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A Mixed Methods Examination of Stress, Caregiving Burden, and Support among Partners of Recently Separated Veterans

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Abstract

Those who assist veterans while they move from military service back into civilian life could experience a greater chance of psychological strain. Most earlier research has focused on paid family caregivers, with little attention to spouses or informal non-family “care partners.” This study aimed to uncover the main difficulties experienced by care partners of veterans living with invisible injuries. Semi-structured interviews were conducted with 36 people who were helping a recently discharged US military Veteran taking part in a 2-year longitudinal study. These care partners (CPs) filled out established scales measuring perceived stress, caregiving burden, relationship quality, life satisfaction, and flourishing. Independent t-tests served to compare the groups on caregiving burden, relationship quality, life satisfaction, and flourishing. Care partners were divided into those reporting high and low levels of stress. Representative cases were selected to illustrate clear differences in how CPs with varying levels of stress experienced their situations over time.

Care partners described notable changes in how they viewed themselves after taking on the role of supporting a Veteran. They particularly highlighted their efforts in guiding veterans through healthcare systems and in helping them decide when and how to share health and personal details in civilian environments. Examples featuring high-burden and low-burden cases revealed sharply different paths in self-perception, in dealing with multiple sources of strain, and in managing stress over time. Individual case studies demonstrated how multifaceted strain changed over the study period. They were often worsened by extra pressures such as childcare duties, financial obligations, or limited knowledge about mental health matters. The results point to the specific support requirements of people helping military veterans with invisible injuries. They also highlight the differences and the evolving nature of caregiving responsibilities. Notably, this group was younger than typical caregiver populations, suggesting important considerations for how best to assist unpaid care partners during the initial and middle phases of veterans’ use of VA and civilian healthcare services.

Keywords: Stress, Caregiving burden, Partners, Veterans

Introduction

Since 2001, greater attention has been directed toward the “invisible wounds of war,” a term describing mental health conditions and cognitive deficits stemming from military service in the current century [1]. Extended deployment durations combined with improvements in combat medicine [2] have resulted in a large number of returning service members experiencing elevated psychological and physical challenges [3], along with obstacles to successful civilian reintegration [4–6]. In contrast to earlier periods, there is now a stronger emphasis on identifying Post Traumatic Stress Disorder (PTSD), traumatic brain injuries, and depressive symptoms among post-9/11 veterans. Nevertheless, the broader impacts of these invisible conditions remain less understood than those of clearly physical injuries. Annual medical expenditures linked solely to invisible conditions are estimated at approximately $2–3 billion

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[7], while families shoulder a substantial "private burden" of uncompensated expenses tied to service-related disabilities [8].

The consequences of family caregiving have been extensively documented in medical research, yet most findings derive from studies of geriatric populations [9]. Caregivers supporting military members and veterans tend to be younger, often have children, and provide care over longer durations for individuals with more severe disability levels [10]. Among veterans receiving care through the US Department of Veterans Affairs (VA), evidence indicates that their caregivers exhibit higher rates of depression and burden than civilian caregivers, as well as increasing financial pressures over time [11]. These patterns align with broader evidence showing that caregiving can negatively affect caregivers' health, emotional well-being, financial stability, and professional lives [12–14].

Within studies focused on caregivers of veterans, the majority examine caregivers of active-duty personnel [15, 16], participants in the VA caregiver program [17], or those assisting individuals with a specific medical diagnosis (e.g., cancer or diabetes). Abraham *et al.* highlighted less obvious aspects of the "emotional work" performed by Veteran caregivers [18], while other researchers have explored how caregivers in VA programs view their unpaid contributions [19]. Following the deployment of nearly two million US troops to Iraq and Afghanistan, scholars advocated for expanded interventions targeting veterans together with their entire support networks. These include family-oriented programs that address caregiver burden and the psychological challenges faced by both veterans and their relatives [20], with special focus on the initial post-deployment transition period [21] and the influence on spouses and children [22].

Caregivers of veterans—particularly those caring for veterans with invisible injuries—have distinct needs [23]. Because invisible injuries are complex, caring for these veterans demands greater involvement from caregivers [22] and generates considerable burden [24]. Earlier investigations found that available family and social supports help reduce psychological distress among Veteran caregivers [25]. Research has also shown the specific ways PTSD affects family dynamics, including emotional detachment and social withdrawal [26], the frequent role of spouses in preserving everyday routines [27], and reduced overall life satisfaction [28]. A large proportion of Veteran caregivers' needs—such as access to emotional support, guidance on benefits, help locating services, and additional assistance—remain unmet [16].

In recent years, collaborative research efforts have defined a comprehensive research agenda for military and Veteran caregivers, drawing on RAND studies and initiatives by the Elizabeth Dole Foundation [29]. Existing research has primarily examined paid caregivers within the VHA Program of Comprehensive Assistance for Family Caregivers (PCAFC), resulting in a limited understanding of unpaid caregivers and veterans outside VHA healthcare systems.

Direct input from military and Veteran caregivers has helped create the "Military and Veteran Caregiver Experience Map," a framework that outlines different phases of caregivers' journeys [30]. More current studies have investigated suicidal thoughts among military caregivers [31] and assessed program effectiveness, for example, demonstrating that one VA caregiver initiative successfully lowered anxiety, depression, burden, and general stress levels [32].

In the present study, we use the term "care partner" (CP) to reflect recent recommendations for a broader, more inclusive understanding of caregiving that encompasses the diverse tasks and responsibilities individuals undertake when supporting loved ones [33, 34]. Beyond spouses, this terminology allowed us to include friends, siblings, parents, or other individuals identified by Veteran participants. Although CPs make important contributions to the reintegration of post-9/11 veterans with invisible injuries, relatively little is known about their personal perceptions of caregiving burden and stress or about its effects on their own well-being. Specifically, we extend an established definition of burden [35] by integrating the unique viewpoints of care partners supporting military veterans. This framework includes three core elements: self-perception (both negative and positive feelings or dimensions linked to the caregiving role), multifaceted strain (various forms of strain connected to caregiving, including health issues, psychological pressure, social withdrawal, or financial difficulties), and time (how caregiving burden evolves across time). By incorporating temporality through repeated interviews and personal histories, the approach aligns with a life-course perspective that considers continuity and contextualizes changes in caregivers' experiences [36, 37] and the transitions typical of veterans' lives [38]. We employ a mixed-methods design to explore why some caregivers experience greater strain and burden, and how their accounts differ.

