service, family, hobbies, education, medical conditions, and date of birth. Along with the bio, the VV also was provided with the VF's contact information, an emergency contact's name and phone number, and information about a care partner, if any. The VFs were notified of the VV's name and branch of service and informed that the VV would call to

<i>n</i> = 4	PRE MEAN	POST MEAN	# POST < PRE	# POST > PRE	# POST = PRE	Z VALUE	P VALUE (2-TAILED)
Zarit Values	26.75	26.25	2	2	0	-.18	.85

Table 6 ZBI-22: Care Partners (CPs) Results.

THEMES & SUB-THEMES	# OF FILES	# OF REFERENCES
Vet Volunteers and Veteran Friends		
Heard about V2V	10	28
Relationship-First Met	10	23
Age Related Quotes	8	12
Differences	1	4
Meeting Schedule(s)	8	11
Past History with VV or VF	2	3
Significance of Meetings-Pairing	8	35
Care Partner Perception of Benefit for Loved One	4	19
General Conversations	2	2
Skill Development	1	1
Vet Related Conversations	6	22
Similarities	6	15
Visits or Activities for VV & VF	9	31
COVID		
Care Partner Thoughts on COVID	4	13
Challenges as a result of COVID	7	25
Changes in Visits-Connection	8	26
Positives of COVID on VV and/or VF	10	14
Training - Experiences & Thoughts	9	17
Care Partners		
CP Experiences of V2V	4	27
CP Feedback on V2V	4	22
Heard about V2V	4	7
Loved One's Military or Job Hx	3	12
Stories about Loved One's Health	4	9
Visits-V2V	4	6
3 Words (for Vet2Vet Companion Program)		
CP 3 Words	3	6
VF 3 Words	8	10
VV 3 Words	9	9

Table 7 Theme List/Files/References.

introduce themselves. The VV contacted their assigned VF to initiate the process of relationship building. Following the first meeting, the VV was asked to contact Vet to Vet staff to report on how it went. It was revealed through the interviews that the VF doesn't receive a brief bio on the VV they are matched with.

The sub-theme of Relationship Building included six focal areas: (a) Getting Started; (b) Meeting Schedule;

(c) Similarities; (d) Age Differences; (e) Visits; and (f) Significance of the Relationship.

Getting Started

Typically, the VV initiated contact by phone to set up a face-to-face meeting with their VF. VVs met VFs in their personal setting: hospital, home, or nursing home. There is an assumption that the basic information that the VV

receives about their assigned VF will provide a common ground for the relationship. However, this bio doesn't necessarily provide insight to the personality of the VF or how the relationship will work. Each pair provided a unique relationship-building situation from the perspective of personality, background, and past civilian and military experiences. With the exception of one study pair, who stated they had a prior friendship and were then paired, this minimized the Vet to Vet connection process. The other veteran pairs did not know one another prior to the study; the challenges of meeting for the first time and establishing a friend-to-friend connection takes time. In all cases the pairs pointed to being "fellow veterans" as the essential foundation of their getting started to build a relationship.

"Yeah. We kind of sat there and kind of felt one another out a little bit. We sat down and talked. We're fellow vets. That's all you need, we're vets." (VV)

"Because we're veterans—It's a special breed." (VF)

Meeting Schedule

The meeting schedules were negotiated mutually between the VV and VF. However, in some cases the CP was included in determining the meeting schedule. Some factors that needed to be considered were the VV's availability due to employment, VFs schedules with medical appointments or needs regarding disabilities, and personal desires to see one another. Most teams set up regular meetings, some that involved attending regularly scheduled veteran services.

"I went to see my VF every other week. And we'd sit for at least an hour sometimes two hours and just talk, and just to get to know one another. We would email back and forth, check in to determine a time that was convenient for both of us to meet." (VV)

"I tried to reach out to my VF. Of course, he doesn't drive and so I've been over to his trailer multiple times. Usually every two weeks. I kind of reached out to him." (VV)

Similarities

There were a number of factors that contributed to relationship building and the nature of the visits. Veteran pairs explored their similarities in military service, personal backgrounds, hobbies, and interests. Invariably they found ways to connect to build their relationship over time together. Ultimately, the foundation for all pairs was, as one VF said, "Mostly, it's just his service, being fellow veterans."

