

Running head: READINESS EVALUATION OF PROFIS/FORSCOM NURSES

A Readiness Evaluation of Professional Filler System and Forces Command Nurses at Darnall

Army Community Hospital, Fort Hood, Texas

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Graduate Program in Healthcare Administration

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Abstract

The purpose of this study is to apply a psychometric tool for readiness assessment, the Readiness Estimate and Deployability Index (READI), to Army Nurse Corps (ANC) officers assigned to U.S. Army MEDDAC, Fort Hood, Texas. Because of increases in the number and duration of deployment missions, Army leadership needs to ensure that ANC officers are prepared to perform skills and functions critical to patient care in a field environment. The READI is a survey questionnaire of self-reported competencies and behaviors based on six dimensions of readiness: clinical nursing competency, operational competency, survival skills, personal and psychological readiness, leadership and administrative support, and group integration and identification. Convenience samples of 97 active duty MEDCOM non-Professional Filler System (PROFIS) nurses and 50 active duty PROFIS/ Forces Command (FORSCOM) nurses assigned to Darnall Army Community Hospital participated by completing the instrument. Results for this application were tested for internal consistency of item responses and assessed by Cronbach's coefficient alpha. The findings offer evidence for the expanded application of the READI model to differing ANC populations to provide meaningful and consistent assessments of readiness. Comparative results were summarized by a series of newly developed graphic panoramic displays (GPDs). Findings from this study provide definitive evidence for the utility of GPD comparisons of cohort groups to identify readiness differences between the groups and provide detailed indicators in formulating readiness forecasts and training needs in preparation for future deployments.

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Introduction

The United States Army has evolved a policy of individual replacement and manning to medical units over the past 35 years. Unit level assessment and reporting is well developed using the Status of Resources and Training System (SORTS), but it lacks the ability to forecast declines in readiness or accurately assess individual readiness. A GAO report on military readiness identified erroneously high unit status reports and specified several drawbacks to the system. Specifically, it noted that there was no long-term emphasis on readiness, only on achieving the highest rating for each term regardless of the future downstream costs. The report also noted “insufficient indicators to ensure a comprehensive assessment”. These same deficiencies and recommendation to SORTS were echoed in testimony before Congress by Mark Gebicke, Director of Military Operations and Capabilities Issues, National Security and International Affairs Division. Mr. Gebicke made note that while the Army in particular had made strides toward answering the shortfalls of SORTS, the ability to integrate that system with other data sources to provide a more time appropriate readiness sensitive instrument would be “years to come” (United States General Accounting Office (1997)).

Many measures of initial competence are taken and recorded in the development of Army nurses. Educational and practical skills are verified with initial licensure. Military operational and leadership skills are developed and assessed at formal military courses. The weakness in the individual assessment process occurs when we attempt to make continual assessments of proficiency. Civilian professional associations such as the American Nurses’ Association have recently revisited this issue in an attempt to address public and governmental requests for measures of quality at all levels of professional practice.

Nurses have expanded their scope of practice from supporting caregivers to independent licensed practitioners. This advancement brings with it the requirement to evaluate quality or readiness on an ongoing basis. (Whittaker, Carson & Smolenski, 2000). Attempts to construct competency-based tools are demonstrated by the Competency Outcomes and Performance Assessment (COPA) Model developed by Dr. Carrie Lenburg (Lenburg, 2000) and the University of Colorado School of Nursing (CU-SON) example of identifying curriculum competencies in nursing education (Redman, R.W., Lenburg, C.B., Walker, P.H., 1999).

The Readiness Estimate And Deployability Index (READI) provides a valid and reliable mechanism to quickly and accurately assess the readiness of U.S. Army Nurses in six dimensions of competence. Darnall Army Community Hospital has designated 53 nurses in the Army Professional Filler System (PROFIS) to fill positions in 8 different medical units. The 21st Combat Support Hospital (CSH), Fort Hood, Texas provides 16 FORSCOM nurses to Darnall in order to provide the clinical environment necessary to maintain their clinical nursing skills. The ability to quickly assess and monitor readiness of individuals designated to occupy these positions greatly enhances the command's ability to make informed personnel decisions for deployment.

Conditions Which Prompted the Study

The READI was developed as an assessment tool to be used at the individual level and applied in a unit setting. To date, the instrument has been evaluated through several tests for validity, reliability and general inspection of results. Groups sampled to date have been predominately generic samples of academic groups. These groups have lacked the "unit element" of the intended population. This graduate management project seeks to apply the READI in its intended environment with its intended audience.

Statement of the Problem

Do non-PROFIS nurses and Darnall Army Community Hospital PROFIS/FORSCOM nurses report differing competency in the perishable skills critical to Army nursing deployment? Training opportunities are very different for these two groups. Using one of the elements of the laws of learning, recency is applicable in the sustainment of critical perishable skills (Thornton, 1913). To maintain licensure, many professions require sustainment training, such as the completion of continuing education courses or periodic practical examinations. No one measure currently encompasses all six dimensions — clinical nursing competency, operational competency, soldier/survival skills, physical/psychosocial/personal readiness, leadership and administrative support, and group integration and identification assessed in the READI.

Literature Review

Today, Army Medical Department (AMEDD) personnel face a wide variety of missions. In addition to caring for service members and other eligible beneficiaries during peacetime, medical units must train and prepare to support deployed forces around the world. Medical units have typically focused training on supporting conventional warfare operations, where emphasis is placed on rapid triage, resuscitation, stabilization, and evacuation. However, in recent years many medical deployments are supporting military operations other than war, such as peacekeeping, humanitarian assistance, and disaster relief (West & Clark, 1995; Crutcher, Beecham, & Laxter, 1995; Haal, Cipriano, & Bicknell, 1997; Hughes, Jerant, Epperly, & Marionneaux, 1997; Hohner, & Jones, 1998; Rumbaugh, 1998; and Silverman, Barnes, & Zlamai, 1998). Although there have been elements of combat risk in these missions, logistical support and community health needs have become equally important (Baker & Ryals, 1999a/b).