This study investigates the contributions of informal CPs in the lives of military veterans with invisible injuries (mental or cognitive health conditions) during the initial stages of their return to civilian life. We achieve this through a combination of quantitative and qualitative methods to gain a fuller picture of the caregiving experience and identify potential strategies to support veteran CPs. The specific aims are to (1) investigate links between CP characteristics and key outcomes (flourishing, stress, burden); (2) outline CP views on how they assist the veteran in daily life; and (3) through mixed-methods analysis, identify patterns of similarity or difference between CPs reporting high versus low levels of burden.

Materials and Methods

Design

We utilized a mixed-methods strategy to gain both a broad scope and detailed insight that would not be possible using qualitative or quantitative techniques in isolation [39]. More specifically, we applied an explanatory unidirectional mixed-methods framework [40], integrating survey responses with results from thematic analysis and comprehensive case-study evaluations. The interview material was presented in a qualitative descriptive format, featuring narrative descriptions [41]. Approval for the study was granted by the Indiana University Institutional Review Board and the VA Research and Development Committee.

Participants

The study drew on a group of care partners (CPs) enrolled in a 2-year longitudinal project investigating community reintegration for military veterans living with invisible injuries [42]. Invisible injuries refer to clinically diagnosed post-traumatic stress disorder, depression, anxiety, traumatic brain injury, or any other mental or cognitive health condition, together with their supporting care partners. As detailed in previous publications, 91% of the participating veterans possessed a disability rating [43]. The veteran identified a CP as any person who assists in areas deemed essential for successful reintegration, such as family or social connections, schooling, employment, rehabilitation, or similar domains. This person was usually a family member, romantic partner, friend, or neighbor [33]. Following the initial baseline assessment, veterans were asked to identify someone who was actively helping them with their transition to civilian life. These nominated individuals were then contacted by telephone to explain the research and determine their interest in joining. From the 75 veterans involved, 48 proposed a CP, ultimately yielding a convenience sample of 36 enrolled CPs.

Procedures

Before gathering any information, a researcher explained the study goals to each CP and obtained written consent and HIPAA authorization. Data were collected through a combination of quantitative and qualitative approaches. Qualitative information was collected through semi-structured, open-ended interviews. Each CP received a $25 gift card after completing every assessment. Quantitative information consisted of basic demographic details plus self-completed closed-ended survey instruments.

Semi-structured interviews

Guided by a semi-structured interview protocol, CPs discussed their supportive responsibilities toward the veteran and the effects of the veteran's reintegration on their personal health and overall wellbeing. Topics addressed included the CP's involvement during the veteran's transition period, any family or social difficulties, financial or economic pressures, and their general impressions of the entire reintegration journey. Interviews occurred at three time points: baseline, 12 months, and 24 months. Each session lasted 60–90 minutes. They were carried out one-on-one, either in person in a confidential space or remotely through telephone or video conferencing, according to participant choice and following safety guidelines in place during the COVID-19 pandemic. All interviews were audio-recorded, transcribed exactly as spoken, verified for accuracy by comparing recordings with transcripts, and fully de-identified.

Measures

Caregiving burden

The Zarit Burden Interview (ZBI) evaluates the subjective experience of caregiving burden, specifically how much caregiving generates stress and disrupts the caregiver's health, relationships, or daily obligations. This instrument contains 12 items rated on a 5-point Likert scale (0 = Never to 4 = Nearly always). Total scores range from 0 to 48, with larger numbers reflecting greater perceived burden [44]. Previous research has proposed cutoffs for distinguishing low from high burden at 12 [45], 13 [46], and 19 [47]. In the present study, high burden was classified as a score of 13 or above. Evidence suggests that caregiving burden comprises multiple dimensions, including role strain (interference with other life responsibilities) and personal strain (individual emotional pressure) [48, 49].

Perceived stress

The Perceived Stress Scale (PSS) is a 10-item instrument that measures the frequency of stress-related feelings using a scale ranging from 0 (Never) to 4 (Very Often) [50]. Example questions include "In the last month, how often have you felt that you were unable to control the important things in your life?" and "In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?" Possible scores run from 0 to 40, with average scores in the general population reported as 12.1 (SD = 5.9) for men and 13.7 (SD = 6.6) for women. High stress in this study was defined as a score of 14 or higher.

Flourishing

The Flourishing measure examines six central domains linked to lasting wellbeing [51] and is valid in diverse cultural settings [52]. These domains cover happiness, health (mental and physical), meaning and purpose, character, social relationships, and financial stability, which act as a foundation supporting the other five areas. Responses are selected on a scale from 1 (Strongly disagree) to 7 (Strongly agree). The Secure Flourishing Index (SFI) is computed as the mean of all 12 items, with higher values indicating greater flourishing.

Life satisfaction

The Satisfaction with Life Scale (SWLS) measures how people subjectively judge their overall life quality based on their personal experiences and reflections. Respondents rate five statements on a scale ranging from 1 (Extremely dissatisfied) to 7 (Highly satisfied) to show their level of agreement or disagreement [53]. This scale is known for its strong validity and temporal consistency [54]. Final scores are obtained by summing the five item responses. Scores between 5 and 9 indicate extreme dissatisfaction; 20 reflects neutral satisfaction; and 31-35 represent extreme satisfaction.

Quality of relationship

The Quality of Relationship Scale evaluates the bond between the CP and the veteran and is drawn from the Mutual Communal Relationship Scale [55–57]. The instrument contains 10 items answered on a scale from 1 (Never) to 4 (Always). Five items focus on what the CP contributes to the relationship, while the other five address what the CP receives from it [58].

