

**AWARD NUMBER:** W81XWH-14-1-0322

**TITLE:** Peer-Led Suicide Prevention: Promoting Healthy Family Role Transitions for Military Personnel

**PRINCIPAL INVESTIGATOR:** Peter A. Wyman, PhD

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Rochester, NY 14611-3847

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<b>13. SUPPLEMENTARY NOTES</b>					
<b>14. ABSTRACT</b> Project objectives are to develop and test an upstream suicide preventive intervention (Wingman-Connect) for young, enlisted Air Force (AF) personnel by adapting the evidence-based Sources of Strength program. Wingman-Connect uses an active learning model through which AF technical training students together build a foundation of healthy peer and mentor relationships, belonging and purpose, and skills to maintain balance. The longer-term goals are to prepare airmen for a successful transition to operational AF, reduce vulnerability for relationship disruptions, and prevent behavioral and emotional problems including suicidal behavior. In project Years 1-3, partnership was created with AF Leadership, completed protocols and IRB approvals, engaged Sheppard Air Force Base technical training school as site and enrolled 352 Airmen-in-Training for intervention development and piloting. The developed intervention showed high levels of relevance, satisfaction and perceived benefit (based on airmen feedback) and increased class cohesion based on longitudinal assessments. Developed text messaging system to extend intervention. Maintained strong ongoing partnership with AF and Sheppard AFB leadership during next phase of testing Wingman-Connect through randomized trial. In project Years 4 and 5, recruited, and enrolled 1485 Airmen-in-Training in 26 cohorts, completed assessments at baseline, 1-month, and 6-months post training as part of a nested, matched sample in a randomized control trial. Enrollment and retention rates of participants exceeded targeted goals.					
<b>15. SUBJECT TERMS</b> Military suicide prevention, social connectedness, upstream prevention, relationship skills, family changes, coping with military transitions					
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- 1. INTRODUCTION:** Narrative that briefly (one paragraph) describes the subject, purpose and scope of the research.

Adapt the evidence-based Sources of Strength program for young, enlisted Air Force personnel to create Wingman-Connect that increases healthy peer and mentor relationships during technical training, belonging and purpose, and skills to maintain balance. Test the intervention using a randomized trial design to assess impact on reducing relationship disruptions, fitness, behavioral and emotional problems, including suicidal ideation, over a 6-month period.

- 2. KEYWORDS:** Provide a brief list of keywords (limit to 20 words).

Military suicide prevention, social connectedness, cohesion, upstream suicide prevention, relationship skills, coping with military transitions

- 3. ACCOMPLISHMENTS:** The PI is reminded that the recipient organization is required to obtain prior written approval from the awarding agency Grants Officer whenever there are significant changes in the project or its direction.

#### **What were the major goals of the project?**

The major goals of the project are as follows:

- 1. Project Leadership and Planning.** Develop and maintain a project leadership team to engage key Air Force stakeholders, identify sites, ensure the intervention integrates with AF priorities and needs, disseminates findings and, if the intervention is found effective, plans for future intervention dissemination.
- 2. Intervention curriculum development.** This goal involves an iterative process of enrolling airman-in-training from Air Force technical school, training groups of 25-35 in intervention modules adapted from Sources of Strength for the AF population; assessing airman engagement and perceived benefits of training, as well as key proximal factors targeted by the training; completing the Wingman-Connect manuals.
- 3. Technology development.** This goal involves creating a system to extend the Wingman-Connect intervention using text messaging as a vehicle for reinforcing intervention concepts and encouraging ongoing skill application and generalization. This goal occurs in tandem with curriculum development and extends beyond it to ensure that the text system builds on the final intervention content and structure.
- 4. Randomized Control Trial.** This goal involves; the preparatory actions for the trial of forming a Data Safety Monitoring Committee, developing fidelity monitoring tools, completion of on-line assessment platform with integrated CAT-MH, and logistic coordination at SAFB; and the production phase actions of recruitment, enrollment, assessment, training, text messaging, and follow-up.
- 5. Analyses for Randomized Control Trial.** This goal involves receiving, checking, merging, and cleaning de-identified data; and subsequent completion of fidelity ratings, analyses, and preliminary reports.
- 6. Reporting and Dissemination.** This goal includes briefing AF Leadership; Headquarters AF (AF-HQ/A1), Integrated Resilience (AF-A1Z), AF Surgeon General's Office (AF-SG); DoD Suicide Prevention Office (DSPO); refining and finalizing intervention manual and materials; the completion of reports and publications; and planning for future dissemination of study findings to the AF and other branches of service.