"My VF [*sic*] and I are both artists, so we have that and we are both Italian. So that's good as well. And [there is] a very big interest in food for both of us. So lunch seems to be a really good activity for both of us." (VV)

"Yeah, that's the only problem we've got: he's a subby and I'm a marine. You've gotta ton of water on top of you! [Laughter]. Mostly it's just his service, being fellow veterans is enough." (VV)

Age Differences

There is a significant range of ages across and within the pairs of VVs and VFs. Two pairs are close in age; four pairs have 10 years age difference; and two pairs have 30 years age difference. For the study pairs, mutual respect appeared to rise above any differences in age.

"Oh he's 10 years older than me, So we're pretty close." (VV)

"There's no such thing as age when it comes to being a vet. It doesn't matter if you were stateside or in the war or onboard ship, or up in the sky. It doesn't matter. You're a vet. You were willing to put your life on the line for your country." (VF)

Visits

The nature of the visits, what the pairs did, was initiated by the VVs consideration of what was learned about their VF's interests, hobbies, and abilities. There was a wide range of activities undertaken by the pairs.

"We enjoy bowling together and went to Walmart, sittin' on our duffs watching the world go by, drinking coffee. We met once a week, usually for about an hour. Then they [Vet to Vet] came up with those gift cards for coffee and we started using those things up. I talked him into going bowling and we tried that." (VV)

Significance

The answer to the ultimate study question—Does Vet to Vet make a significant difference in veterans' sense of isolation or loneliness—rested on the nature of the relationship that each VV/VF pair created. Study participants, whether volunteers or friends, answered the question affirmatively in different ways. Veteran Volunteers entered the program to help a fellow veteran, and found they gained a friend. The Friends entered the program with less clarity of their goal but found a significant friend as well.

"I know it's meant a lot to me, being the beneficiary. I've gotten quite a lot from sharing experiences with my VV and having a connection with another veteran." (VF)

"That was fantastic. It was companionship. And you know, I learned things from my VF. My VF is smart and you know we...just enjoyed each other's company." (VV)

"You know I rely on my VV...who's just that kind of person and is very patient with me. I have PTSD and I'm not so great about going out but my VV nearly always manages to get me out for something. So I really appreciate that." (VF)

Care Partner Perception of Benefit for Loved One

Care Partners (CP) of Veteran Friends (VF) were providing support to their loved one due to significant health issues that affected declining physical function, cognitive function, and in some cases, both. Of the four care partners, only three were connected to loved ones who continued the study for 6 months. These three care partners were female spouses. When asked their perception of the benefits of the program for their loved ones' they affirmed the positive comments. Their personal perceptions of the impact of the program on their spouses provided elegant insights into the impact of the program, which the veterans, themselves, did not voice and may not have been aware.

"Oh, he really enjoyed it. It was like, "Oh, I've got somebody to talk to. I've got a man." You know that they could swap stories about the military or whatever. So, he really enjoyed it. ...sometimes it changes his mood. His mood can be better because he kind of feels like he has an out...it's not just me and him all the time, because that can get pretty intense sometimes because he thinks I needle him. Which sometimes I do." (CP)

"For him to have...a connection with someone. It's a consistent connection with someone. ...we knew this would be a very consistent thing. The fact that it would be a vet was really alluring to him in particular. He really enjoys him. He likes his VV a lot. And I haven't heard him specifically say, "Boy this makes a difference"—but I think it makes him, on some level, feel more manly... His VV is a new connection and when I hear them talk on the phone my husband sounds more...he just sounds stronger within himself...I've noticed that he sounds different when he talks to his VV, there's something stronger within himself, seems to articulate better [with the VV] than with most people." (CP)

In summary, Theme 1 presented the various components of the Vet to Vet Companion program, from how veterans were introduced to and got involved in the program to the benefits the care partners observed in their veteran loved one due to participating in the program. Of note, neither age nor military differences were factors in becoming involved. Being a veteran and sharing that common foundation with another veteran was enough to entice veterans to join the Vet to Vet program and establish a relationship/comradeship.

