Award Number: W81XWH-11-2-0059

TITLE: Linking Returning Veterans in Rural Community Colleges to Mental Health Care

PRINCIPAL INVESTIGATOR: Geoffrey M. Curran, PhD (UAMS)

CONTRACTING ORGANIZATION:
University of Arkansas for Medical Sciences
Little Rock, AR 72205

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PREPARED FOR: U.S. Army Medical Research and Materiel Command
Fort Detrick, Maryland 21702-5012

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<td>This study is collecting survey data and rich qualitative information on student veterans’ mental health, help-seeking behavior, and attitudes regarding mental health treatment. Ultimately, this survey and qualitative data will inform the development of a new screening and linkage to care intervention that is feasible in the community college setting and acceptable to this student veteran population and their families. The survey portion of the study is completed and we are conducting proposed analyses. Qualitative interviews and focus groups are ongoing. Analyses from the survey indicate that psychiatric distress is prevalent in the sample of veterans: 32% depression, 23% generalized anxiety, 26% PTSD, 44% with any MH disorder, and 36% binge drinking. Compared to a civilian sample from the same schools, the veterans have significantly higher prevalence of MH disorders in all categories except generalized anxiety. The rates being reported for positive screens are high, thereby demonstrated a need to for increased recognition and intervention in the population. The Veterans in the in-depth interviews are recommending linkage and or services interventions that are acceptable to them, many of which are consistent with current interventions in VA, while some are completely novel. In the next year we will be exploring these intervention ideas further, creating intervention plans in partnership with student Veterans and college representatives, and writing grant applications to allow us to develop and pilot test them.</td>
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INTRODUCTION: While the majority of returning OEF and OIF military service members successfully reintegrate into family life, vocational pursuits, and educational activities, a significant percentage have difficulty because they suffer with TBI, PTSD, depression, and substance misuse and do not seek mental health treatment. It is critical to link OEF/OIF veterans with mental health problems to care in order to promote successful re-integration into a productive, civilian life. One reintegration domain that is extremely important to veterans and the DOD is attaining further postsecondary education. A substantial number of OEF/OIF veterans suffering with mental health difficulties will enter rural community colleges on the new GI Bill. They will be forced to make the transition from the highly structured and hierarchical military setting to the unstructured and sometimes chaotic environment of a college.

Rural community colleges represent an important community context through which we can potentially promote veterans’ engagement with formal care. Yet little has been done to address student veterans’ mental health needs as they reintegrate and attend two-year community colleges. A concurrent challenge is that many returning student veterans live and attend school in rural regions where mental health resources are scarce. In order to address the needs of rural OEF/OIF veterans, it is critical to partner with community stakeholders, such as community colleges, who are likely to have frequent interactions with these veterans. Linking these suffering student veterans to quality care is critical to their educational success on the new GI bill and their successful re-integration into civilian life.

Overarching Research Objective: This study proposes to first collect survey data and then rich qualitative information on student veterans’ mental health, help-seeking behavior, and attitudes regarding mental health treatment. Ultimately, this survey and qualitative data will inform the development of a new screening and linkage to care intervention that is feasible in the rural community college setting and acceptable to this student veteran population and their families.

BODY: The following body is arranged in 3 separate sections, each titled descriptively.

Section 1: Progress to Date

This section is arranged by the tasks in our DoD-approved Statement of Work that are relevant to this annual report. Please note that we received approval for a no cost extension year, and as such, some of the dates of tasks and deliverables have been modified to reflect the extension of work.

Task 4: Recruiting student veteran participants for the web-based quantitative survey, fielding this web-based survey, and cleaning of the survey data (Months 6-24):