## What was accomplished under these goals?

In this past project Year 5, activities have focused primarily on the production phase of the randomized control trial (RCT) and follow-up data collection. The study team maintained ongoing regular communication and collaboration with Air Force partners. A Data Safety Monitoring Committee (DSMC) convened in March 2018 to evaluate ongoing safety and progress of the RCT. All DSMC committee members supported continuation of the study. Goals for year 6 of the study include: (a) completion of analyses to identify effects at 1-month and 6-months post intervention, (b) how the intervention works (mediating processes) as well as for whom the intervention works (moderators of impact); and (c) based on the results, refining intervention materials, briefings, reports and future dissemination planning.

### **Task 1. Project leadership team, preparation, planning and completing study protocols.**

Tasks 1a-1e were reported in first annual report as 100% completed: established leadership group comprised of personnel in Air Force Surgeon General's Office and Northwestern University co-investigators (1a); completed phase 1 research protocols, and received IRB approvals from U Rochester and USAMRMC Office of Research Protections (1b); completed protocols for phase 1 enrolling personnel for pilot training and testing (1c); convened behavior health leadership at Sheppard AFB and suicide prevention leadership to integrate role of Wingman-Connect in prevention and pathways to care (1d); and identified site for intervention development and piloting, 82 TRW Sheppard Technical School (1e). In project year 2, we built partnership with Sheppard Air Force Base (SAFB) as the site for intervention development and testing. In project years 3 and 4, we continued bi-weekly or monthly teleconference with lead Air Force partners and co-investigators.

In project year 5, we continued bi-weekly or monthly teleconference with Air Force partners/co-investigators, including Col Stephen Pflanz (AF-SG), Col Chris Robinson (AF-A1Z), and Lt Col Alicia Matteson (AFSPPM). Monthly meetings were also held with Northwestern University co-investigators (C. Hendricks Brown, PhD, site PI) to review randomized control trial progress, and plan and execute initial analyses. Year 5 brought more change in AF leadership with Col Scott Sonnek replacing Col Steve Pflanz as AF Chief of Psychological Health in quarter 19, and Maj Jordan Simonson replacing Col Alicia Matteson as AFSPPM in quarter 20. In addition to the completion of the production phase of the RCT in year 5, a major focus was the continued collaboration with Senior AF Leadership, preparations for analyses, and the dissemination of study results to parties of interest.

In quarter 17, Leadership from AF-A1Z observed the first 3 days of Wingman-Connect training at SAFB from 2-4 OCT. Attending were Col Chris Robinson (Chief, AF-A1Z Research, Development, and Implementation Branch), Ms. Maritza Sayle-Walker (Policy Division Chief, AF-A1), and CMSgt Paul Barbie (Senior Enlisted Advisor to AF Resilience, AFHQ). The training was viewed positively by A1Z, who recognized that Wingman-Connect training encompasses elements and skills that are currently not included in initial entry training for all Airmen. Also in the quarter 17, our primary 82 TRW POC Ms. Jessica Ditson relocated to Schriever AFB. Ms. Kathy Johnson replaced her as the SAFB Violence Prevention Integrator, and our primary POC to the 82 TRW.