Given the increased frequency of military operations other than war, Army Nurse Corps (ANC) officers face greater opportunities to be deployed today and in the foreseeable future.

Nurses need to periodically assess their individual readiness to ensure that they are prepared, should they be called on to deploy in support of any of a wide range of missions.

Although 76% of Army nurses are assigned to fixed-facility hospitals, with computerized and automated equipment, their primary mission is to be prepared to support deployed forces during military operations. Prior to Operation Desert Shield/Desert Storm, it was believed that everyday clinical experience in medical treatment facilities (MTFs) prepared nurses to provide care when deployed (Zadinsky, 1996). However, according to testimony before a congressional subcommittee, it was discovered during Operation Desert Storm that “many doctors and nurses had not participated in field training and were not familiar with their unit’s mission or ... supplies and equipment in the field hospital” (U.S. General Accounting Office, 1992). In a report Colonel William Smith filed as Commander of the 31st Combat Support Hospital at the close of the hospital’s redeployment from the Gulf Conflict, he related that one critical shortcoming in training of personnel deployed with this unit was lack of familiarity with Deployable Medical Systems (DEPMEDS) to include planning, movement, and strategic deployment of the system. This particular skill was critical at all levels of planning, and its absence was evident among all ranks. The AMEDD continues to identify this skill as critical to mission success; yet, as evidenced by this study, both groups were less than proficient at this skill. Similarly, the use of field ventilators was reported to be frequent and a success in the delivery of healthcare in combat in 1991, although many lacked familiarity with the equipment due to few training opportunities. This graduate management project demonstrates that proficiency in this skill is still lacking. In support of training as measured by all six modules of

the READI, COL Smith commented “Many of these problems were self-inflicted due to unfamiliarity with equipment and the tasks required in the field environment” (Smith and Lisagor, 1992).

The lessons of medical experiences in the Gulf have also been discussed by Newman and France (1998) and recently revisited by Bell, Amoroso, & Williams (2000); both sources underscore the vital and crucial role of readiness in deployment.

Shortly after the Gulf War experience, the senior leadership of the ANC recognized that there existed a need for readiness training at all levels (Reineck, 1998, 1999a/b). Zadinsky (1996) reported that most nurses displayed a need for more training in subjects such as use of field medical equipment and evacuation, skills that are not part of the daily operations of MTFs. Zadinsky also noted that many nurses believed that they did not have the opportunity to practice and become proficient in tasks that they would be required to perform when deployed.

The AMEDD responded to the renewed focus on readiness by establishing the Defense Medical Readiness Training Institute which prepares tri-service medical personnel for future operations with training programs such as the Combat Casualty Care Course, Combined Humanitarian Assistance Readiness Training, and the Joint Trauma Training Center (Defense Medical Readiness Training Institute, 2000). The Readiness Training Program for Nursing Personnel was implemented to enhance competencies in those nursing skills used in the field environment, as well as in battle-focused settings (Army Nurse Corps, 2000). Specific concerns for readiness issues pertaining to reserve component nurses as well as active-duty ANC personnel have also been recognized (Dybel & Seymour, 1997).

A critical readiness mission assigned to the Army Medical Department is administration of PROFIS as it pertains to AMEDD Officers. This program is managed by Army Medical

Command (MEDCOM) under direction of The Army Surgeon General. The system designates qualified personnel assigned to Tables of Distribution and Allowances (TDA) units to fill early deploying Tables of Organization and Equipment (TO&E) units. Nursing positions make up a significant portion of those personnel are tasked to fill in forward deployed units. Guidance on training to meet the level of readiness required in such units is developed by the Army Medical Command. The responsibility for maintaining this standard of readiness is shared between the providing and the receiving unit. The providing unit trains and evaluates individual tasks. The collective tasks are then trained and assessed by the receiving units on a periodic basis throughout the training year (Department of the Army, 1995).

Military operational readiness is defined as “the capability of a unit/formation, ship, weapon, or equipment to perform the missions or functions for which it is organized or designed” (Periscope, 2000). Zadinsky (1996) defined military nursing readiness as the “ability of nursing personnel to perform skills and functions critical to their patient care role in a deployed or field status.” It is measured in terms of individual competency, which can range from knowing how to do a skill very well to not knowing how to do it at all. In order to clarify the concept of individual U.S. Army nursing readiness, Reineck (1999b) conducted a nursing focus group study that defined individual nursing readiness as “a dynamic concept with dimensions at individual, group and system levels, which, together, influence one’s ability to prepare to accomplish the mission.” Six dimensions of individual military nursing readiness were identified: clinical nursing competency, operational nursing competency, soldier survival skills, personal/psychological/physical readiness, leadership and administrative support, and group integration and identification.

Based on these six dimensions of individual readiness, Reineck, Finstuen, Connelly, and Murdock (2001) developed the READI, funded by the Henry M. Jackson Foundation for the Advancement of Military Medicine and the Tri-Service Nursing Research Program (Reineck, 2000a, Final Report). Results of this initial pilot study were presented at the 10th Annual Asia-Pacific Military Medicine Conference in Singapore (Reineck, 2000b). The index consists of 61-scaled-attitude questions that assess self-reported readiness competencies in each of six dimensions of readiness identified by the nursing focus group. In subsequent field trials, the READI was administered to three groups of Army nurses (total=93) representing both TDA and TOE units and was found to provide valid and reliable measures of individual nursing readiness. Comparative results from these trials were presented at the Association of Military Surgeons of the U.S., Karen A. Reider 13th Annual Nursing Research Poster Session (Reineck, Connelly, Finstuen, & Murdock, 2000a).