Caregiver resources

A checklist containing 14 possible resources for CPs was used to explore how frequently and how effectively care partners utilized available support. Informed by prior research [59], the resources listed included informal information sources, religious or faith communities, general healthcare services, mental health services, wellness programs, financial aid options, case management assistance, and support groups. For each resource, respondents noted whether they had used it and rated its usefulness on a three-point scale: 1 ("Not at all"), 2 ("Somewhat"), or 3 ("Very").

Data analysis procedures

An overview of the full mixed-methods process appears in **Figure 1**. To begin, we conducted a qualitative thematic analysis, supported by matrix analysis [60], to uncover broad patterns across the CP interviews. Three coders reviewed the transcripts separately during an initial open-coding phase, independently highlighting meaningful segments and assigning preliminary codes [61]. Regular analytic memos were produced throughout this stage to link emerging ideas tied to community reintegration. Case summaries were then organized in a data matrix to sharpen themes and confirm that data saturation had been reached. A codebook was created and repeatedly revised until the research team developed a unified understanding. Afterward, at least 2 team members independently coded each transcript. These coding pairs then met in person to compare results, discuss differences, and resolve any inconsistencies through discussion and agreement. All qualitative coding and analysis were conducted with NVivo software [62]. Once coding was complete, the resulting themes were connected to key elements of the caregiver burden framework, specifically self-perception, multi-faceted strain, disclosure, navigation, resources, needs, and strategies.

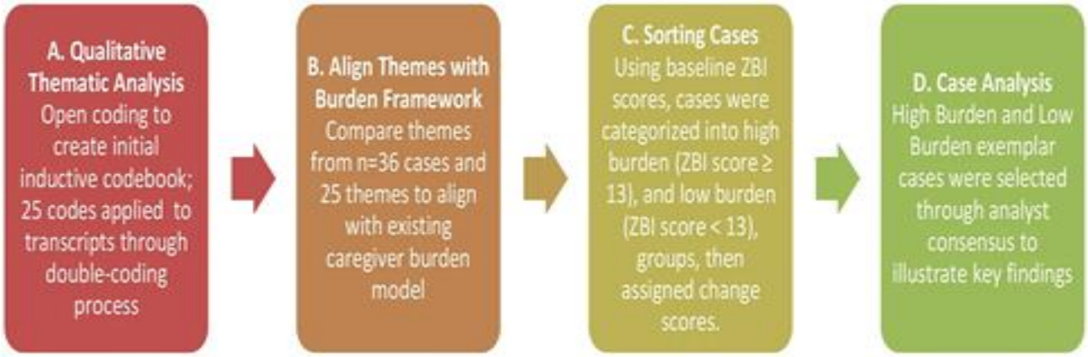

Figure 1. Data analysis process.

To align with the study goals, we grouped cases by baseline ZBI score. Participants were divided into a high-burden category (ZBI score ≥ 13, 10/34, 29.4%) and a low-burden category (ZBI score < 13, 24/34, 70.6%) to enable in-depth review of interview material based on initial burden levels. When baseline and 12-month burden scores were examined together, cases were classified as remaining high (4/27, 14.8%), remaining low (17/27, 63.0%), moving from high to low burden (4/27, 14.8%), or moving from low to high burden (2/27, 7.4%). Seven CPs did not provide survey responses at the 12-month time point.

For the quantitative data, we computed descriptive statistics (including means and frequencies) to summarize the sample's demographic profile and psychosocial outcomes. To investigate links between CP characteristics and various outcomes, Pearson correlation coefficients were calculated between scores on the PSS, SFI, SWLS, Zarit Burden Interview, and Quality of Relationship Scale. Furthermore, independent t-tests were performed to compare the high-burden and low-burden groups on PSS, SFI, SWLS, and the Quality of Relationship Scale. A False Discovery Rate adjustment was applied to control for the increased risk of Type I error arising from multiple statistical tests [63].

In the following phase of analysis, baseline ZBI scores were once more used to sort cases into high-burden (ZBI score ≥ 13, 10/34, 29.4%) and low-burden (ZBI score < 13, 24/34, 70.6%) groups. When baseline and 12-month burden scores were combined, cases fell into the following categories: remaining high (4/27, 14.8%), remaining low (17/27, 63.0%), shifting from high to low (4/27, 14.8%), or shifting from low to high (2/27, 7.4%). Seven CPs missed the 12-month survey. In the concluding stage of analysis, we chose representative exemplar cases that clearly highlighted the main cross-cutting themes and demonstrated how burden levels evolved throughout the study period.

Results and Discussion

Sample characteristics

Of the 36 CPs, most were female (72.2%) and were either married to or partnered with the veteran they assisted (72.2%) **(Table 1)**. As a result, the majority lived in the same household as the veteran (63.9%). On average, these individuals had known the veteran for a long period — mean = 15.1 years (SD = 10.0, range = 0.8–34). Just 11.1% had been providing support for under one year, while more than half (52.8%) had been in a caregiving role for over five years. Additionally, 58.3% of the CPs were raising or guardianship-responsible for at least one child below age 18. Slightly more than one third (36.%) had served in the military themselves. Only one participant indicated they were acting as a paid caregiver through the VHA PCAFC program.

Table 1. Aim 2 care partner participant characteristics (n = 36).