Theme 2: Effect of COVID-19

The Coronavirus/COVID-19 (COVID), an acute respiratory illness capable of producing severe symptoms and possibly death (especially in older people and those with underlying health conditions), was the impetus for the social distancing safety measures that were imposed mid-study. Since veterans are susceptible to stress, depression, and post-

traumatic stress disorder, the COVID distancing guidelines were a catalyst for intensifying these feelings as well as contributing to isolation and feelings of loneliness. March 2020 began the Maine CDC Phase I COVID policy. Vet to Vet Maine instituted CDC visitation policies which required social distancing and the use of face masks. Due to the staggered timing of volunteer/friend teams entering the evaluation study, pairs were affected variously by the state shut down policy, limiting the schedule and nature of their visits. For all companion pairs, COVID limited the number of hours of in-person visits which was sensed as a loss for both volunteers and friends. Three veteran pairs lost 2 months, five pairs lost 3 months, and two pairs lost 4 months of in-person visits. VVs were mindful of the vulnerability of their VFs and made special efforts to maintain connection; however, in some instances the volunteer's personal situation was a limitation. When asked about alternatives to visits (e.g., email, FaceTime, Zoom) most veteran pairs opted for phone calls, and were least likely to use social media technology. Even with dedicated volunteers making creative effort to maintain connection and support, all veterans felt the loss of the connection. One CP summed up the wish of everyone, "Let's just get this COVID thing done, so that they can get back to what would be normal."

"There was a lot of stuff going on. It was fine when we were seeing each other, but I am not one for yakking on the phone." (VV)

"I missed being physically with my VF. But we kept in touch with the phone." (VV)

"I'm isolated here [nursing home] I get cabin fever. We have to stay in our rooms 24/7. Hearing from VV from time to time gives me an outlet. ...Solitary confinement is not for the faint of heart, I tell ya!" (VF)

In summary, Theme 2, Effects of COVID, was the central interview theme. Everything was viewed as either "before" or "after" COVID—things before were wonderful; things after it arrived were awful. COVID's negative impact on the relationships were universally strongly felt. Both VVs and VFs missed seeing their friend and doing the things they planned. Efforts to stay connected were impacted by personal stress and safety considerations of the VV and safety concerns about their VF's health vulnerability. Efforts to stay connected, primarily by phone, were appreciated but truncated their usual connection schedule and weren't as significant as meeting in person. CPs strongly expressed the loss of the VV/VF visits: the loss of the beneficial effects for their loved one and the loss of the respite that the visits had provided them.

Theme 3: Care Partners

Care Partners (CP), while intended beneficiaries of the Vet to Vet program, are not assigned a formal role in the

Companion program. In fulfilling their family care giving role to assure their loved ones' safety and quality of life, CPs provided important roles in this study. They reported observations and impressions of the VF/VF activities effect on their spouses (See sub-theme above: Care Partner Perception of Benefit for Loved One.); and provided feedback on the program role in reducing caregiver stress. This was captured in the sub-theme below.

Benefits for the Care Partner

CPs described the benefit of respite time for themselves during VV/VF visits. The more regular the visit schedule the more flexibility caregivers had to plan personal activities. They noted the importance of having some relief from everyday responsibilities and the benefits for their spouses; having someone else, particularly a male and a veteran to converse with.

"You know, very bluntly, it's just time to yourself." (CP)

"For me to have a break. He is cognitively declining and it's just that I'm home a lot with him and it just gives me a break...to go do something without thinking about anything— whether it's by myself or with someone else." (CP).

"Well, because it's like we're joined at the hip most of the time. And so, if that gives me a little time away, then that's great—Anytime that I can get away, you know. Well, [his mood] is uplifted too, because he's not so argumentative... I enjoy the visits as much as he did, but I try to stay clear let them have the room to themselves...so they could just talk.

Then I can go off to the kitchen and do whatever I need to do. My whole world revolves around taking care of him and his needs and that stuff. That's what happens when you're a caretaker. It takes pressure off of me when he can relate to somebody else." (CP)

In summary, Theme 3 elucidated the need for the Vet to Vet Companion Program to actively invite CPs to participate in this program as well. Prior to this study, the CP assisted their loved one with becoming a VF, but once that was accomplished, the CPs had no other recognized role. Based on these study findings, a CP orientation will be included along with CP education and events to augment support and address caregiver stress.