In initial field trials, READI results were found to be consistent; however, 74 of 93 nurses (83%) who participated in that initial application of the instrument were in the grade of captain. Because this is not representative of the active-duty ANC population, of which only 31% are in the grade of captain, the question was posed as to whether the READI would provide meaningful results when administered to other cohort groups, such as new ANC officers; and, if so, what would the readiness competencies of these new ANC officers be? Kovats and Morris (2000, 2001) studied a cross-sectional sample of 118 OBC students, predominantly nurses with the rank of lieutenant, and compared their READI profiles to previous field trial profiles. Further research applying the READI was conducted measuring differences between active and reserve component nurses (Kovats, Morris, Reineck & Finstuen, 2001) They found the READI to have similar levels of rating reliability and psychometric properties across all nurses sampled. They

concluded that the READI is applicable to diverse populations of all active duty ANC. Follow-on studies have further replicated the reliability results in past studies (Reineck, Finstuen, Connelly & Murdock, 2002)

Further research by the Air Force using the READI as a component of a multi-test construct combining a revised READI, Derogatis Affects Balance Scale (DABS) and Brief Symptom Inventory-18 (BSI-18) supports the acceptance of the READI as a valid and operationally useful tool in providing assessments of nursing competencies (Dremsa, Braun, Resnick, Derogatis, Turner & McEntee, 2002).

Purpose (Variables/Hypothesis).

The purpose of the study is to measure differences in competencies of Army non-PROFIS nurses in the current READI data pool and Darnall Army Community Hospital PROFIS/FORSCOM nurses. The working alternate hypothesis is that PROFIS/FORSCOM nurses at Darnall Army Community Hospital, due to recency and frequency of training (Thorndike, 1913), will self-assess a higher competency in the scaled items of sections one through three of the READI; the null hypothesis is there will be no difference in competency between groups. The objective of the study is to report those tasks and skills in which nurses self-assess themselves as low in competency. This report in turn will inform Darnall Army Community Hospital nursing leadership of potential deficiencies so that training can be provided.

Method

Sample and Procedures

Data collection was conducted by direct sample of PROFIS/FORSCOM nurses assigned to Darnall Army Community Hospital. These nurses assigned to PROFIS positions are required to participate in a minimum of five days of training a year with their assigned units. Common Task Training and the opportunity for weapons qualification are provided by the Department of Readiness Evaluation Training and Security, within Darnall Army Community Hospital. FORSCOM nurses are assigned to the 21st Combat Support Hospital (CSH) with clinical duties in Darnall Army Community Hospital. All training requirements for this group are provided by the 21st CSH.

Screening for those nurses who had previously taken the READI was conducted at the time of survey to ensure no duplication of results. An explanation of the process for maintaining confidentiality was distributed with the survey, which took approximately 20 minutes to complete.

Analysis and Statistical Procedures

Data items were coded and entered into the Statistical Package for the Social Sciences data analysis program (SPSS version 10.0.5). Data entries were checked and rechecked to ensure data quality. Scaled-attitude items were grouped by readiness dimension. Inter-item reliability was computed using Cronbach's alpha. Descriptive statistics were calculated and visually summarized in a series of graphic panoramic displays. Missing responses were replaced with the serial mean for the respective response. Inferential statistical tests were conducted using the Analysis of variance (ANOVA).

Results

Initial Analysis

Demographic characteristics of the groups are presented in Table 1. Of the sample of 97 MEDCOM non-PROFIS nurses, most (87.6%) were assigned to TDA units and held the rank of lieutenant (75.2%). The sample mirrors the army nurse population with regard to gender; two-thirds sampled were female. The predominant specialty was still medical-surgical nursing (80.4%) and the group had an average of 2.14 years of nursing experience. By comparison, the Darnall PROFIS/FORSCOM group reported a more normal distribution by rank, with 16% reporting the rank of lieutenant, 48% the rank of captain, 28% the rank of major, and 10% the rank of lieutenant colonel. The groups were identical with respect to gender distribution. The nursing specialty was still predominantly medical surgical (36%), but all other specialties were generally evenly represented, with critical care, perioperative, and nurse practitioner specialties representing 12% each. The Darnall nurses reported an average of 6.9 years of nursing experience.

Reliability of READI item ratings

Reliability was assessed using Cronbach's alpha for the three evaluated sections of the READI. As in previous applications, the instrument performed reliably in this survey. Section one, operational nursing, returned an alpha value of .96; section two, clinical nursing, returned an alpha value of .86; and soldier skills nursing returned an alpha value of .88. These values are higher than in previous applications of the instrument and provide continued evidence that average ratings of the READI are consistent, stable, and, most importantly, meaningful, as the READI is applied to an expanding environment of army nurses.

Item descriptive statistics and graphic panoramic displays

Figures 1 through 4 display computed item averages and standard deviations for the READI ratings of both nursing groups. At the top of each figure is a graphic, panoramic display which depicts a comparison of group-average-rating-profiles across specific READI items. Indexed on the vertical axis, competency ratings could range from a low of 1 to a high of 5. Overall, average competency ratings for both groups of nurses fell between 1.7 and 4.4, with item standard deviations of an average of one scale point.