Variable	Category	Value
Age (years), Mean (SD)	—	38.3 (11.3)
Gender (female), n (%)	—	26 (72.2%)
Race/Ethnicity, n (%)	Black/African American	4 (11.1%)
	White/Caucasian	28 (77.8%)
	Asian	3 (8.3%)
	American Indian or Alaskan Native	1 (2.8%)
	Hispanic/Latino	2 (5.6%)
Military service (past or current), n (%)	Yes	13 (36.1%)

Employment status, n (%)	Full-time (35 h/wk or more)	22 (61.1%)
	Part time (< 35 h/wk)	3 (8.3%)
	Retired/Unemployed/Student/Homemaker	11 (30.6%)
Financial status, n (%)	Comfortable	28 (77.8%)
	Just enough to make ends meet	7 (19.4%)
	Not enough to make ends meet	0 (0%)
	Prefer not to say	1 (2.8%)
Relationship to veteran, n (%)	Spouse or partner	26 (72.2%)
	Parent	1 (2.8%)
	Sibling	1 (2.8%)
	Child	2 (5.6%)
	Other non-relative (ex-spouse, friend, mentor, etc.)	7 (19.4%)
Lives with veteran, n (%)	Yes	23 (63.9%)
Duration of regular care provided to veteran, n (%)	< 1 year	4 (11.1%)
	1 year to < 3 years	5 (13.9%)
	3–5 years	4 (11.1%)
	> 5 years	19 (52.8%)
	Unsure	4 (11.1%)

Associations among caregiver burden, stress, flourishing, life satisfaction, and relationship quality.

Consistent with predictions, higher caregiving burden was strongly linked to greater perceived stress (r = 0.50, P = 0.003). Burden also showed significant negative associations with secure flourishing (r = −0.60, P < 0.001) and with relationship quality (r = −0.45, P = 0.008). A negative pattern emerged between burden and life satisfaction, yet this link did not reach statistical significance (r = −0.26, P = 0.14).

Descriptive statistics for the survey instruments completed by CPs are presented in **Table 2**. As anticipated, those in the high-burden group reported markedly elevated stress levels (P = 0.02), substantially reduced secure flourishing (P = 0.02), and somewhat lower life satisfaction (P = 0.08), along with relationship quality (P = 0.06).

Table 2. Descriptive statistics of baseline survey measures assessed in the care partner sample by burden level.

Measure	High burden (n = 10) Mean (SD)	Low burden (n = 24) Mean (SD)	Full sample (n = 34) Mean (SD)
Burden	18.50 (5.38)	5.46 (3.40)	9.29 (7.23)
Perceived stress (PSS)	17.40 (4.74)	11.38 (6.02)	13.15 (6.26)
Secure flourishing (SFI)	7.04 (1.31)	8.23 (0.87)	7.88 (1.14)
Life satisfaction (SWLS)	4.78 (0.90)	5.56 (1.20)	5.32 (1.16)
Relationship quality	2.88 (0.63)	3.28 (0.44)	3.16 (0.53)

High burden = 13 and higher.

Table 3 reveals that CPs made relatively little use of most available resources. The two most commonly turned-to supports were religious or spiritual communities and casual information channels such as websites and articles. In sharp contrast, structured formal services — including loans, support groups, case management, caregiver education programs, and stipends — were accessed only infrequently.

Table 3. A religious or spiritual network

Resource	Perceived as helpful n (%)	Resource accessed n (%)
Religious or spiritual network	14 (100.0%)	14 (40.0%)
Informal information sources (e.g., magazine articles, websites such as WebMD, informational pamphlets)	13 (92.9%)	14 (40.0%)
Structured personal wellness activities (e.g., exercise classes, yoga/meditation, healthy eating groups)	12 (92.3%)	13 (37.1%)
Personal health care services (e.g., physician visits, healthcare facility appointments)	7 (77.8%)	9 (25.7%)
Professional psychological counseling for self (e.g., psychologist, psychiatrist, social worker)	6 (85.7%)	7 (20.0%)
Other resources	7 (100.0%)	7 (20.0%)
Practical assistance (e.g., loans, donations, legal guidance, housing support excluding VA stipends/payments)	4 (100.0%)	4 (11.4%)
Referral services for caregiving support programs	3 (100.0%)	3 (8.6%)
Formal caregiver support groups (online or in-person)	3 (100.0%)	3 (8.6%)
Advocate or case manager support	3 (100.0%)	3 (8.6%)
Structured caregiving education or training (classes, one-to-one training, online modules, printed workbooks)	1 (100.0%)	1 (2.9%)
Monthly VA stipend/payment for caregiving	1 (100.0%)	1 (2.9%)
Respite care/substitute caregiver support	0 (0.0%)	1 (2.9%)

Telephone help line for family members or friends of veterans	1 (100.0%)	1 (2.9%)

Frequency of care partner resources accessed and perceived as helpful (n = 35).
Respondents indicating that a resource was "Somewhat" or "Very" helpful were categorized as "Helpful."

Qualitative themes relevant to care partner burden

Using the themes and case examples described in the following sections, **Figure 2** presents the framework for understanding the burden applied in this research. The figure preserves the ongoing interaction among self-perception, multifaceted strain, and temporal change, while also highlighting additional elements that can either heighten or lessen the particular burdens experienced by veterans' care partners.

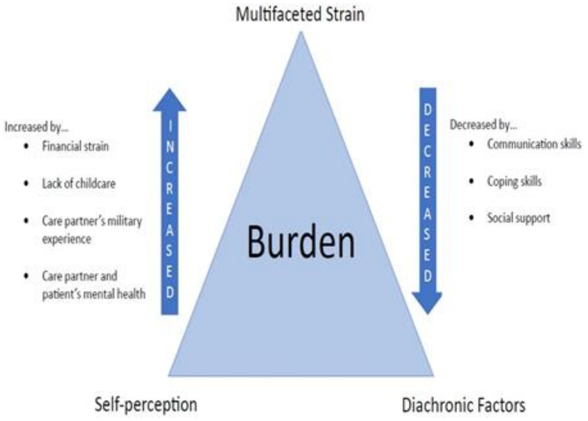

Figure 2. Diagram of components of care partner burden.

Self-perception

Care partners reported a broad array of emotions and self-views linked to their supporting role. Negative feelings they mentioned included stress, anger, feeling overwhelmed, frustration, exhaustion, and emotional depletion. For example, P4032 said, "I feel like I'm constantly rushing around in chaos. As a spouse, it all feels extremely overwhelming." P4004 added, "Yeah, I definitely get stressed. Do I have all the answers for everything at every moment? Of course not."