Theme 4: Three Words

At the conclusion of each interview participants were asked: "When you think of Vet to Vet, what three words come to mind?" Analyses were conducted to determine the frequency of these key words per participant group, which are depicted in Word Cloud (Zygomatic, 2003) **Figures 1** and **2**. In summary, respondents' three words were displayed as a word cloud in which the larger the size of the word, the more the word was used by respondents. For the VVs and VFs, connection was a key term followed by camaraderie, caring, veterans, helpful, good, and willing-to-share (see **Figure 1**). The Vet to Vet Companion program appears to have impacted these veterans in positive ways, based on the words presented in this word cloud. The CPs word cloud conveys the complexity of caregiving. The

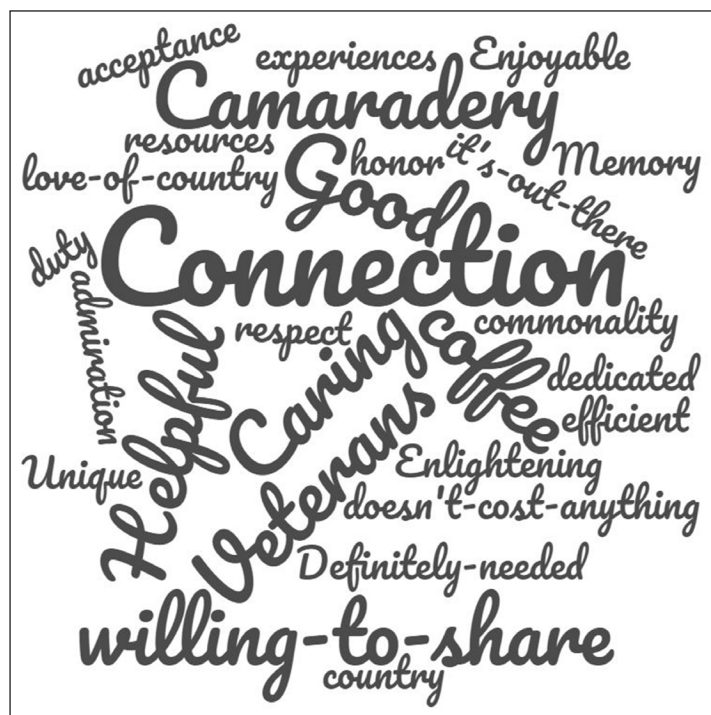


Figure 1 Volunteer & Friends Word Cloud.



Figure 2 Care Partner Word Cloud.

prominent words: somebody, time, needed, and visits are larger in the word cloud. Furthermore, the words: respite, opportunity for a break, alone, and gift also carrying enough weight to be noticeable (see **Figure 2**). The CPs all expressed that having somebody engaged with their loved one who was a veteran was something they would endorse.

DISCUSSION

The benefits of the mixed-methods approach to this study were apparent when reviewing the results of the quantitative analysis with individual data and the qualitative interviews. While the quantitative analyses showed no significant difference over the 6 months between pre and post-assessment results, there were indications that there could have been a trend toward decreased depression for the VFs from both the VR-12 *Mental Component Scores* and PHQ-9. The COVID-19 shelter-in-place rules dramatically reduced contact time between VVs and their VFs and increased stress levels. All VVs and VF expressed a sense of loss when they were no longer able to continue in-person visits. As noted by Teo et al. (2019), a long line of veteran research has shown that the quality of our social connections is critical, not so much the quantity of our interactions. COVID has challenged us to examine ways to enhance the quality of social connections.

The analysis of VR-12 *Physical Component Scores* (physical function) for VVs improved pre to post test and were quite close to being significant with $p = .06$. However, physical function for the VFs decreased from pre to post test. Interviews revealed pre-COVID visits involved physical activity which was completely eliminated by the pandemic shut down.