In quarter 18, we briefed Gen Jolly (82 TRW, CC) and 82 TRW Leadership on the completion of the enrollment period and study activities to date on 1 FEB. Discussions of the intervention and successful study operations were viewed very positively by Gen Jolly and other senior leaders. It was requested that once more data was collected and initial findings were distributable, that Dr. Wyman return to brief Wing CC/CV and SQN Leadership. This return brief is currently scheduled for quarter 21 of year 6, on 10/16/19.

### What was accomplished under these goals? (cont.)

In quarter 19, the Data Safety Monitoring Committee (DSMC) convened for a second time on 13 MAR, to review progress of the study. No change in risk was identified and all committee members supported continuation of the study, and recommended that no further DSMCs are required in the absence of adverse/reportable events. A summary of final participation and findings will be distributed, when available, to the committee.

In quarter 20, a second NCE was submitted and approved. It included modifications to the SOW, extending the study through 7 SEP 2020 to allow for the completion of study objectives. Modifications to the SOW included adjusting for; the delayed onset of enrollments, the addition of two cohorts, and the complexity of data collected including fidelity adherence monitoring.

#### **Task 2. Intervention curriculum development.**

**2a. Enroll subjects (up to 300) from Air Force technical schools; train groups of 25-30 in adapted modules; obtain feedback from questionnaires and discussion (100% complete)**

**2b. Conduct training/discussion group and analyze data from questionnaires (100% complete) 2c. Complete Wingman-Connect training manual (100% complete)**

#### **Task 3. Technology development.**

**3a. Create software for text-messaging system (100% complete)**

**3b. Revise and refine based on evaluation feedback (100% complete)**

**3c. Complete technology (100% complete)**

#### **Task 4. Randomized Controlled Trial of Wingman-Connect.**

**4a. Trial Planning, form DSMB, coordination of logistics with SAFB partners (100% complete) 4b. Develop tools for implementation fidelity monitoring (100% complete)**

**4c. Complete secure on-line assessment platform and integrate CAT-MH (100% complete)**

**4d. Recruitment/enrollment (100% completed)**

**4e. Final 6-month assessments (100% completed)**

**Task 4d.** In year 5 we recruited 424, and enrolled 370 subjects, in 6 cohorts. 182 participants were assigned to Wingman-Connect training and 188 to the comparison Stress Management training. Enrollment in year 5 was slightly higher than year 4 at 87.2% (proportion enrolled who attended enrollment session) and was consistent over the final 6 cohorts. Enrollments:

- 9/18/18 – 356TRS – 53 enrolled
- 10/2/18 – 363TRS - 75 enrolled
- 10/16/18 – 365 TRS - 59 enrolled
- 10/30/18 – 363TRS - 64 enrolled
- 1/15/19 – 363TRS – 68 enrolled
- 1/29/19 – 365TRS – 51 enrolled

In the final study sample, 216 Tech classes were identified as meeting protocol eligibility requirements, and were able to be successfully matched based on course content, duration, start date and size. These 216 classes were invited to attend recruitment meetings, of which 215 classes had at least one class member enroll. Classes were randomized to condition: 107 of the enrolled classes were randomized to Wingman-Connect (W-C), the remaining 108 classes to Stress Management training (SM). By alternating cycles of enrollments between SQNs, and the utilization of matched class pairs, balance of sample between participating SQNs was maintained with 714 (48.1%) enrolled subjects being from 365TRS, and 771 (51.9%) from 363TRS, and also by condition; 748 (50.4%) W-C, 737 (49.6%) SM. The DSMC reviewed the study sample by condition and cohort, and determined that class matching protocol was successful.

### What was accomplished under these goals? (cont.)

**Task 4e.** In year 5, the final 20 cohorts, comprised of 1156 subjects, have reached the end of the study period. Successful retention and completion of the 6-month follow-up assessment to date is 84.0% (1247/1485), which exceeds our projected retention rates. This high follow-up rate is uniform across both SQNs (86.3% in 365TRS, 81.9% in 363TRS) and conditions (84.1% Wingman-Connect, 83.9% Stress Management).