Clinical Nursing Competency

Figures 1 and 2 show moderate to high degrees of competency in instituting standing orders, completing a nursing assessment and interpreting abnormal findings, identifying components of the physical exam, and airway management. Lower competencies were reported in caring for patients with nuclear, chemical, or biological injuries and in using a field ventilator. Rating profiles for Darnall nurses were generally three quarters of a scaled point higher than were those for MEDCOM, non-PROFIS nurses.

Operational Nursing Competency

Competence in field sanitation and the procedures for reporting unlawful acts were reported as high (see Fig. 3). Lower competencies were reported on knowledge of evacuation procedures and in obtaining 12-lead EKGs. The lowest rating for MEDCOM, non-PROFIS nurses continues to be DEPMEDS proficiency. Darnall nurses rated moderate competency in this task. Again, Darnall nurses were three quarters of a scaled point higher than MEDCOM non-PROFIS nurses.

Soldier Survival Skills

All items in this category, depicted in Figure 4, were rated at or above a value of 3.0. Inverse competency responses, based on training and experience, were observed in familiarity with the M-16 rifle (not the weapon assigned most nurses), in the ability to navigate with a compass and in maintaining a weapon. Darnall nurses reported high competence in their familiarity with the M-9 9mm pistol (the weapon assigned most nurses), and in their ability to perform duties in adverse conditions. Overall, responses for this section, while individually variable, did not differ between groups.

Inferential Statistical Comparisons.

Three separate, unweighted means, 2 x k split-plot ANOVA comparisons were computed to test for differences in average ratings between the two nursing groups, while simultaneously testing for differences within the various k-item ratings for the dimensions of the READI survey. Table 2 displays results for each of the three READI dimensions. As shown, statistically significant differences emerged between groups on two of the three sections, with $F(1, 146) = 24.29$ for clinical nursing, $F(1, 146) = 31.38$ for operational nursing, and $F(1, 146) = .67$ for soldier survival skills. Notice that average profiles for PROFIS/FORSCOM nurses were higher than MEDCOM, non-PROFIS/FORSCOM ratings on the first two dimensions, but the third dimension showed no significant difference in self-assessed competencies between groups (see Figures 1 through 4 for trends). Within-subjects comparisons of items emerged as statistically significant and displayed differences in all three READI sections. These results indicated that nurses indeed differentiated among items in terms of their strength of response in making ratings. Tests for interaction were also significant for all sections (see Table 2). These

results indicated that while differences existed between the two groups, the differences were not the same across all items in sections one, two, and three.

Conclusion

Limitations of the Study

This study makes the first attempt at a local evaluation of self-assessed competency of nurses at an operational level. A significant number of the FORCOM nurses who were surveyed deployed in support of Operation Enduring Freedom during collection of this data. Nurses newly assigned to operational positions in support of this deployment had minimal unit training opportunities. This training deficit could have had an unmeasured effect on outcomes.

Discussion

The PROFIS/FORSCOM nurses were participating in an ongoing PROFIS/FORSCOM training program and exhibited higher operational competencies than did nurses of the MEDCOM, non-PROFIS group. Further, PROFIS/FORSCOM nurses that worked regularly in a fixed facility environment reported higher proficiency for clinical competencies. There was no significant difference between the two groups in these self-assessed competence with regard to soldier and survival skills.

The primary benefit of this analysis is the ability to make timely and responsive changes to training at the facility level. This is particularly important because the list of nurses assigned to PROFIS/FORSCOM positions at Darnall Army Community Hospital, and other facilities, changes almost daily. Tasks critical to Army nursing can be quickly and reliably identified through use of the READI. The verified reliability of the instrument lends confidence to its use as new applications are tested. The ease of application of the instrument allows field and facility

commanders the opportunity to make strategic, as well as tactical, shifts to the training and qualification of nurses in their role as deployable providers of the Army Medical Department. Alignment of past training plans of the PROFIS/FORSCOM units and results of this study produce immediate feedback of success and validity of those plans. The possibility of use at the ward or small unit level to obtain quick, valid, reliable indicators of competency and apply these indicators to individual training is open for creative mission-oriented uses. Future applications will provide data that are trendable in yet unforeseen applications as the instrument becomes more widely used in an ever-broadening environment.

Appendix A

Readiness Estimate and Deployability Index

Nursing Competency ★ Operational Competency

Support ★ Group Integration and Identification ★ Clinical

★ Soldier/Survival skills ★ Personal/Psychosocial/Physical Readiness ★ Leadership and Administration



R.E.A.D.I.

Readiness Estimate And
Deployability Index



INTRODUCTION

Purpose of the Survey

The purpose of the READY, are (1) to raise consciousness of the extent of preparation needed for Readiness and (2) to serve as a diagnostic tool for individuals or clinical nursing unit leaders.

Background

The Readiness Estimate and Deployability Index (READI) is a questionnaire designed to estimate the preparedness of Army Nursing personnel for worldwide deployment in support of Department of Defense missions. Questions on the READI are based on expert input from nursing personnel in active and reserve components, officer and enlisted, professional fillers, company grade and field grade nursing personnel in both TDA and TOE organizations worldwide.

Scoring

The READI is an index of readiness. It is not a comprehensive assessment. Rather, it will give an initial index or estimate of the basics of readiness. The READI is a self-assessment tool to measure the richer, human dimensions of individual readiness not otherwise reported. It measures self-report of individual readiness along six dimensions.

1. Clinical Nursing Competency
2. Operational Competency
3. Soldier/Survival Skills

4. Physical/Psychosocial/Personal Readiness
5. Leadership and Administrative Support
6. Group Integration and Identification

DIRECTIONS

Read each question and select the most appropriate answer (by checkmark, circle, etc.) as indicated on the READI questionnaire. **NOTICE:** Some *questions ask you to selected more than one answer.*

Thank you for your participation and support of readiness.