At the same time, many CPs highlighted personal strengths that helped them handle caregiving demands. These included flexibility, understanding of military life, acceptance of their reality, a practical problem-solving mindset, staying calm under pressure, and maintaining a caring, upbeat attitude. Illustrating the benefit of adaptability, P4021 explained, "I'm comfortable with change… It has always mattered to me that my husband is satisfied with whatever job he takes after leaving the military. If that means relocating to a new city, I'm fine with it. Since I work in healthcare, finding new jobs isn't too difficult for me." Another CP relied on acceptance and flexibility, with P4017 sharing, "This isn't about feeling sorry for ourselves… When you commit to this life, you know what you're signing up for. We decided together that his Marine Corps career would come first. As a result, I won't have a traditional career path… Everything stays fluid, and you have to be ready to adjust and let his needs take priority over yours." P4006 saw herself as a "problem solver," constantly thinking, "How can we resolve this? How can we improve the situation?" and considered this a key asset in her caregiving role. Similarly, P4038 described herself as "someone who genuinely enjoys looking after others" and "the cheerful, optimistic type who always finds something positive, day after day."

Multiple responsibilities and roles

As noted by Liu *et al*. [35], care partners frequently balance caregiving duties with various other life responsibilities. Participants described helping veterans with daily medications, attending medical visits, ensuring physical safety (such as preventing falls), providing emotional support, and preparing meals. One CP spoke about keeping an eye on her husband's mood and offering help when he seemed to need it. P4006 explained, "Right now, my main role feels like making sure he has loving support at home, that he feels fully accepted no matter what, and noticing when something seems off… If he stops communicating or seems withdrawn, I gently check in to see if he's just tired." When asked if she worried about him, P4012 replied, "It's a gentle, almost motherly kind of concern. I can sense when he's feeling anxious." P4011 described the draining nature of the role this way: "Sometimes it's an exhausting battle to look after everyone, keep him stable, make sure he sticks to his schedule, gets to appointments, and remembers to eat."

Beyond watching for emotional changes, CPs mentioned struggling to handle the veteran's sudden angry outbursts. P4020 shared, "I try hard to keep him calm… It's upsetting when he gets angry and more agitated, because that upsets the kids too. It's definitely stressful."

Many CPs also took primary responsibility for household finances, daily decisions, relocations, or served as the only driver in the family. For example, P4003 stated, "I handle all the money matters in our household." P4011 added with a laugh, "I'm basically the one in the middle holding everything together… I kind of run the show, even though I never wanted that position, but I manage it pretty well."

Monitoring disclosure and aiding in navigation

Care partners played a vital role in encouraging veterans to seek help, including advising them on when and how to share personal information appropriately. P4016 described how her husband "was extremely guarded" and initially ignored mental health outreach, but having her attend therapy sessions made a difference: "I could describe certain situations… that he might not have even noticed were occurring."

CPs also helped veterans overcome barriers to healthcare, including scheduling appointments and managing costs. One participant noted that managing these challenges felt easier "with two minds working together rather than one" (P4013). This CP emphasized that the support role did not feel burdensome: "No, it's not a burden for me. I'm not even stressed about it, partly because of how I handle stress—which is actually something she gets upset about, since we approach it so differently."

P4025, who reported high stress levels, gave a detailed account of her efforts:

"I'd get home and ask about his appointment. He'd say he couldn't manage it. So I'd gently encourage him and offer to call myself. He'd insist he could handle it and promise to do it the next day. The first phone call alone took five or six days. Then there was a lot of anxiety building up before the appointment, and even more on the actual day. It's tied up with the whole military culture thing."

She stressed the importance of steady follow-up combined with empathy for the veteran's anxiety about attending appointments. Other CPs reported encountering bureaucratic obstacles, often described as "getting the runaround" (P4011). P4004 noted that contacting the Patient Advocate sometimes became necessary to resolve issues.

Resources, needs, and strategies

When asked about helpful resources, care partners described several unmet needs and the practical approaches they relied on to address them. Many suggested that structured training sessions or workshops offered soon after leaving military service would be valuable, especially programs created specifically for those supporting veterans. Recommended topics included better communication techniques, education about mental health conditions, and guidance on working with the VA healthcare system. P4020 advocated for a couples-based program: "No one ever contacted me to explain what PTSD actually involves. I think it should be required for couples to attend classes both before and after deployments." Other CPs stressed the need for reliable, consistent healthcare services and for clear, understandable information about VA benefits, including disability payments and insurance, presented from the care partner's perspective. P4002 recommended holding informational sessions on supporting veterans at local community centers to make support more accessible.

Table 3 summarizes the resources CPs rated as most useful. The ones they turned to most often—structured wellness activities, casual information sources, and involvement in spiritual or religious communities—were generally viewed as beneficial.

Exemplary cases

The following examples highlight situations of both high and low burden. To show how experiences evolved, we also present cases that stayed in the high-burden or low-burden group or whose burden level shifted by the 12-month point.

High-burden cases

Among CPs reporting high burden, P4019 was a spouse who had spent nearly thirty years in the Navy and carried a 70% service-connected disability rating. He left the military before his wife, at which point they "switched roles," and he became the main caregiver for their children while she was deployed. He primarily helped his wife by managing cooking and cleaning, but wished he could offer more meaningful support, mentioning ongoing difficulties with communication. This CP scored higher on "role strain" than on "personal strain," a pattern that matched what emerged from his interviews.

P4009 was also a Veteran, having served six years in the Air Force. Her husband faced serious mental health difficulties (depression and PTSD), which placed a heavy strain on their relationship. Consequently, she often felt "almost like a single parent," raising their four children while working full-time as a mental health professional. This CP remained in the high-burden category at both baseline and 12 months. She spoke about the constant stress caused by her husband's unpredictable moods, describing how he would "shut down" and "pull away" from her and the children, leaving her with little optimism about the future.

