

Collaborative Care for Returning Veterans

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Abstract

Background: Treatment of Returning Veterans (RVs) involves heterogeneous challenges including posttraumatic stress disorder, traumatic brain injuries, and substance dependence. Individual RVs fall along a diagnostic and functional spectrum ranging from remarkably resilient to extremely impaired. Successful treatment requires systems capable of managing such complex, varied presentations and may require adaptations to meet the needs of this population. The Collaborative Chronic Care Model (CCM) may be useful in this regard.

Methods: We interviewed 20 staff members at a large urban VA medical center who care for RVs to determine strengths and areas for improvement. We used qualitative methods to assess whether the CCM could be applied to organize care to serve RV needs and prevent chronicity.

Results: Analysis of interview data and fit of emergent themes to CCM elements led to consensus that the CCM was likely to be an effective framework for organizing care of RVs provided certain adaptations are made. Need for adaptation was based on analysis of themes that did not match to CCM elements. Of these, "Unique Characteristics of RVs" and "Patient Engagement" were judged to be most essential to informing adaptations to the CCM.

Conclusion: Results show the CCM as likely to be an effective method of organizing care for this non-chronic population if expanded emphasis is placed on understanding unique population characteristics as a means of fostering patient engagement. Follow-up studies using RVs and other non-chronic populations as primary sources and testing of hypotheses at multiple sites would further clarify meaning and generalizability of these findings.

Keywords: Veterans; Posttraumatic stress disorder; Comorbidity; Self management; Organizational models; Delivery of healthcare; Qualitative research

Introduction

Roughly 2.4 million Americans have deployed in support of Operations Iraqi Freedom, Enduring Freedom, and New Dawn [1]. The long-term wellbeing of Returning Veterans (RVs) depends greatly on access to systems of care capable of addressing conditions such as Posttraumatic Stress Disorder (PTSD) before they become chronically disabling. Such care involves some challenges unique to the RV cohort: many present with some combination of PTSD, Traumatic Brain Injury (TBI), chronic pain, and Substance Use Disorders (SUDs) [2,3], and it is less common for an RV to present with one of these conditions than with two or more [4]. We must also address significant difficulties with engaging and retaining RVs in treatment [3,5]. The sum of these challenges makes it necessary to consider adapting systems of care delivery to meet RV needs [3]. Knowledge gained in such efforts may also be generalizable to other populations of complex but non-chronic patients, e.g. civilian trauma survivors [6-8].

The Collaborative Chronic Care Model (CCM) [9,10] is a widely-used framework for improving care for populations with chronic health conditions. It was chosen for this study because it is evidence-based and emphasizes integration of resources across a system of care, both of which are required for adoption in the VA system. Evidence is strong for addressing chronic medical conditions and depression treated in primary care and is building for treatment of other mental health conditions [9,11-17]. The model has six major elements. Patient Self-Management involves incorporating an individual's values and skills into treatment planning, shared decision making, and emphasis on self-management skills and behavioral change interventions. Work Role Redesign entails incorporation of features such as care management, access-driven scheduling, and active follow-up. Leadership/

Organizational Support involves the channeling of influence and resources in such a way that they encourage success of the model. Streamlined access to Expert Consultations and Guidelines facilitates practice of evidence-based care by all members of the treatment team. Information Technology can be employed towards endeavors such as population registries, appointment reminders, outcome tracking, and integrated care plans. Creating and maintaining Links to Outside Resources channels patients to services their home system does not provide, e.g. parenting classes, athletic clubs and social organizations.

In addition, ample evidence in the peer-reviewed literature indicates that CCMs can impact outcomes in veterans with mental health conditions treated in the VA healthcare system [17]. A report by the VA Evidence-based Synthesis Program (ESP) analyzing impact of integrated care models on medical outcomes for veterans "with Serious Mental Illness (SMI) found small but significant improvements" in function in two of the four studies analyzed [18]. Subjects carried diagnoses of schizophrenia, schizoaffective disorder, and bipolar disorder, making them fundamentally different from RVs in terms of age, chronicity, and level of function. However, medical complexity and non-compliance with preventive care makes them comparable to the RV cohort in key respects.