R.E.A.D.I.
Readiness Estimate and Deployability Index

Demographic Data

1. What is your current group? (check one) Active Component Army National Guard U.S. Army Reserve - Troop Program

Unit
 Other _____ "

2. What is your area of concentration (AOC), if an officer, or military occupational specialty

(MOS) if enlisted? (check one)

- | | |
|---|---|
| <input type="checkbox"/> 66C - Psychiatric Nurse | <input type="checkbox"/> 66H8F - Community Health Nurse |
| <input type="checkbox"/> 66E - Perioperative Nurse | <input type="checkbox"/> 66H8G - OB-GYN Nurse |
| <input type="checkbox"/> 66F - Nurse Anesthetist | <input type="checkbox"/> 66HM5 - Emergency Nurse |
| <input type="checkbox"/> 66H00 - Medical Surgical Nurse | <input type="checkbox"/> 91B - Medical Specialist |
| <input type="checkbox"/> 66H8A - Critical Care Nurse | <input type="checkbox"/> 91C - Licensed Practical Nurse |
| <input type="checkbox"/> 66H8D - Nurse Midwife | <input type="checkbox"/> 91 D -Surgical Technician |
| <input type="checkbox"/> 66H8E - Nurse Practitioner | <input type="checkbox"/> 91X - Behavioral Health Technician |

3. How many years, military and civilian experience, do you have in the nursing AOC/MOS you checked in question number 2 above? _____ Years

4. To what major command are you assigned? (check one) USA Medical Command (Incl. Europe, Japan, and AMEDD C&S) USA Forces Command US Army Europe and Seventh Army (USAREUR) US Army Reserve (USAR) Army National Guard (ARNG) 8th US Army, Korea Other

5. If you are assigned to USA Medical Command, are you professional filler (PROFIS)? (Check one) Yes No Uncertain

6. What is your military rank?

- | | |
|--|--|
| <input type="checkbox"/> 0 1 2nd Lieutenant | <input type="checkbox"/> E1-E3 Private, Private E-2, Private First Class |
| <input type="checkbox"/> 02 1st Lieutenant | <input type="checkbox"/> E-4 Specialist |
| <input type="checkbox"/> 03 Captain | <input type="checkbox"/> E-5 Sergeant |
| <input type="checkbox"/> 04 Major | <input type="checkbox"/> E-6 Staff Sergeant |
| <input type="checkbox"/> 05 Lieutenant Colonel | <input type="checkbox"/> E-7 Sergeant First Class |
| <input type="checkbox"/> 06 Colonel | <input type="checkbox"/> E-8 Master Sergeant |
| | <input type="checkbox"/> E-9 Sergeant Major |

7. Are you male or female?

Male Female

8. What is your ethnic background?

- | | | |
|---|--|----------------------------------|
| <input type="checkbox"/> American Indian, Eskimo or Aleut | <input type="checkbox"/> Asian or Pacific Islander | <input type="checkbox"/> African |
| American | | |
| <input type="checkbox"/> White | <input type="checkbox"/> Other | |

9. Are you of Hispanic/Spanish origin or ancestry? Yes No

10. To what type of unit are you assigned? (check one).

- TO&E Unit. A tactical unit which may be deployed for combat.
 TDA Unit
 I do not know.

11. What is your deployment status? (check one)

- I am currently deployed
 I am not deployed but will be deployed within 90 days.
 I am not deployed at this time and will not likely be deployed in the next 90 days.

12. Have you ever been deployed in your current AOC/MOS? Yes No

**Section One
Clinical Nursing Competency**

1. How familiar are you with the different types of shock? (check one)

Not familiar 1 2 3 4 5 Totally familiar

2. How competent are you in caring for patients in hemorrhage shock? (check one)

Not competent 1 2 3 4 5 Totally competent

3. Consider this situation. You are deployed. You get to the scene of a MASCAL. There is ground ambulance support. There is one person who appears to have been hit in the leg. The patient is losing a steady stream of blood. The patient's vital signs are stable now. You placed a dressing over the wound, but you noticed you have to keep reinforcing it. The ambulance driver wants to know if the patient can wait till the next run to the treatment facility or if the patient has to go immediately. What is your assessment? (check one)

- The patient can wait for the next ambulance. Patient is stable.
- Patient has to go on the first ambulance. Increased potential for hypovolemic shock

4. Check the number that represents your competency with clinical documentation (use of SF 510,511) in a field environment.

Not competent 1 2 3 4 5 Totally competent

Emergency Nursing

1. When was the last time you provided direct patient care? (check one)

- More than 4 years ago
- Within the most recent 1-4 years
- Within the last year, but more than 6 months ago
- Within the last 6 months

2. What type(s) of triage experience and education have you had? (check all that apply)

- I have not learned about triage yet
- Learned through military or civilian courses (i.e. EFMB, OAC, Medical Management of Chemical Casualties Course etc..)
- Learned through inservices, nursing courses, journals, handouts, etc..
- Practiced triage in an ED setting
- Practiced triage in a field environment on real and/or moulaged patients.

3. How competent are you to calculate an IV drip without your calculator or drug book? (check one)

Not competent 1 2 3 4 5 Totally competent

4. When was the last time you had to reconstitute medications, calculate dosages, and administer an IV medication? (check one)

- More than 4 years ago
- Within the most recent 1-4 years
- Within the last year, but more than 6 months ago
- Within the last 6 months

5. How competent are you to institute standing orders based on your ability to assess patients? For example, ordering X-rays, starting IV fluids, administering medications, etc.. without immediate contact with a physician? (check the number)

Not competent 1 2 3 4 5 Totally competent

6. How competent are you to perform in a code/emergency situation? (check one)

- Not Competent (Would assist if someone told me exactly what and how to do it.)
- Competent (Provided another nurse helped me, i.e. helped with drug calculations.)
- Very Competent (Could provide nursing care requirements without supervision or with minimal assistance.)