It was evident from talking with each veteran pair for the qualitative interviews that the study pairs established valued relationships built on the essential common ground of being veterans, regardless of their different ages or military service. Their visits were designed around their common interests and background. In fulfilling their resource role, VVs were sensitive to their respective VF's unique situation, thoughtfully appraised their needs, and made efforts to provide resources that could increase their VF's quality of life. Most VVs were well versed in VA resources and made efforts to connect their VF to those services as well as other services and benefits to which Vet to Vet alerted them. Vet to Vet outcomes exhibited relationship building and conveyed trust between the VV and VF; a quality that was inherent in the VA Buddy-to-Buddy program study that successfully used trusted fellow veterans as allies to improve treatment and adherence to modalities that reduced the risk of suicide (Greden et al., 2010).

Care Partners affirmed the quality and importance of the relationship for their loved one and appreciated the respite benefit they gained from the VV/VF visits. However, the

program's meaningfulness to participants and caregivers may have been amplified by its very threat—COVID. Recent studies (Abbasi, 2020; Eisenberg, 2020) document the increased stress experienced by adults of all ages during this pandemic with caregivers being especially impacted.

LIMITATIONS AND FUTURE RESEARCH

Each study of this nature has its limitations. The small sample size ($n = 24$) was a major limitation, especially for the quantitative data and results. With so few participants, there was a concern in conducting data analysis using the demographic data such as gender/sex (due to the low number of women in the study), branch of service, age, education, or any other demographic classification for that matter. This could have breached the anonymity of some participants.

Data were not collected as to whether each participant was a combat versus non-combat veteran. Should another study be conducted, it is suggested that these data be collected as well. With a larger sample size, it would be interesting to determine if this variable has any significance. Additionally, medical diagnoses information was collected as part of the demographic profile. The number of diagnoses were included. There were a few veterans who listed one medical condition while most of the participants had multiple conditions. It was interesting to note that often times the one condition was a significant one (i.e., Parkinson's disease), which manifests in a number of medical challenges including cognitive and physical function impairments; these were not listed by the participant. Conversely, a few veterans listed one medical diagnosis such as depression, and yet it was revealed in the interview that each of these veterans were challenged by many other medical conditions. This is important to remedy in any future study, as mental and physical function may affect the VV and VF activity ability and opportunities for engagement. For this study, we deferred to the medical diagnoses listed on the demographic sheet.

A major confounding factor for the study was the Coronavirus (COVID-19). The ability to analyze the effect of COVID on individual pairs was compromised by the inability to accurately determine the number of months each pair was affected by the Maine CDC shelter-in-place rules. The fact is COVID truncated the ability for the VVs and their VFs to continue meeting in person.

Lastly, true to qualitative research, the data can only be attributed to these veterans and the CPs. The words are their truth and cannot be generalized to a larger population. These quotes are the beliefs and experiences of these 24 people who participated in this study.

STUDY IMPLICATIONS

As this was an evaluation project for a non-profit veteran organization in Maine, what we would have done differently if given the chance was to have a larger sample size and conduct the research pre-COVID. Limitations in funding created the small sample size to evaluate the companion program. As this was a pilot project we only worked with the latest cohort of trained volunteers and the vets they were paired with. Regarding COVID, there was no control on the timing of its arrival. Although there are pearls in the full research report that was helpful to the organization in fostering continued connections during COVID; it was evident that all veterans felt the impact of not being able to meet regularly and in person.

As mentioned earlier, the efficacy of many veteran "buddy" programs remains to be determined. As the National Academies experts pointed out, little scientific evidence exists concerning the results of social prescribing interventions on social isolation and loneliness for veterans (NASEM, 2020). With that said, based on this evaluation project, the Vet to Vet Maine companion program works. Connecting VVs with VFs provided companionship, offered assistance with benefits, supported independent living, and fostered friendships among veterans. From the participants' perspectives, including care partners, the Vet to Vet Maine program met its mission and objectives by fostering comradery.

"We are veterans; we are a special breed." (VF)

"I consider it a big honor to be in the Vet to Vet Program!" (VF)

This study was approved by the University of New England Institution Review Board for the protection of human subjects. IRB Protection #: 19.07.15-008.

NOTES

- 1 Tool: <https://orthotoolkit.com/vr-12/>.
- 2 Four themes not included in the data outcomes of this article included: Vet to Vet Companion Program Feedback, Vet to Vet Leadership Feedback, Volunteer Training, and Great Quotes.

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COMPETING INTERESTS

The author has no competing interests to declare.

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