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Received June 12, 2013; Accepted July 21, 2013; Published July 27, 2013

Citation: Bajor LA, Miller CJ, Holmes S, VanDeusen Lukas C, Bauer MS (2013) Collaborative Care for Returning Veterans. J Depress Anxiety 2: 134. doi: 10.4172/2167-1044.1000134

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However, relevance of the CCM for prevention of chronicity in complex but not-yet-chronic populations, e.g. RVs, has not been studied. Based on needs for high flexibility and coordination of care in patients who are complex and non-compliant, we hypothesized that the CCM would be appropriate for both addressing present-day needs of the RV population and for curtailing onset of chronicity. The major objectives of this study were: (1) to assess the current state of care for RVs in the system under study by identifying emergent themes from interviews of clinicians and staff members working with RVs at a large, urban Veterans Affairs medical center, and (2) to gauge the relevance of the CCM framework for treatment and preventing onset of chronicity in populations such as RVs who present with PTSD, TBI, pain, and other co-morbidities. The study also aimed to identify adaptations that might be necessary to employ the CCM for these purposes.

Methods

Overview and Setting: This qualitative study employed semi-structured interviews of 20 staff members at a large urban VA medical center and was approved by the local IRB. The sample size was chosen in consultation with our qualitative experts (SH, CVDL) for a high probability of facilitating “saturation”, a benchmark within qualitative studies which indicates that no new themes are emerging and additional interviews are unlikely to yield new information. This sample size was also large enough to allow contact with staff representing a diversity of work roles from a sufficiently broad range of clinics and services that care for RVs [19-21]. Informed consent was given by all participants. Note that interviews with RV subjects were not included in this study but will be conducted in a follow-on project.

Sites and Informants: The medical center encompasses three campus hubs and several Community Based Outpatient Centers (CBOCs). Participation was voluntary; neither identities of volunteers nor those who declined to participate were reported to management.

Subjects were recruited in two cohorts. Cohort I consisted of 10 staff members from a clinic dedicated to providing evaluation, short-term treatment, and referrals to RVs. We will refer to this as the Post-deployment Reintegration Service (PRS). PRS professional disciplines include psychology, psychiatry, social work, and administration. Team members work in close collaboration across sites and meet weekly. PRS subjects were selected to achieve as equal a balance as possible from the disciplines above, aiming to recruit two subjects from each as circumstance allowed. Within discipline, order of selection was determined at random.

Cohort II came from clinics/services outside the PRS selected through recommendations from Cohort I participants based on a high level of interaction with RVs. These included two Primary Care sites, Case Management, Urgent Care, Polytrauma, Women's Health, PTSD, Substance Abuse, a CBOC, and Neuropsychology. Names of potential Cohort II subjects from each clinic/service were obtained in two ways: 1) contacting unit managers/clinical administrators (e.g., nurse manager, physician section head) for recommendations; and 2) referrals made during Cohort I interviews based on familiarity with care of RVs. Names appearing on both rosters were prioritized for recruitment. If all “dual recommended” candidates declined, names were randomly selected from the separate lists until a volunteer was found or names were depleted. The enrollment process was tracked to facilitate estimation of potential bias, though we did not retain non-volunteer names.

Data Collection: We used two interview templates, differing only

in that the Cohort 1 version contained references to the PRS replaced with generic language for Cohort 2. Questions were written with the assumption that subjects had no prior knowledge of the CCM. Several questions addressed CCM elements, e.g. “Please tell me about the use of information technology in your clinic or service's care of RVs”, “Can you give me an example of how your clinic/service makes use of links with community resources in caring for RVs?” Other questions solicited information about care and patient/staff experiences that might fall outside the CCM, e.g. “Please describe the aspects of caring for RVs that you like most and least” and “If we gave you a blank check, what change(s) would you make to improve the care of RVs within this system?” Responses were handwritten or typed onto templates by a co-investigator (LB or CJM) and digitally recorded for transcription. Interviews were conducted in private with one volunteer at a time.

Data Analysis: Transcribed interviews were coded with NVivo software using the Constant Comparative Method [22,23]. Sensitive information was de-identified and findings were reported in aggregate. The Constant Comparative Method was chosen as a widely accepted analysis techniques within qualitative research [24-26] featuring a structured, iterative process of building and testing a conceptual framework through analysis and comparison within and between case transcripts. As laid out in Boeji and Dye, this process commenced just after the start of data collection with analysis of the first interview transcript [23,26]. One investigator (LB) extracted data, grouped like elements together, and chose nomenclature to describe them. This work was reviewed and refined in concurrence with co-investigators (CM, SH) in order to produce the first draft of a “code book”. The next step was to repeat that process for transcripts 2-5, by which point a high degree of inter-rater agreement as to the meaning of codes and assignment of data to them had been established. From this point on, consensus meetings were held after every fifth interview. Fewer new codes emerged at each step and similar categories were combined where appropriate. As the process continued, hierarchical ordering of codes was possible. By interview 20, investigators agreed that “saturation” had been reached, meaning that no new and relevant themes were emerging. At this point, the process and outcomes were reviewed by a senior qualitative researcher (CVDL) who had not been involved in analysis to this point. Final refinements, e.g. combining similar codes when no meaningful benefit could be gained by retaining them as separate, were suggested by the senior qualitative researcher (CVDL) and accepted/declined by the two junior co-investigators (LAB, CJM).