7. Do you understand the concept of body surface area in relation to a burn patient and are you competent in calculating it? (check one)

- No, Don't know what it is nor how to calculate it.
- Heard of it before, but not able to calculate it.
- Know a little about it and may be able to calculate it.
- Understand it and probably could calculate it.
- Understand it and can calculate it.

8. How competent are you when deciding which critically ill or injured patients get seen first? (check one)

Not competent 1 2 3 4 5 Totally competent

9. Consider a situation if a doctor is not present. How competent are you in performing ACLS protocols? (check one)

Not competent 1 2 3 4 5 Totally competent

10. How competent are you taking care of life threatening injuries? (check one)

Not competent 1 2 3 4 5 Totally competent

11. Are you competent in your IV skills? Yes No

12. Could you in some detail describe the life-saving ABC principles? Yes No

13. Do you feel competent to assess a multiple trauma patient? Yes No

Check the number that indicates your level of competence on each of the patient situations listed below.

14. Care of patient with NBC injuries

Not competent at all 1 2 3 4 5 Totally competent

15. Ballistic missile injuries

Not competent at all 1 2 3 4 5 Totally competent

16. Recognition of tension pneumothorax

Not competent at all 1 2 3 4 5 Totally competent

17. Fluid resuscitation of a burn patient

Not competent at all 1 2 3 4 5 Totally competent

18. Universal blood donor protocol

Not competent at all 1 2 3 4 5 Totally competent

19. Disease, non-battle injuries

Not competent at all 1 2 3 4 5 Totally competent

20. Use of field ventilator

Not competent at all 1 2 3 4 5 Totally competent

21. Airway management

Not competent at all 1 2 3 4 5 Totally competent

22. Implementing triage categories

Not competent at all 1 2 3 4 5 Totally competent

23. Clinical team leadership

Not competent at all 1 2 3 4 5 Totally competent

24. Caring for refugees

Not competent at all 1 2 3 4 5 Totally competent

25. Antepartum/postpartum care

Not competent at all 1 2 3 4 5 Totally competent

26. Field infection control

Not competent at all 1 2 3 4 5 Totally competent

27. Orthopedic nursing

Not competent at all 1 2 3 4 5 Totally competent

28. Neurologic nursing

Not competent at all 1 2 3 4 5 Totally competent

Physical Assessment

Please rate according to Level of Present Knowledge/Skill (check the number)

1. Identify the components of a physical examination

Low 1 2 3 4 5 High

2. List the five examination techniques to perform a physical examination

Low 1 2 3 4 5 High

3. Perform a complete nursing assessment and interpret abnormal findings

Low 1 2 3 4 5 High

Section Two
Operational Nursing Competency

Consider this situation. The 4 limb electrodes of a cardiac monitor-recorder are attached to a patient and you have just obtained an EKG tracing in the field. You have been asked to obtain a 12 lead EKG on the patient. You have the following equipment and supplies: Field table; cardiac monitor; 4 metal limb electrodes attached to patient with holding straps; 1 suction cup electrode; 1 tube of electrode gel; 1 roll of recording paper; 1 box of alcohol pads; 1 patient on a hospital bed.

1. How competent are you to obtain a 12-lead EKG using the appropriate procedure and equipment describes above? (check one)

Not competent at all 1 2 3 4 5 Totally competent

Consider this situation. You are providing patient care in a field environment and need to suction oropharyngeal secretions from a patient. You have the following equipment and supplies: Field table; 1 portable oropharyngeal suction apparatus; sterile patient suction tubing and suction catheter; 1 small container of water; 1 pair of clean gloves.

2. How long can the suction apparatus operate on internal battery pack? (check one)

2 hours 1 hour 45 minutes 30 minutes 20 minutes

3. How many hours does it take for the internal battery pack to recharge when completely discharged? (check one)

8 hours 16 hours 20 hours 24 hours 30 hours

4. In the field medical treatment facility or ward, the mode of electrical operation for the suction apparatus is AC power source
True False

5. In the ambulance or other evacuation vehicle, the mode of electrical operation for the suction apparatus is a DC power source
True False

6. For a patient on a litter, the mode of electrical power for the suction apparatus is a DC power source. True False

Check the number that indicates your level of competence in these operational areas:

7. Evacuation Procedures

Not competent at all 1 2 3 4 5 Totally competent

8. Echelon of Care

Not competent at all 1 2 3 4 5 Totally competent

9. Reporting an unlawful act or conduct

Not competent at all 1 2 3 4 5 Totally competent

10. Field sanitation and hygiene

Not competent at all 1 2 3 4 5 Totally competent

11. DEPMEDS Setup

Not competent at all 1 2 3 4 5 Totally competent

Section Three

Soldier and Survival Skills

1. Check the number that best represents how familiar you are with the M-16 rifle.

Not familiar 1 2 3 4 5 Totally familiar

2. Check the number that represents how familiar you are with the 9mm pistol

Not familiar 1 2 3 4 5 Totally familiar

3. How competent are you in your ability to defend yourself and/or your patient(s) if called upon to do so? (check the number)

Not competent 1 2 3 4 5 Totally competent

4. I am competent and confident in my ability to protect myself and my patients using the M40 mask and MOPP gear. (check the number)

Strongly disagree 1 2 3 4 5 Strongly agree

5. How competent are you in your ability to navigate using a map and compass? (check the number)

Not competent 1 2 3 4 5 Totally competent

6. How competent are you in your ability to maintain your individual weapon in working order? (check the number)

Not competent 1 2 3 4 5 Totally competent

7. How competent are you in your ability to perform your primary military specialty under adverse and/or prolonged field conditions? (check the number)

Not competent 1 2 3 4 5 Totally competent

8. How competent are you in your ability to decontaminate yourself and your patients(s) using standard Army decontamination equipment? (check the number)

Not competent 1 2 3 4 5 Totally competent

9. Check the number that represents how familiar you are with your status under the Geneva Conventions should you be captured by enemy forces.