Survey Sciences Group-Center for Student Studies assisted us in recruiting student Veterans via both mail and email in the 11 rural Arkansas community colleges who agreed to participate in this study and provided student contact lists. Initially, we predicted that we would recruit from a pool of at least 1,000 student veterans. We ended up having a pool of 928 student Veterans at 11 participating community colleges. Student veterans were offered generous $20 pre-incentives to complete the survey, and with this pre-incentive, we aimed to achieve at least a 70% response rate. Unfortunately, our response rate was less than this target—the response rate ended up being approximately 30%. Our final sample of student veterans in the survey is 228. Our civilian sample is 554 (collected with NIMH funds from an
Because of the large numbers, we have adequate power for our proposed calculations, but we are concerned about bias due to non-response. We are managing with this lower than expected response rate by using weights to control for response bias. As we have communicated before in previous reports, we had difficulties getting the necessary data to make the weights (from one school in particular) which caused significant delays, but this problem has been addressed and we now have the weights and are applying them in all analyses. Per our expert colleagues at Survey Sciences Group, they were not particularly surprised with our response rate at rural community colleges because they have noted lower response rates in 4-year commuter schools compared to residential 4-year schools. Of course, community colleges are “commuter schools” by definition.

Survey Sciences Group-Center for Student Studies has compiled and cleaned the collected survey data and has provided our team with an SPSS data file for data analysis. As you can see in the appended slide presentation, we are performing analyses on the weighted data and making significant progress in analyses. The tables include demographic, clinical, and some attitudinal information on Veteran students and a comparison civilian student sample funded through a separate NIMH R21 grant. We also report multivariate analyses predicting perceived need and services use.

**Task 5: Development of a qualitative interview guide:**

Interview guides for the in-depth qualitative key participant interviews were developed last year based on the methods of ethnographic interviewing. In addition, the related consent form and flier were developed as well.

**Task 6: Obtain UAMS IRB and USAMRMC HRPO approval for the qualitative portion of the study and then recruit, consent, and interview 20-40 (20-25 men and 10-15 women) student veterans who screened positive for a mental health condition (Months 12-42):**

We have obtained IRB approval at the University of Arkansas for Medical Sciences for human subject data collection in the key participant interview portion of the study (Task 6a). UAMS IRB has approved the interview guide, protocol, and the related consent form and flier. We also received HRPO approval for the qualitative key participant interviews on 3-14-2012 (Phase 2).

**6b. Recruit participants (20-25 men and 10-15 women student veterans who screened positive for a mental health condition) and conduct in-depth face-to-face interview (1-2 hours) at the participant’s college (or other location selected by the participant). Participants will have a $50 incentive for participating in these involved interviews (Months 18-42).**

We received a list of 87 potential participants from our partners at SSG who both screened positive for at least one mental health condition and were willing to be contacted for further research when they completed their quantitative survey consent form. This is the pool from which we can draw the participants for the in-depth interviews. Participants receive a $50 incentive for participating in these involved interviews.

To date we have completed 24 interviews (18 men, 6 women). This is fewer than we had hoped by this point in the study, but we are continuing to recruit and will continue to do so during the no cost extension period. One complication that has arisen is that most of these potential interview participants are not answering their phones when we call, and in many cases were not able to leave a voicemail. We discuss the issue and potential solutions in more detail below in the "Problem Areas" section.

**Task 7: Focus Group and Intervention Development Process (Months 25-42)**
We have completed 2 focus groups with 10 student veterans total. We are recruiting significant others for their presentation in separate focus groups. We draw from the pool of veterans who completed the in-depth interviews to participate in the focus groups. As with the individual interviews, we are continuing to recruit and will continue doing so during the no cost extension period.

Task 8: Data analyses (Months 12-48):

As described above, Survey Sciences Group-Center for Student Studies has compiled and cleaned the survey data and has provided our team with a SPSS data file for data analysis. We have the response weights and we are rapidly doing analyses. As you can see in the appended slides from a recent presentation, we are making progress with analyses. The tables include selected demographic, clinical, and attitudinal information on Veteran students and a comparison civilian student sample funded through a separate NIMH R21 grant. We also have multivariate analyses on perceived need for care and help seeking. Many more analyses are currently being conducted. We have developed a paper-writing plan and have outlined numerous papers to be created. In the slides attached we also include preliminary data from the in-depth interviews. All qualitative interviews and focus group interviews have been transcribed and we are coding those data.

Task 9: Manuscript Development (Months 18-48):

We are working on our first 3 manuscripts (2 quantitative and 1 qualitative). We have an R34 grant submitted to NIAAA now to develop and test a brief alcohol intervention using student veteran peer support.