Results

Subjects: Demographic information regarding interview subjects appears in Table 1. Although each subject provided unique data based on their experience, there was no pattern of difference across work roles or disciplines in terms of input provided.

Emergent Themes: General Concordance with the CCM Framework Coding and analysis yielded 27 themes of interest regarding characteristics and treatment needs of RVs (Table 2). Given the study objective of assessing fit of the CCM for treatment of and preventing chronicity in RVs, we attempted to match each theme to a CCM element. Matching was accomplished based on potential of a CCM element to address an outstanding need within the system of care associated with a coded theme, e.g. the theme of RVs lacking skills needed to interact with their treatment teams was matched to “Patient Self-management”. In cases where an element matched to more than one CCM element, a “best match” was arrived at through investigator consensus. As shown in Table 2, twenty themes fit well with one or

more elements while seven did not match cleanly with any of the six elements.

Regarding the above example, interviewees told us that many RVs come to treatment without the skills necessary to advocate for themselves in a treatment setting. Coaching them to ask appropriate questions, report side effects, and respectfully but assertively challenge treatment

Job Title	
Social worker	2
--Psychologist	7
--Psychiatrist	2
--Primary care	4
(MD,DO, CNS, RN)	
--Other specialty	2
(MD/DO/PhD)	1
--Case management	2
--Support staff	
Experience	
Years in Specialty	12.75 (SD =7.89)
Years at VA	5.83 (SD=6.22)
Years Current Role	3.73 (SD=3.45)
Sex	
Female	16
Male	4
Race/Ethnicity	
African American	1
Asian	2
Caucasian	16
Hispanic	1

Table 1: Participant demographics.

plans that conflict with their individual goals improves engagement and outcomes. RVs with complex presentations who are not in a state to manage their own care are best served by case management. Subjects reported that incorporating values and goals of RVs into treatment was also crucial. "Some need to prioritize parenting and family skills, while others need to focus on work and school. If we are going to ask RVs to do things that are uncomfortable or inconvenient in the short term, like trauma-focused therapy, it helps for them to see how it will help them meet their long-term goals."

Emergent Themes: "Non-fit" Codes and Effect on Hypothesis

Scrutiny of the seven "non-fit" codes for contraindications to using the CCM for care of RVs, e.g. aspects that would be inappropriate or off-putting to RVs, or RV characteristics that would undermine the CCM. None were found; rather, investigators conceptualized the 7 "non-fit" codes as guideposts toward adapting the CCM for treatment of RVs. Of these 7 non-fits, *Patient Engagement* and *Unique Characteristics of RVs* emerged as most essential to successful adaptation of the model based on number of mentions and emphasis placed on them by interviewees (Table 2). Since a full description of each CCM "fit" and "non-fit" code would extend beyond the scope of this article, we review the two critical non-fit themes in detail below.

Emergent Themes: Unique Characteristics of RVs

Understanding and accommodating unique characteristics and needs of RVs was mentioned as important in all 20 interviews. A typical comment described RVs as "developmentally young, full of energy that can be difficult to direct, striving and sometimes struggling to find their way in the world." (Throughout this report, responses were de-identified and prose was modified to ensure confidentiality. Similar answers were conglomerated).