### What opportunities for training and professional development has the project provided?

- Drs. Wyman and Pisani attended weekly teleconference of Prevention Science and Methodology Group (PSMG), a national network of prevention scientists and statisticians.
- Kunali Gurgditta and Matt Rasmussen, medical students at UR worked with Dr. Wyman and study personnel to develop a trainer manual adherence checklist, as well as a system for the review of audio recordings of the W-C training sessions to ensure fidelity of the training.
- Dr. Chelsey Hartley, U Rochester postdoctoral fellow has been trained to deliver Stress Management training and is beginning training in Wingman-Connect.

### How were the results disseminated to communities of interest?

In project year 5, PI Wyman and team have disseminated results to key Air Force partners in the AF Headquarters (AF-A1Z) through biweekly tele-conferences. In addition, a major focus has been on disseminating new information and ongoing progress to Sheppard Air Force Base leadership and the training squadrons (TRS) that participated in the study, as well as other communities of interest.

- Dr. Wyman briefed 82 TRW CV, and 363 TRS CC (10/2/2018)
- 82 TRW CC/CV/CCC (2/1/2019)
- Pat Breux representative from NYS-Office of Mental Health Suicide Prevention Office (3/14/19)
- Dr. Wyman presented summary of project at the MOMRP Suicide IPR (5/22/19) and responded to panel questions regarding progress and next steps.
- University of Rochester CSPA (6/4/19)
- A1Z new CC/Cyber briefing (6/13/19)
- MHSRS (8/21/19). Dr. Wyman presented Wing-Conn summary and findings through 1-

### What do you plan to do during the next reporting period to accomplish the goals?

- Complete analyses. A major focus of next reporting period will be to check, clean and prepare final data set incorporating all measures collected through 6-month follow-up. This step includes merging data from the CAT-MH (computerized adaptive testing-mental health) as well as network based data collected from airmen's nominations of close bonds with classmates. Following data coalescing, team will work with co-investigators to conduct analyses of intervention impact including mediators (mechanisms) and moderators (for whom was the intervention most effective).

### Next Reporting Period (continued)

- Publications. Findings will be summarized for submission to peer reviewer journals.
- Dissemination of findings to AF-A1Z, Cyber Command, other areas of interest in USAF. The team will continue briefings of AF leadership including final briefing of 82TRW CC and A1Z/Surgeon General.
- Pursue follow-on expansion and feasibility assessment study. In collaboration with AF partners determine how Wingman-Connect can address AF needs and needs of other service branches.

4. **IMPACT:** Describe distinctive contributions, major accomplishments, innovations, successes, or any change in practice or behavior that has come about as a result of the project relative to:

#### What was the impact on the development of the principal discipline(s) of the project?

We have successfully adapted Sources of Strength for young, enlisted airmen receiving technical training at SAFB through the new 3-day Wingman-Connect training. Pilot phase demonstrated that the training is feasible to provide to classes of students, and the active learning model of Sources of Strength is engaging and perceived as beneficial and providing useful skills. In year 4 we have demonstrated that Wingman-Connect can be implemented regularly and evaluated rigorously in a challenging military population without impeding their ability to complete job skill training. This intervention has potential to provide a new, sustainable tool for promoting a strong military workforce and reducing problems leading to suicidal behavior. Initial findings at 1-month show positive effects on fitness and mental health.

#### What was the impact on other disciplines?

Nothing to Report

#### What was the impact on technology transfer?

Nothing to Report

#### What was the impact on society beyond science and technology?

Nothing to Report

5. **CHANGES/PROBLEMS:** The Project Director/Principal Investigator (PD/PI) is reminded that the recipient organization is required to obtain prior written approval from the awarding agency Grants Officer whenever there are significant changes in the project or its direction. If not previously reported in writing, provide the following additional information or state, "Nothing to Report," if applicable:



### **Changes in approach and reasons for change**

As noted in prior reports, the intervention development phase was expanded in duration to develop a training for full technical training classes (rather than just a sub-set of ‘peer leaders’). These changes increased the potential value of the intervention by incorporating a focus on class functioning and cohesion. We received approval for a revised SOW and second NCE that account for this extended development period and will enable us to complete the RCT and analyses.