Section II: Problem Areas

(a) A description of current problems that may impede performance along with proposed corrective action.

At this time we are experiencing one major problem area:

1) In terms of the in-depth interview and focus group data collection, we are below our expected enrollment at this time. We have attempted to reach all of the 87 eligible Veterans thus far to invite them to participate in the qualitative interview (and those who have interviews, the focus groups). Nobody has yet refused. However, many telephone numbers have turned out to be "wrong numbers." Further, most people we have attempted to reach have not actually answered our calls, and we have left many voicemails and/or are repeating calls. We have learned that many of the Veterans do not have voicemail-enabled phones (i.e., we are not able to leave a message). This is impacting recruitment. We have employed two remedies this year (and increased enrollment this year likely as a result) -- we have home addresses as for each participant, and we contacted them by mail (we are already approved to do so in the current protocol). Further, we contacted the schools and got any additional telephone contact information on those who are not picking up. We got many new numbers and have used them to recruit. We will again update contact info from the schools as we can.

It is possible that we will not reach out target of 20-25 males and 10-15 females for the in-depth interviews, but we are getting close. We have 18 males and 6 females. It is common to reach "theoretical saturation" at 15-20 interviews for similar subpopulations (e.g., male Veterans in community colleges), so we believe strongly that we can reach theoretical saturation for the male Veterans.
Certainly, we will continue to attempt to recruit to the target numbers for the duration of the study. We will consider expanding to schools of nursing to increase our numbers of female participants (this idea came from a fellow PI at the September meeting in Maryland). We have completed the 2 focus groups we proposed for the student veterans, and we are attempting to recruit our first of two focus groups with significant others.

Section III—Description of work to be performed during the 1st quarter of the 4th year.

We describe the upcoming work for each Task.

**Task 6b. Recruit participants (20-25 men and 10-15 women student veterans who screened positive for a mental health condition) and conduct in-depth face-to-face interview (1-2 hours) at the participant’s college (or other location selected by the participant).**

We will continue to recruit and interview participants in the 1st quarter of Year 4 (no cost extension).

**Task 6c. Transcribe interviews and prepare the transcripts for data analyses (Research Technologist) with a software program for qualitative data analysis**

We are fully transcribed now, but will transcribe new interviews and focus groups.

**Task 7: Focus Group and Intervention Development Process**

We will continue to recruit for and conduct focus groups in the 1st quarter of Year 4 (no cost extension). In the final 6 months of this next year we will conduct the proposed multi-stakeholder intervention development process (though we have already done some work with stakeholders already to put together the NIAAA grant).

**Task 8: Data analyses**

We will continue to conduct analyses as proposed in the upcoming quarter and year.

Qualitative analysis software is being used to analyze, code, and interpret the transcribed interview data. Data analyses began soon after the first interviews were done, and analyses will continue in an iterative manner across the next quarter and across the majority of the study period. Drs. Curran, Cheney, and the RA, LaKiesha Mitchell, serve as coders (Months 20-48).

**Task 9: Manuscript development**

We are working on 3 manuscripts now. We have prepared four scientific presentations thus far. Manuscripts will be generated based on answering key research questions posed in the proposal narrative. They will be developed from both quantitative and qualitative data.

**KEY RESEARCH ACCOMPLISHMENTS:** We are pleased to report the following accomplishments this year:

- The survey was fielded and completed (228 veterans). An accompanying set of surveys from civilians from the same schools were collected as well, funded by NIMH, (554 civilians).

- The dataset has been cleaned, we have response weights completed, and analyses are ongoing. See the appended slides from a recent presentation for a summary of findings to date.
• We are close to the targets for the qualitative interviews, and we have completed the proposed focus groups with veterans.

• Quantitative and Qualitative analyses are ongoing.

• An NIH grant based on quantitative and qualitative findings is submitted and pending review at this time.

REPORTABLE OUTCOMES: As noted above, we have prepared four presentations with preliminary findings thus far-- two presented at Fort Detrick, MD (conference on "Stigma/Barriers to Care and Accessing Solutions"), one at a local University presentation and one at a substance abuse conference. We will not fully re-create the reported findings here, but we will summarize some key preliminary findings here (and have appended a slide show for a recent presentation).