CCM Construct	Code from Interview Data	Number of References within all Transcripts	Overlap w/ Other CCM Areas
1. Patient self-management	Patient self-management	34	(n/a)
	Treatment planning/goal setting	27	2, 3, 4
	Substance abuse, TBI, SMI	24	3, 4, 5
	Interaction w/ treatment teams	17	
	Pain control	13	3, 5
2. Information technology	Information technology	33	(n/a)
	Communication barriers	6	1, 3
3. Organization / leadership	First contacts / early wins	36	2, 4
	Organization / Leadership	27	(n/a)
	Access	26	4
	Case management	24	2, 4
	Quality / Safety	23	2, 4
	Staff shortages	15	4
	Service Connection	17	4, 5
	Issues w/ trainees/transients	7	2, 4
	Silos	6	4
4. Work role redesign	Coordination	70	1, 2, 3, 6
	Referral process	38	2
	Treatment logistics/modalities	29	2, 3
	Work role redesign	11	3
	Demand for services	3	1
	Staff training and supervision	12	3, 5
	Group therapy	7	3, 5
5. Expert consults / guidelines	Expert consults/guidelines	21	2
6. Outside resources	Outside resources	23	1, 2, 3, 4
7. Outside CCM framework	Patient engagement	80	
	Unique characteristics of RVs	51	
	Veteran centeredness	46	
	Preference for staff who are vets	1	
	Issues relating to return to school	1	
	Need for family and parenting resources	11	
	Staff preferences / frustrations	28	

Note: Bolding signifies that a theme was among the five most mentioned during all interviews

Table 2: Codes from interview data & fit/non-fit with CCM element(s).

“Developmental Youngness”: Although there are middle-aged RVs, most RVs enlisted as teenagers and were in their early-to-mid-twenties upon return from deployment. Time deployed may represent the bulk of an RV’s adult experiences. Many lack confidence navigating the “civilian world” as adults and feel uncomfortable and misjudged in the company of civilians. These factors increase the significance of trust when choosing whether or not to engage with systems and providers. A reliable point of contact within the system was mentioned as crucial. RVs were described by interviewees as “often suspicious of authority figures, on guard for a reason to flee care...add in hypervigilance picked up in combat, and many disengage before treatment can take effect.” Many “show up to one appointment and fall off the radar until a crisis hits-arrest, divorce, unemployment.”

Subjects mentioned work and relationship issues that accompany RV developmental stage as crucial to treatment planning. Several staff described RVs benefitting greatly from couples and parenting therapy. Since family issues are not the VA’s major focus, establishing and maintaining links to appropriate community resources (another CCM element) is important.

Recognizable Risk Factors: A “taking time off to celebrate after returning from deployment” was mentioned as common for RVs, though intensity and duration vary. Some RVs enjoy a well-earned break before shifting focus to work, school, and family life, while others veer into substance dependence and other risky behavior to mask emotional/physical pain. Subjects cited several traits of RVs most at risk including childhood and military sexual trauma, suicide attempts, substance abuse, traumatic brain injury, and belief that medication alone will resolve emotional/physical pain. Staff cited RVs as “creative” substance users, often skilled enough to disguise use until it becomes critical. Gabapentin and stimulants were mentioned as favored RV drugs of abuse, while more traditional choices (alcohol, marijuana, opiates, benzodiazepines, and cocaine) also remain popular.

Advantages of “Youngness”: Despite inherent challenges, staff mentioned that RV’s “developmental youngness” can be an advantage in preventing onset of chronicity. One subject stated that “Most RVs can still be motivated by goals and interests and have not adopted a ‘life-long patient’ mentality.” Another stated that “if they’re still interested in hockey, or playing guitar, or art, if they still have something in their life that brings them joy, I’m more hopeful about reaching them.” Chronic patients often lose these interests, losing hope in that process.” Another staff member stated that “making a difference in how the lives of these veterans turn out and a difference for the families they have or will have” is a major motivating factor for working with RVs.

Preference for Electronic Communication: RV preference for text messages and email versus paper letters and phone calls was frequently mentioned. “When these veterans first come back, they tend to ‘couch surf’ with friends and family before settling down. Many lack a permanent address, but most have cell phones and read texts and emails.”

Emergent Themes: Treatment Engagement Understanding the above-described characteristics of RVs enables refinements to systems, leading to improved treatment engagement. Interview subjects made the following recommendations for tailoring care to meet the needs of RVs:

Emphasis on Streamlined First Encounters: Subjects recommended first encounters with VA care as an ideal place to start improving RV treatment engagement. First visits should be as organized, efficient, and stress-free as possible, beginning with a streamlined

process for arranging services and intakes. Subjects recommended providing printed and web materials containing contact information, prescribing/refill policies, and links to educational websites.

Support and infrastructure: Interviewees suggested training every VA employee who interacts with new veterans in dealing compassionately patients who are likely to feel anxious or stigmatized. They recommended that accessibility and privacy within facilities be improved, and that sending appointment reminders be sent via text message and email.