P4026 started with a high burden at baseline as he tried to support his girlfriend through her difficult civilian transition, PTSD, and frequent migraines. However, he was also a veteran; his own move into higher education after service had gone smoothly. The couple temporarily split when the veteran relocated to another state, but the CP later reversed his decision and joined her there. By the 12-month follow-up, his burden had dropped to the low category, and his flourishing scores had improved.

Low burden cases

Reporting low burden, P4004 was the only CP enrolled in the VA's "Program of Comprehensive Assistance for Family Caregivers" (PCAFC) for 5 years. She had left her career in dental hygiene to provide full-time care for her husband, a Veteran who had been medically discharged and dealt with memory problems, multiple physical conditions, and PTSD. P4004 regularly handled his VHA medical appointments (often several each week), medication management, and necessary paperwork. Even though she had given up income from her previous profession, she described low stress and a satisfying quality of life.

P4020 had four children and had been married to the veteran for fourteen years. She had watched her husband undergo major physical changes (back and shoulder pain) and mental health shifts (more frequent anger and withdrawal) after his first combat tour. Like P4004, she helped coordinate his medical care and joined him in couples counseling. P4020 stayed in the low-burden group at both baseline and 12 months. Although she was essentially his only support person outside the mental health treatment team, she benefited from a strong network of family, friends, and coworkers. She practiced self-care through meditation, travel, and occasional massages.

In this research, we combined self-reported measures of caregiver burden with interviews held 12 months apart to explore the lived experiences of CPs supporting US military veterans. Our goal was to apply a mixed-methods strategy to sort 36 CPs into distinct categories based on a conceptual framework built around three core elements of burden: multi-faceted strain, self-perception, and shifts across time. We illustrated how CPs were first classified into high- or low-burden groups and demonstrated how some individuals transitioned between these groups as their situations evolved. Various factors either heightened or eased their personal strain. A life course approach designed specifically for military families can help address the particular difficulties involved in bridging civilian and military cultures, managing emotional dysregulation often seen in recently discharged veterans, and handling the complex interplay between physical and mental health issues [38, 64]. These results provide longitudinal data that bolster the broader framework outlined in the Dole Foundation's caregiver journey map [30]. Notably, our findings highlight that adopting the caregiver identity is typically a slow, evolving process, after which key moments can occur where levels of burden and overall wellbeing rise and fall.

Relying on a pre-existing conceptual model of caregiver burden [35], we closely reviewed individual cases to uncover the specific triggers and outcomes of CP burden when caring for military veterans. Most earlier studies have either highlighted potential benefits of caregiving or focused primarily on emotional suffering [65], yet they rarely examine financial pressures or the lost opportunities that caregiving often entails [66]. One striking feature of this sample was the minimal uptake of support services; only a single CP had joined a formal caregiver program, and participants generally described receiving little training or guidance for the tasks they performed. CPs explained their efforts in helping veterans cope with emotional dysregulation. In addition, they frequently played a vital part in supervising their partner's interactions with civilians in high-pressure settings, often stepping in to shield them from uncomfortable environments or to mend conversations disrupted by communication challenges.

In contrast to the large body of caregiving research focused on older adults, these findings highlight the significant disruptions faced by those in early adulthood (ages 17–45 years) as they navigate career transitions, childcare responsibilities, and the transition away from military life. CPs spoke about the constant effort required to support their partner while simultaneously raising children and progressing in their own professional lives. Aligning with previous research [67], spouses in this role often lacked confidence in their ability to provide effective support and encountered ongoing difficulties with intimacy. Male spouses, in particular, reported greater role strain, describing uncertainty and a sense of inadequacy in their supportive role. The presence of multifaceted strain amid the pressures of early adulthood further underscores the usefulness of adopting a life-course perspective [31, 32].

Several limitations of this study should be recognized. Because CPs were included only if nominated by a participating Veteran, the sample likely lacked full diversity. The majority of the veterans involved were male, whereas 72% of the CPs were female, and most had been providing care for over 5 years. Further investigation is needed to explore how these observations might translate to other sociodemographic populations. Nevertheless, the inclusion of multiple data collection points enabled us to observe changes in CPs' experiences over 12 months.

Conclusion

Relatively few studies have investigated the realities faced by unpaid caregivers who assist military veterans living with invisible injuries, including post-traumatic stress disorder and traumatic brain injuries. The present findings reveal the specific challenges encountered by those supporting veterans with such conditions, while underscoring both the diversity and the evolving nature of caregiving. Separating the experiences of CPs reporting high burden from those reporting low burden sheds light on the ways unpaid caregivers are influenced by responsibilities such as childcare, financial obligations, and gaps in knowledge regarding appropriate mental health resources.

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References

1. Tanielian T, Jaycox L. Invisible wounds of war: psychological and cognitive injuries, their consequences, and services to assist recovery. Santa Monica (CA): RAND Corporation; 2008.
2. Ling GS, Rhee P, Ecklund JM. Surgical innovations arising from the Iraq and Afghanistan wars. Annu Rev Med. 2010;61:457-68. doi:10.1146/annurev.med.60.071207.140903
3. Spelman JF, Hunt SC, Seal KH, Burgo-Black AL. Post-deployment care for returning combat veterans. J Gen Intern Med. 2012;27:1200-9. doi:10.1007/s11606-012-2061-1
4. Sayer NA, Carlson KF, Frazier PA. Reintegration challenges in US service members and veterans following combat deployment. Soc Issues Policy Rev. 2014;8:33-73. doi:10.1111/sipr.12001
5. Dillahunt-Aspillaga C, Powell-Cope G. Community reintegration and employment issues in veterans with traumatic brain injury. Arch Phys Med Rehabil. 2018;99(2 Suppl):S1-3. doi:10.1016/j.apmr.2017.04.013
6. Smith RT, True G. Warring identities: identity conflict and mental distress of veterans. Soc Ment Health. 2014;4:147-61. doi:10.1177/2156869313512212
7. Geiling J, Rosen J, Edwards RD. Medical costs of war in 2035. Mil Med. 2012;177:1235-44. doi:10.7205/MILMED-D-12-00031
8. Bilmes L. The long-term costs of United States care for veterans of the Afghanistan and Iraq wars. Providence (RI): Brown University Watson Institute; 2021.
9. Tanielian T, Ramchand R, Fisher MP, Sims CS, Harris RS, Harrell MC. Military caregivers: cornerstones of support. Rand Health Q. 2013;3:3. doi:10.7249/RR244
10. Ramchand R, Tanielian T, Fisher MP, Vaughan CA, Trail TE, Epley C, et al. Hidden heroes: America's military caregivers. Santa Monica (CA): RAND Corporation; 2014.
11. Miller KE, Lindquist JH, Olsen MK, Smith VA, Voils CI, Oddone EZ, et al. Invisible partners in care. Health Sci Rep. 2019;2:e112. doi:10.1002/hsr2.112