Analyses from the survey indicate that the student Veterans are reporting high levels of psychological distress. Thirty-two percent of the student Veterans screened positive on a 9-item screener for current depression (past 2 weeks). Twenty-three percent screened positive on a 7-item screener for generalized anxiety. Twenty-Six percent of the student Veterans screened positive on a 4-item screener for post-traumatic stress (PTSD). Forty-Four percent of the student Veterans screened positive on at least one mental health screening instrument. Thirty-Six percent of the student Veterans reported recent binge drinking. All of these rates, with the exception of generalized anxiety, are statistically significantly and substantially higher for the student veterans than the comparison group of non-Veterans from the same colleges. Further, 18% of the student Veterans reported thoughts of suicide in the past year, compared to 10% of the non-Veterans comparison group from the same colleges. In terms of perceived need for help, 38% of the student Veterans reported a perceived need for help for an emotional or mental health problem. In terms of service use, 24% of student veterans reported the use of a psychiatric medication, and 21% reported using counseling. Compared to non-Veterans from the same collages, these rates were not significantly different, except in the case of counseling services, where the student Veterans used more counseling services. In multivariate models, positive scores on screens for PTSD and generalized anxiety disorder are significantly associated with perceived need for treatment and actual receipt of psychotherapy and psychiatric medications.

Analyses from the in-depth interviews are uncovering a number of consistent emergent themes. For example, numerous barriers to help-seeking are being reported and elucidated, including-- lack of perceived need, skepticism of treatment efficacy, stigma, and lack of available services. Relative to their recommendations for interventions they would find acceptable, a common theme that is emerging is "Vet-to-Vet connections." Numerous participants have discussed their ideas about using student Veterans as liaisons and/or connectors to care. Some also recommend using student Veterans to screen the Veteran student populations for potential problems. Others recommended setting up activities for student Veterans that were "positive" (such as fishing or volunteering), to enhance well-being, but also to allow relationships to be established, thereby allowing those student Veterans who are struggling avenues to
self-identify as needing help. They are also expressing distress and some anger around relations with non-veteran students, whom many in our qualitative sample consider "still young, not serious, and getting in the way of others' success in school."

**CONCLUSIONS:** It is clear thus far that the student Veterans are experiencing substantial psychological distress. The rates being reported for positive screens are high, thereby demonstrated a need to for increased recognition and intervention in the population. The Veterans in the in-depth interviews are recommending linkage and or services interventions that are acceptable to them, many of which are consistent with current interventions in VA, while some are completely novel. In the next year we will be exploring these intervention ideas further, creating intervention plans in partnership with student Veterans and representatives from these community colleges, and submitting applications to pilot test these interventions.
Linking Student Veterans in Rural Community Colleges to Mental Health Care

PI: Geoffrey M. Curran, Ph.D.
University of Arkansas for Medical Sciences

Award Number: W81XH-11-2-0059
Award Dates: 12/11/2010 - 1/09/2014
Award Amount: $1,108,508
Contract Officer Representative: Mark Clayton, Ph.D.
Project Officer: Jennifer Shankle

UAMS PSYCHIATRIC RESEARCH INSTITUTE
Linking Student Veterans in Rural Community Colleges to Mental Health Care

PI: Geoffrey M. Curran, Ph.D.

University of Arkansas for Medical Sciences

Award Number: W81XH-11-2-0059
Award Amount: $1,108,508
Contract Officer Representative: Mark Clayton, Ph.D.
Project Officer: Jennifer Shankle
We thank the Department of Defense, the Survey Sciences Group, LLC, at Ann Arbor, Michigan, and the local study coordinators at the participating campuses for their assistance. We also thank the soldiers and Veterans who participated in the study.
Background/Rationale

- 3 out of 5 students who use the GI Bill will enroll in community colleges or a distance-education institution (e.g., U of Phoenix)\(^1\)
  - Few, if any, MH resources on campus

- Results from Healthy Minds Study:
  - Fewer than half of students w/+ screen for depression or anxiety disorders received MH care\(^2\)
  - MH status associated w/lower GPA, dropping out\(^3\)

- Gap in the literature on student veterans’ MH needs who attend two-year community college

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(1) Field, 2008; (2) Eisenberg et al., 2007; (3) Eisenberg et al., 2009
Hypotheses

1.) Veterans would have more severe MH burden

2.) Veterans would have lower help seeking

3.) Veterans would prefer Veteran peer involvement in any screening/linking intervention

Specific Aims

• **Aim 1:** Quantitatively assess the mental health status of student Veterans attending community colleges, their help-seeking behavior, and their attitudes toward mental health care and potential screening and linkage-to-care approaches.