Not competent 1 2 3 4 5 Totally competent

10. If you were captured, how competent are you in your ability to resist the enemy? (Check the number)

Not competent 1 2 3 4 5 Totally competent

11. Check the number that represents your familiarity with standard Army communications equipment. (i.e. field radio)

Not familiar 1 2 3 4 5 Totally familiar

**Section Four - A
Personal and Physical Readiness**

1. Check the box that most closely represents your last APFT score.
 <180 180-220 221-240 241-269 270-300+
2. Check the box which represents how long ago it was that you had a dental exam.
 >24 mos, 19-24 mos. 13-18 mos. 6-12 mos. <6mos.
3. If indicated do you have a family care plan? Yes No Not Applicable
4. Do you have a physical profile? Yes No
5. If yes to the above question, does your profile prevent, you from completing your duty? Yes No Not Applicable

**Section Four - B
Psychosocial Readiness**

Family

1. Check the number that best describes the quality of your current family support system. (i.e. family support group, friends or family)
Poor 1 2 3 4 5 Excellent
2. If you are deployed, will the same family support system in the above question be available? (check one)
 yes no
3. Have you ever been separated for more than 6 months from your family/significant other? (check one)
 Yes No
4. If yes to the above question, describe your families overall response to your separation. (check the number)
Poor 1 2 3 4 5 Excellent NA

Legal

1. Do you have a current will?
 yes no
2. Do you have a current power of attorney?
 yes no
3. Do you have any pending legal matters, i.e. divorce or other legal problems?
 yes no

Occupational

1. Describe your current working relationship with co-workers in your deployment unit. (check the number)

Poor 1 2 3 4 5 Excellent NA

2. Describe your overall feeling about your past deployment experience (check the number)

Poor 1 2 3 4 5 Excellent Never Deployed

Current Stressors and Coping Strategies

Deployment brings with it stress and challenge which tend to compound pre-deployment stressors. How much stress are you experiencing in the following areas: (check the number)

No Stress Very Much
at All Stressed

- 1. Main work 1 2 3 4 5
- 2. Family 1 2 3 4 5
- 3. Finances 1 2 3 4 5
- 4. Other 1 2 3 4 5

5. Do you know how to access emotional support while deployed? Yes No

6. To which of the following would you turn for coping with stress? (check ALL that apply)

- Tobacco
- Physical Exercise
- Relaxation/Meditation Techniques
- Talking with Friends
- Religious Faith
- Other

7. Do you know how to access mental health services while deployed? Yes No

To what extent are you prepared for: (check the number)

8. Death, dying, and carnage

Not ready at all 1 2 3 4 5 Totally ready

9. Your own possible death

Not ready at all 1 2 3 4 5 Totally ready

10. Battle Stress

Not ready at all 1 2 3 4 5 Totally ready

11. Weather extremes

Not ready at all 1 2 3 4 5 Totally ready

12. Long hours

Not ready at all 1 2 3 4 5 Totally ready

13. Lack of privacy

Not ready at all 1 2 3 4 5 Totally ready

Section Five
Leadership and Administration Support

Administration

1. If you were deployed with a unit that you are not currently assigned or PROM to, you would understand the set up, functions, and all of the areas that fall under the command structure of the TOE unit. (check one)

Strongly Agree Agree Neutral Disagree Strongly Disagree

2. If you are a single parent or dual military, IAW (in accordance with) AR 600-20, you are required to have a Family Care Plan. If you were called today and given notification that you were to deploy next week, how confident are you that you could activate and make your Family Care Plan work for the entire deployment (up to 9 months)? (check one)

- Totally confident
- Confident
- Somewhat confident
- Unsure that it would work for a long period of time (over 6 months).
- Unsure it would work as set up now.
- Not confident at all
- Not applicable; I am not a single parent or dual military

Leadership

1. Check the box that represents how you rate your deployment unit first-line leader's knowledge and concern for the soldiers as described in the leader's principle: "Know your soldiers and look out for their well-being"

- Very knowledgeable and concerned
- Somewhat knowledgeable and concerned
- Not knowledgeable and unconcerned,
- Not applicable

2. Check the box that represents how you would rate your deployment unit first-line leader's acceptance of responsibility to ensure that safe, tough, realistic training was conducted which adhered to the highest standards, habits and discipline.

- High sense of responsibility
- Moderate sense of responsibility
- Low sense of responsibility
- Not applicable

3. Check the box that represents how you rate your deployment unit first-line leader's ability to keep you informed.

- Leader keeps me very well informed
- Leader keeps me fairly well informed
- Leader does not keep me not informed at all
- Not applicable

Section Six
Group Integration and Identification

1. Check the number that represents your ability to adjust to crowded and coed sleeping quarters while deployed.

Low ability to adjust 1 2 3 4 5 High ability to adjust

2. Check the box that represents the amount of days you have had the chance to train with your deployment unit in the last 12 months. (check one)

None 1 day 2-6 days 7-14 days >14 days

3. How familiar are you with your deployment unit's mission, vision, and values? (check one)

Very Familiar Familiar Neither/Nor Somewhat Familiar Not Familiar at All

4. How familiar are you with your role/duty assignment within your deployment unit? (check one)

Very Familiar Familiar Neither/Nor Somewhat Familiar Not Familiar at All

APPENDIX B
Disclosure Letter

Army Nurse Readiness

Darnall Army Nurse,

You are invited to participate in a research study in Army Nurse Readiness conducted under the sponsorship of the Henry M. Jackson Foundation for the Advancement of Military Medicine. This research involves completing the enclosed Readiness Estimate and Deployability Index or READI. Completing the questionnaire takes about 30 minutes.