12. George LK, Gwyther LP. Caregiver well-being. Gerontologist. 1986;26:253-9. doi:10.1093/geront/26.3.253
13. Raina P, O'Donnell M, Schwellnus H, Rosenbaum P, King G, Brehaut J, et al. Caregiving process and burden. BMC Pediatr. 2004;4:1. doi:10.1186/1471-2431-4-1
14. Pinquart M, Sörensen S. Differences between caregivers and noncaregivers. Psychol Aging. 2003;18:250-67. doi:10.1037/0882-7974.18.2.250
15. Stuttaford M. Unpaid public work is not cost free. Mil Behav Health. 2020;8:139-47. doi:10.1080/21635781.2020.1734511
16. Brickell TA, Lippa SM, French LM, Gartner RL, Driscoll AE, Wright MM, et al. Service needs among caregivers after TBI. Rehabil Psychol. 2019;64:72-86. doi:10.1037/rep0000249
17. Smith VA, Lindquist J, Miller KE, Shepherd-Banigan M, Olsen M, Campbell-Kotler M, et al. Caregiver support and well-being. Front Public Health. 2019;7:122. doi:10.3389/fpubh.2019.00122
18. Abraham TH, Ono SS, Moriarty H, Winter L, Bender RE, Facundo R, et al. Emotion work of caregivers. J Head Trauma Rehabil. 2021;36:25-33. doi:10.1097/HTR.0000000000000589
19. Wyse JJ, Ono SS, Kabat M, True G. Supporting family caregivers of veterans. Healthcare. 2020;100441. doi:10.1016/j.hjdsi.2020.100441
20. Link PE, Palinkas LA. Long-term trajectories for military families. Clin Child Fam Psychol Rev. 2013;16:376-93. doi:10.1007/s10567-013-0145-z
21. Sayer N, Noorbaloochi S, Frazier P, Carlson K, Gravely A, Murdoch M. Reintegration problems among veterans. Psychiatr Serv. 2010;61:589-97. doi:10.1176/ps.2010.61.6.589
22. MacDermid Wadsworth SM. Military deployment and its consequences for families. New York (NY): Springer; 2014.
23. Patel B. Caregivers of veterans with invisible injuries. Soc Work. 2015;60:9-17. doi:10.1093/sw/swu043
24. Brickell TA, French LM, Lippa SM, Lange RT. Burden among caregivers after TBI. Brain Inj. 2018;32:1541-8. doi:10.1080/02699052.2018.1503328
25. Griffin JM, Lee MK, Bangerter LR, Van Houtven CH, Friedemann-Sánchez G, Phelan S, et al. Caregiver burden and mental health. Am J Orthopsychiatry. 2017;87:139. doi:10.1037/ort0000207
26. Ray SL, Vanstone M. PTSD and family relationships. Int J Nurs Stud. 2009;46:838-47. doi:10.1016/j.ijnurstu.2009.01.002
27. Yambo TW, Johnson ME, Delaney KR, Hamilton R, Miller AM, York JA. Experiences of military spouses. J Nurs Scholarsh. 2016;48:543-51. doi:10.1111/jnu.12237
28. Vogt D, Smith BN, Fox AB, Amoroso T, Taverna E, Schnurr PP. Consequences of PTSD on quality of life. Soc Psychiatry Psychiatr Epidemiol. 2017;52:341-52. doi:10.1007/s00127-016-1321-5
29. Tanielian T, Bouskill KE, Ramchand R, Friedman EM, Trail TE, Clague A. Improving support for hidden heroes. Rand Health Q. 2018;7:9. doi:10.7249/RR1873
30. Elizabeth Dole Foundation. Military veteran caregiver experience map [Internet]. 2021 [cited 2026 Apr 27]. Available from: https://caregiverjourney.elizabethdolefoundation.org
31. Delgado RE, Peacock K, Wang CP, Pugh MJ. Caregiver distress phenotypes. PLoS One. 2021;16:e0253207. doi:10.1371/journal.pone.0253207
32. Martindale-Adams J, Zuber J, Graney MJ, Burns R, Nichols LO. Behavioral intervention for caregivers. Mil Behav Health. 2021;9:357-67. doi:10.1080/21635781.2021.1927916
33. Boucher NA, Shepherd-Banigan M, McKenna K, Delgado R, Peacock K, Van Houtven CH, et al. Inclusion of caregivers in veterans' care. Med Care Res Rev. 2020;78:463-74. doi:10.1177/1077558720944283
34. Manheim C, Haverhals L, Gilman C, Karuza J, Olsen T, Edwards S, et al. VA home-based primary care teams. Home Health Care Serv Q. 2021;40:1-15. doi:10.1080/01621424.2020.1869634
35. Liu Z, Heffernan C, Tan J. Caregiver burden: concept analysis. Int J Nurs Sci. 2020;7:438-45. doi:10.1016/j.ijnss.2020.07.012
36. Turner MJ, Killian TS, Cain R. Life course transitions and depressive symptoms among women in midlife. Int J Aging Hum Dev. 2004;58:241-65. doi:10.2190/4CUU-KDKC-2XAD-HY0W
37. Wethington E. An overview of the life course perspective: implications for health and nutrition. J