• **Aim 2:** Elicit student Veterans’ preferences for help-seeking and their attitudes toward mental health screening and linkage-to-care interventions.

• **Aim 3:** Develop a screening and linkage-to-care model that reflects the perspectives of student Veterans and their significant others.
Research Design

• **Mixed-methods study**
  - Quantitative data collected from student Veterans
    • Web-based, survey questionnaire
  - Qualitative data collected from subset of participant pool (those with + MH screens)
    • Semi-structured interviews

• **Data analysis**
  - Integrate the quantitative and qualitative findings

• **Intervention development**
  - Focus groups and product design meeting
Study Population:
Veterans and soldiers attending community colleges in AR

- Majority age 26-35
- 70% men
- 73% white
- 58% married
- 50% 2nd year in college
- 99% lived off-campus
- 48% reported “tight but doing fine” current financial situation
Structured Survey

Self-administered, web-based questionnaire

**Measures:**
- PHQ-9 for depression
- GAD-7 for anxiety
- Brief Trauma Brain Injury Screen
- Primary-Care PTSD screen
- Suicidality
- Substance Use
- Perceived public stigma, perceived need, MH utilization
- Social Support

**Recruitment**
- List of students using GI bill from participating colleges
- Email, mailed letter w/$20
- Veterans, n=228 (30%)
- Civilians, n=554 (25%)

**Procedures**
- Secure, confidential survey website, anonymous
- Online consent form
Qualitative Research

• Semi-structured interviews (n≈40)
  • 20-25 men; 10-15 women w/positive MH screens
  • Conducted at Veteran’s college

• Recruitment
  • Veterans w/+ MH screen (87 eligible, 21 women)
  • 24 interviews thus far; 6 women

• Open-ended questions explored:
  • Attitudes and beliefs about MH problems, perceived need for care, barriers to help-seeking, screening and linkage-to-care ideas

• Inductive/deductive blend for qual analyses
Intervention Development

- 4 Intervention Development Focus Groups
  - 2 Veteran FGs (1 completed; 2nd being scheduled)
  - 2 significant others FGs
- Collective brainstorming
  - Elicit Veterans’ & SOs’ responses to further define intervention (e.g., access pathways, use of technology)
- Intervention prototype development
  - Half-day meeting w/ key stakeholders
Mental Health Prevalence

civilian: 554, veteran: 228

- Any Mental Health Disorder: 44%*
  - Civilian: 33%
  - Veteran: 21%
- Depression: 32%*
  - Civilian: 21%
  - Veteran: 32%
- PTSD: 26%*
  - Civilian: 13%
  - Veteran: 26%
- GAD: 23%
  - Civilian: 21%
  - Veteran: 23%
- Binge drinking: 36%*
  - Civilian: 20%
  - Veteran: 36%
- Illegitimate drug use: 9%*
  - Civilian: 13%
  - Veteran: 9%

* P-value < 0.05
Suicide ideation

* P-value <0.05

- Seriously considered suicide:
  - Civilian: 8%
  - Veteran: 12%

- Thoughts of death & self-harm:
  - Civilian: 10%
  - Veteran: 19% *
Help seeking perspectives

Civilian=554, Veteran=228

* P-value <0.05

- Know where to go: 40% civilian, 40% veteran
- Counseling not helpful: 30% civilian, 38% * veteran
- Medication not helpful: 45% civilian, 55% * veteran
- Participant thinks less of person in MH tx: 6% civilian, 9% veteran
- Participant thought others think less of person in MH tx: 56% civilian, 64% * veteran
Counseling and psychotropic medication