Scheduling and access: Employed or student RVs often have difficulty attending appointments during traditional work hours. Treatment for PTSD, TBI, and substance abuse requires frequent follow-up, creating what one subject described as an “access and engagement death spiral”, where those most needing help are also most in jeopardy of being fired or failing classes if they skip work or school to attend appointments. Increasing off-hours clinic access was among the most frequent responses to the “What would you change if we gave you a blank check?” question. Subjects classified walk-in services as a helpful stop-gap but not ideal in the long-term.

Coordination: Staff told us that “vets are accustomed to the high degree of teamwork required in combat and get justifiably upset when VA providers can’t or won’t coordinate regarding their care.” Constructive input included the benefit of regular interdisciplinary meetings. “When staff across clinics know each other and understand each other’s workflow” one subject said, “conflicts are much easier to resolve.” Streamlined IT solutions are also helpful for coordination and tracking of care. “The information we need is usually in the electronic record,” stated one subject, “but digging through layers to find it takes time we don’t have.” Flexibility, frequent team meetings and empowering staff to deal with “out of the box” situations were cited as keys to problem-solving. Low flexibility, absence of team meetings, and a lack of creative problem solving were mentioned as traits of low-performing clinics.

Clarifying expectations: Agreement between clinicians and RVs regarding treatment expectations is important to establishing and maintaining engagement. Written agreements can prevent misunderstandings about controlled substances, drug testing, and time-limited therapy. Psycho-education promotes self-management in conditions such as PTSD; motivational interviewing and avoidance of jargon build rapport. Explaining to RVs being asked to taper off controlled substances why this is in their best long-term interest can foster patient buy-in towards this uncomfortable but necessary evolution. Prioritizing function and quality of life over “total cure” helps foster engagement in the long-term.

Incentivizing recovery: Subjects described engagement as “sometimes a double-edged sword...we want patients to get appropriate care, but don’t want this at the cost of their independence and resourcefulness.” Parallel difficulties arise in balancing patients’ rightful pursuit of disability compensation with a recovery focus. Fear that improvement will cause loss of compensation can sabotage treatment.

Discussion

Key Findings, New Findings, and Concordance with Existing Literature: Analysis of interview transcripts yielded twenty-seven major themes, most of which matched cleanly to one or more CCM elements. This served to demonstrate that many areas for improvement highlighted by this study may be well-addressed through implementation of the CCM in some format. Analysis of “match” and “non-match” elements

in the context of employing the CCM for care of RVs yields a framework wherein top-down emphasis on *Unique Characteristics and Needs of RVs and Treatment Engagement* makes possible successful adaptation of the model for treatment of this non-chronic population. This was not surprising given the similarities between chronic patients and RVs in terms of complexity of presentation and associated requirements for highly-coordinated systems of care. One aspect of our findings that is novel is the imperative for discovering and accommodating specific needs of a non-chronic population to boost odds of their engagement in treatment. Chronic patients, who face consequences such as heart failure, blindness, or amputation of a limb must either engage in and adhere to treatment or pay an exorbitant price. Having survived a year or more of combat, RVs often believe (or at least hope) that the qualities that enabled their survival—being tough, resourceful, and independent—will enable them to “shake off” lingering effects of deployment without outside help. They may consider accepting mental health and other forms of care to be a sign of weakness, and they are likely to engage in forms of avoidance typical of trauma survivors, e.g. substance abuse, isolation. As non-chronic as non-chronic patients they are less likely to view present-day engagement in care as crucial to their well-being and future quality of life. Recent work examining the post deployment course of illness and recovery in RVs highlights a “dangerous cycle of decline” [27] in cases where acute issues such as substance abuse and employment difficulties lead to erosion of health and social support networks. This erosion causes and then reinforces chronicity of mental, physical, and social problems, providing another incentive for early intervention for acute issues. Thus, adaptations that encourage RV participation in care before acute conditions become chronic can be viewed as investments in future quality of RV life and in the preservation of national resources.

As Hoge states in his editorial “Interventions for war-related posttraumatic stress disorder: meeting veterans where they are”, systems of care that honor and make use of the strengths of returning warriors are more likely to succeed in engaging them than those that insist on surrender at the cost of individual strength and independence [3]. A body of literature describing strengths-based recovery paradigms supports treatment models that emphasize unique skills, experiences, and strengths of RVs. This literature also provides case studies and logistical recommendations, e.g. language to avoid [28-31]. Furthermore, by emphasizing individual values and goals of RV patients, we give them reason to “meet the system half-way” in terms of adhering to care that may be uncomfortable and more easily avoided in the short-term.