### **Actual or anticipated problems or delays and actions or plans to resolve them**

As mentioned previously in this report, it was necessary to request a second NCE, and modification to the SOW, in order to complete the study objectives. Modifications to the Statement of Work (SOW) included adjustment for the delayed onset of enrollments and the addition of two cohorts, as well as extended time to complete analyses and preliminary reports due to the complex data that will be collected, including monitoring fidelity. We received approval of the second NCE and modified SOW in quarter 20.

### **Changes that had a significant impact on expenditures**

No changes to report in year 5.

In year 3, there were modifications to the SOW to reflect slowed spending on technology development. This allowed for an increased focus on training curriculum development and left carry-forward funds. These funds compensated the increased travel and staffing costs of the RCT phase and are projected to be adequate to continue beyond year 5 into a second NCE for refined analyses and publications.

### **Significant changes in use or care of human subjects, vertebrate animals, biohazards, and/or select agents**

#### **Significant changes in use or care of human subjects**

Nothing to Report

#### **Significant changes in use or care of vertebrate animals.**

Nothing to Report

#### **Significant changes in use of biohazards and/or select agents**

Nothing to Report

**6. PRODUCTS:** List any products resulting from the project during the reporting period. If there is nothing to report under a particular item, state “Nothing to Report.”

- **Publications, conference papers, and presentations**

Report only the major publication(s) resulting from the work under this award.

**Journal publications.**

Manuscript describing pilot phase and results in preparation.

**Books or other non-periodical, one-time publications.**

Nothing to report

**Other publications, conference papers, and presentations**

Presentations of intervention model and findings from 1-month follow-up assessments at 2019 DSPO suicide prevention conference, and 2019 Military Health Science Research Symposium.

- **Website(s) or other Internet site(s)**

Nothing to Report

- **Technologies or techniques**

Wingman-Connect Manual

- **Inventions, patent applications, and/or licenses**

Nothing to Report

- **Other Products**

Nothing to Report

## 7. PARTICIPANTS & OTHER COLLABORATING ORGANIZATIONS

### What individuals have worked on the project?

Name:	Peter A. Wyman, PhD
Project Role:	PI
Researcher Identifier:	None
Nearest person month worked:	5
Contribution to Project:	Overall project leadership, relationships with AF leadership and stakeholders; scientific direction
Name:	Anthony R. Pisani, PhD
Project Role:	Co-Investigator
Researcher Identifier:	None
Nearest person month worked:	4
Contribution to Project:	Program development, training, technology
Name:	Bryan Yates, BA
Project Role:	Project Coordinator
Researcher Identifier:	None
Nearest person month worked:	6
Contribution to Project:	Coordination of activities, planning, IRB, training
Name:	Lacy Morgan-DeVelder, MS
Project Role:	Training Instructor
Researcher Identifier:	None
Nearest person month worked:	7
Contribution to Project:	Training, technology
Name:	Karen Schmeelk-Cone, PhD
Project Role:	Sr Data Manager
Researcher Identifier:	None
Nearest person month worked:	4
Contribution to Project:	Training, technology

**Has there been a change in the active other support of the PD/PI(s) or senior/key personnel since the last reporting period?**

Nothing to report.

**What other organizations were involved as partners?**

<u>Organization Name:</u>	Northwestern University Feinberg School of Medicine
<u>Location of Organization:</u>	750 North Lake Shore Dr. Chicago, IL 60611
<u>Partner's contribution to the project:</u>	Methodology and Technology Expertise

## **8. SPECIAL REPORTING REQUIREMENTS**

**COLLABORATIVE AWARDS:**

**QUAD CHARTS:**

## **9. APPENDICES:**