Nutr Educ Behav. 2005;37:115-20. doi:10.1016/S1499-4046(06)60265-0

38. Segal MW, Lane MD, Fisher A. Conceptual model of military career and family life course events. Mil Behav Health. 2015;3:107-95. doi:10.1080/21635781.2015.1009212
39. Johnson RB, Onwuegbuzie AJ, Turner LA. Toward a definition of mixed methods research. J Mix Methods Res. 2007;1:112-33. doi:10.1177/1558689806298224
40. Moseholm E, Fetters MD. Conceptual models for mixed methods studies. Methodol Innov. 2017;10:2059799117703118. doi:10.1177/2059799117703118
41. Sandelowski M. Whatever happened to qualitative description? Res Nurs Health. 2000;23:334-40. doi:10.1002/1098-240X(200008)23:4<334::AID-NUR9>3.0.CO;2-G
42. Sayer NA, Orazem RJ, Noorbaloochi S, Gravely A, Frazier P, Carlson KF, et al. Reintegration problems among Iraq and Afghanistan veterans. Adm Policy Ment Health. 2015;42:493-503. doi:10.1007/s10488-014-0564-2
43. Rattray NA, Flanagan M, Salyers M, Natividad D, Frankel RM, Spontak K, et al. Reintegration and flourishing among veterans. J Vet Stud. 2023;9:224-34. doi:10.21061/jvs.v9i1.432
44. Bédard M, Molloy DW, Squire L, Dubois S, Lever JA, O'Donnell M. The Zarit Burden Interview: short version. Gerontologist. 2001;41:652-7. doi:10.1093/geront/41.5.652
45. Higginson IJ, Gao W, Jackson D, Murray J, Harding R. Short-form Zarit caregiver burden interviews. J Clin Epidemiol. 2010;63:535-42. doi:10.1016/j.jclinepi.2009.06.014
46. Gratão ACM, Brigola AG, Ottaviani AC, Luchesi BM, Souza EN, Rossetti ES, et al. Brief Zarit burden interview. Dement Neuropsychol. 2019;13:122-9. doi:10.1590/1980-57642018dn13-010015
47. Yu J, Yap P, Liew TM. Optimal short version of Zarit burden interview. Aging Ment Health. 2019;23:706-10. doi:10.1080/13607863.2018.1450841
48. Whitlatch CJ, Zarit SH, von Eye A. Efficacy of interventions with caregivers. Gerontologist. 1991;31:9-14. doi:10.1093/geront/31.1.9
49. Hébert R, Bravo G, Préville M. Reliability and validity of Zarit burden interview. Can J Aging. 2000;19:494-507. doi:10.1017/S0714980800012484
50. Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. J Health Soc Behav. 1983;24:385-96. doi:10.2307/2136404
51. VanderWeele TJ. On the promotion of human flourishing. Proc Natl Acad Sci U S A. 2017;114:8148-56. doi:10.1073/pnas.1702996114
52. Węziak-Białowolska D, McNeely E, VanderWeele TJ. Human flourishing in cross-cultural settings. Front Psychol. 2019;10:1269. doi:10.3389/fpsyg.2019.01269
53. Diener E, Emmons RA, Larsen RJ, Griffin S. The satisfaction with life scale. J Pers Assess. 1985;49:71-5. doi:10.1207/s15327752jpa4901_13
54. Pavot W, Diener E. Review of the satisfaction with life scale. Psychol Assess. 1993;5:164-72. doi:10.1037/1040-3590.5.2.164
55. Williamson GM, Schulz R. Caring for a family member with cancer. J Appl Soc Psychol. 1995;25:93-116. doi:10.1111/j.1559-1816.1995.tb01586.x
56. Williamson GM, Schulz R. Relationship orientation and caregiver distress. Psychol Aging. 1990;5:502. doi:10.1037/0882-7974.5.4.502
57. Williamson GM, Shaffer DR. Relationship quality and harmful behaviors. Psychol Aging. 2001;16:217. doi:10.1037/0882-7974.16.2.217
58. Winter L, Moriarty HJ. Quality of relationship in TBI veterans. Brain Inj. 2017;31:493-501. doi:10.1080/02699052.2017.1283534
59. True G, Rigg KK, Butler A. Barriers to mental health care for veterans. Qual Health Res. 2015;25:1443-55. doi:10.1177/1049732314562894
60. Averill JB. Matrix analysis in qualitative inquiry. Qual Health Res. 2002;12:855-66. doi:10.1177/104973230201200611
61. Miles MB, Huberman AM, Saldaña J. Qualitative data analysis: a methods sourcebook. 3rd ed. Thousand Oaks (CA): Sage; 2014.
62. QSR International Pty Ltd. NVivo. Burlington (MA): QSR International; 2022.
63. Benjamini Y, Hochberg Y. Controlling the false discovery rate. J R Stat Soc B. 1995;57:289-300. doi:10.1111/j.2517-6161.1995.tb02031.x
64. Segal MW, Lane MD. Military women's life events and well-being. Mil Med. 2016;181:12-9. doi:10.7205/MILMED-D-15-00345

65. Brouwer WBF, van Exel NJA, van den Berg B, van den Bos GAM, Koopmanschap MA. Process utility of informal care. Health Policy. 2005;74:85-99. doi:10.1016/j.healthpol.2004.12.008
66. Lin E, Durbin J, Guerriere D, Volpe T, Selick A, Kennedy J, et al. Caregiving demands and costs. Health Soc Care Community. 2018. doi:10.1111/hs.12546
67. Patel B. Caregivers of US veterans with invisible injuries: correction. J Hum Behav Soc Environ. 2019;29:1082. doi:10.1080/10911359.2019.1623737