Civilian=554, Veteran=228

* P-value <0.05

- Receiving counseling: Civilian=9%, Veteran=20%*
  - P-value <0.05

- Psychotropic medication: Civilian=21%, Veteran=23%
Multivariate Model ORs

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<td>p=0.3182</td>
<td>1.02</td>
<td>p=0.8706</td>
<td>1.15</td>
</tr>
<tr>
<td>Others think less</td>
<td>1.09</td>
<td>p=0.3208</td>
<td>0.90</td>
<td>p=0.452</td>
<td>1.07</td>
</tr>
<tr>
<td>Suicide ideation</td>
<td>2.54</td>
<td>p&lt;.0001</td>
<td>1.25</td>
<td>p=0.2039</td>
<td>1.41</td>
</tr>
<tr>
<td>Illegal drug</td>
<td>1.19</td>
<td>p=0.2222</td>
<td>0.89</td>
<td>p=0.5825</td>
<td>1.01</td>
</tr>
<tr>
<td>Binge drink</td>
<td>1.31</td>
<td>p=0.0095</td>
<td>1.04</td>
<td>p=0.7917</td>
<td>1.11</td>
</tr>
<tr>
<td>Generalized anxiety +</td>
<td>1.35</td>
<td>p=0.0185</td>
<td>1.60</td>
<td>p=0.0039</td>
<td>1.50</td>
</tr>
<tr>
<td>PTSD+</td>
<td>1.66</td>
<td>p=0.0002</td>
<td>1.84</td>
<td>p&lt;.0001</td>
<td>1.80</td>
</tr>
<tr>
<td>Depression+</td>
<td>1.46</td>
<td>p=0.0015</td>
<td>1.00</td>
<td>p=0.9487</td>
<td>1.05</td>
</tr>
</tbody>
</table>
Hot off the presses...

- Multivariate model of “Grade” – A, B, C-F
  - Depression+ is significant predictor of worse academic performance (OR = .62)
  - GAD+, PTSD+, binge drinking NS
  - Controlling for age, race, gender, financial status
Qualitative Results: Barriers to Help-Seeking

Non-military specific
- Lack of perceived need
- Unaware of services
- Skepticism of treatment effectiveness
- Stigma
- Concern about medications

Military-specific
- Seeking treatment could harm military career
- Only the “weak” seek care
- Duty to suffer

College-specific
- Lack of available services
- Penalized for missing classes

“The last time I ever talked to a therapist I was still active duty when my problem really kicked in. . . . It just seemed like they’re wanting to give you pills and send you on your way. ‘Ah, you’re cured, you’ll be fine.’ It’s more aggravating than what it’s worth. That’s why I said it’s more therapeutic to talk to my buddies. Everybody always thinks that alcohol is bad—if you start drinking to drown your problems away that’s bad—I’ve never seen it as bad, especially when you get around your buddies. You start drinking and talking; have a good ‘ol time. And, that’s therapeutic.” [26-year-old student veteran with symptoms of PTSD, depression]
Interview and FG Results: Emerging Themes around Vet-to-Vet Connection

Vet-to-Vet screening and linkage-to-care

“If you had a buddy system where you know that I’m a veteran or a service member . . . Have somebody already set up to say ‘Hey we need to talk to this guy.’ . . . Not a structured sit-in with a group.”

Recommendations: 1) Student veteran w/prior MH problems and treatment-seeking experiences screens & connects/provides them with services. 2) Outreach after deployment/leaving military from Vet peer, not current service member

Build relationships

“You would have to know him first. Get their background and find out what they’ve seen and done . . . You’ve got to build a good relationship, but eventually you’re gonna go there (discuss MH issues).”

How Build Relationships? Via non-health related activities: Courses together, Veteran events (meals), volunteering together
Study Progress & Next Steps

• Doing (re-doing) quantitative analyses with weights for non-response
• Recruiting still for qualitative interviews (females mostly) and FGs
• Product Development meeting in 2014 (NCE!)
• 4 conference presentations
• 1 NIAAA R34 submitted to NIAAA based on binge drinking results and Vet-to-Vet themes
• 1 NIAAA R34 submitted to NIMH based on depression results and Vet-to-Vet themes
Questions?