A Framework for Implementing the CCM for Non-Chronic Populations: The above findings yield a framework for implementing the CCM to address both present-day RV needs and prevention of chronicity. Regarding system flow and structure (Figure 1), “Unique Characteristics of RVs” informs and facilitates “Veteran Centeredness”, which in turn impacts decisions made by “Leadership/Organization” with regard to “Work Role Redesign”, both necessary toward optimizing “Patient Engagement” and “Self-Management.” Placement of “Information Technology” in a foundational position reflects the reliance of collaborative systems on well-deployed IT resources.

Clinical Relevance and Generalizability: Some of the adaptations recommended above require sizeable and costly interventions that would necessitate approval at high levels, but many do not. Single providers and small clinical groups can, with little or no financial or organizational support, take steps toward improving initial encounters, fostering RV trust in care through improved communication and

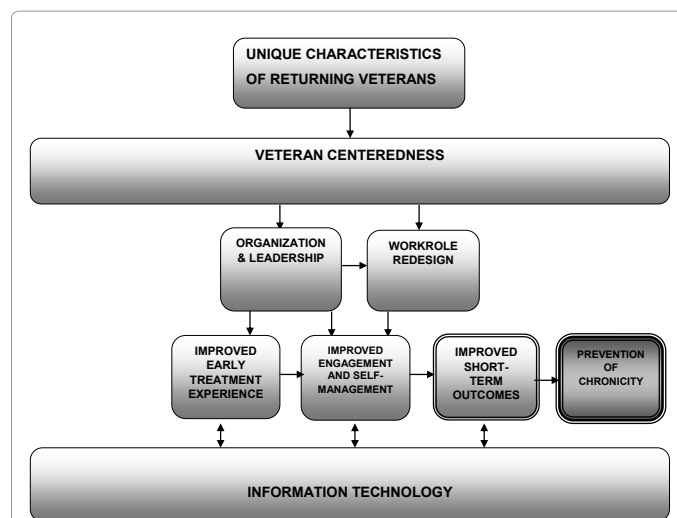


Figure 1: Systems of care for RVs redesign framework based on study outcomes.

coordination of treatment, and incorporating the values and goals of RV patients into treatment planning. CCM-based interventions such as the Life Goals program are open-source, evidence-based, adaptable, and fairly simple to implement [32,33]. While some of our findings are specific to treatment of RVs within the VA system, many are likely to be generalizable to trauma survivors in any system, e.g. the importance of trust and safety to patient engagement, the crucial roles of coordination and shared realistic expectations, and the significance of links to resources able to fill patient needs not supported by a home system.

Limitations

Since this study was conducted at one large, urban VA medical center by interviewing staff from the system under study, generalizability may be limited by size of medical center, urban setting, and absence of direct RV input. It is possible that veterans who choose to live in this urban area are characteristically different from those in other parts of the country. Future work in smaller, rural settings that includes veterans and their families as subjects would be helpful toward confirming or disproving our findings. Although the majority of staff within the clinics and services we recruited from were female, their predominance within our study sample exceeds their representation in the clinical setting. This might conceivably have impacted data collected [34,35], though we found no discernible patterns of difference in data provided by male and female subjects.

Conclusions

Results show the CCM as likely to be effective for treatment of a non-chronic population such as RVs if expanded emphasis is placed on understanding unique population characteristics as a means of fostering patient engagement. This finding may also be relevant to other non-chronic populations, such as civilian trauma survivors, who are also likely to present with challenges posed by avoidance of care and multiple comorbidities. Follow-up studies using RVs and other non-chronic populations as primary sources and testing of hypotheses at multiple sites would further clarify meaning and generalizability. As noted by many subjects, we must make initial encounters with care comfortable for RVs and we must offer care that is highly coordinated and that incorporates individual needs and preferences, e.g. expanded clinic hours, use of text messages and email. We must encourage RVs

to deal with acute issues before they become chronic. Despite our best efforts to make care comfortable and relevant, we must expect that some RVs will initiate but fail to complete their first round of care, and so build systems that make it easy for them to re-connect when they are ready to do so.

Acknowledgements

The authors would like to acknowledge our study volunteers and the clinical managers who aided us in their recruitment for their cooperation, generosity of time, and dedication to the care of Returning Veterans. We would also like to acknowledge the many members at the VA Boston Healthcare System Center for Organization, Leadership, and Management Research who provided direction and feedback relevant to this study and manuscript.

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This article was originally published in a special issue, **Posttraumatic Stress Disorder** handled by Editor(s). Dr. Gautham Ullah, MC Master University, Canada