To maximize efficiency in the environment of today's high operational tempo, leaders need a way to measure readiness in Army Nurses before, during and after deployment. The READI is an innovative questionnaire, designed and tested by nurses, that assesses readiness in the following areas: 1) Clinical Nursing; 2) Operational Nursing; 3) Soldier Survival Skills; 4) Personal, Physical and Psychosocial Readiness; 5) Leadership and Administration Support; and 6) Group Integration and Identification. This research is an ongoing administration of the questionnaire to assess the readiness of a large group of nurses in a regional medical command.

It is important to the principal investigator that you know that **your participation is voluntary**. If you do choose to participate, you will be giving your consent by completing and returning the survey. You can rest assured that **controls are in place to ensure that your participation remains completely confidential**. Your name and address do not appear on the questionnaire

To take the READI simply answer the questions in each section. **Please answer all the questions**. You may use pencil or pen, and feel free to make comments or notes in the margins of the questionnaire booklet.

Please accept our thanks for contributing to the success of this research study. The results of the study will be available in early spring, 2002. If you have any questions about the study or would like information about the results please feel free to contact CPT Mark Morris, Principal Investigator at (254) 288-8600.

Sincerely,

MARK K. MORRIS
CPT, MS
Resident, Baylor HCA Program

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Table 1

Descriptive Statistics of Demographic Variables
Administration of the Readiness (READI) Instrument

Hospital PROFIS Variables	MEDCOM		Darnall Army Community	
	n	percent	n	percent

Military Background				
Type unit *				
Fixed (TDA)	85	87.6	19	38
Field (TO&E)	1	1.0	30	60
Unknown	11	11.4	01	02
Assignment				
Medical Command	97	100	33	66
Forces Command			16	32
US Army - Europe				
8 th Army – Korea				
US Army Reserve			01	02
Other				
Military Rank				
2 nd Lieutenant	72	74.2	01	02
1 st Lieutenant	1	1.0	07	14
Captain	21	21.6	24	48
Major	2	2.1	14	28
Lieutenant Col	1	1.0	05	10

Table 1 – continued
Community Hospital PROFIS

Variables	MEDCOM		Darnall Army	
	n	percent	n	percent
Gender				
Female	64	66.0	33	66
Male	33	34.0	17	34
Ethnicity				
White	64	66.0	36	72
Black	16	16.5	07	14
Asian	5	5.2	02	04
Hispanic	14	14.4	05	10
Amer Indian	1	1.0	01	02
Other	12	12.4	00	00
Nursing background				
Medical Surgical	78	80.4	18	36
Nurse Anesthetist	-	-	03	06
Critical Care Nurse	4	4.1	06	12
Nurse Practitioner	3	3.1	06	12
Emergency Nurse	3	3.1	03	06
Perioperative Nurse	2	2.1	06	12
Psychiatric Nurse	1	1.0	05	10
OB-GYN	1	1.0	01	02
Community Health	5	5.2	03	06

Table 1 – continued

Total years nursing experience **

Mean (years)	2.14	6.9
Standard Deviation	4.52	5.4

n = 97 MEDCOM non-PROFIS nurses and 50 Darnall Army Community Hospital
 PROFIS/FORSCOM nurses

Note:* Types of Units: TDA=Table of Distributions/Allowance (fixed facilities),

TO&E = Table of Organization and Equipment (field type units)

** Total years includes both civilian and military experience

Table 2

Inferential Statistical Tests for Differences Between Means of Nurse Groups

And Within Mean Ratings of Items For Three Dimensions of The READI Instrument

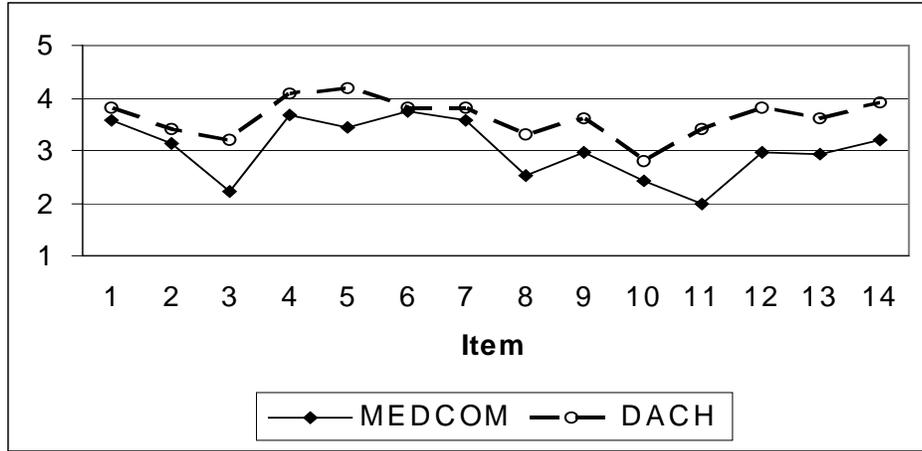
Effect Sources	SS	df	MS	F	p
I. Clinical Nursing Competency					
Between subjects	(2549.22)	(147)			
Nurse Group (G)	365.78	1	365.78	24.29	***
Residual between subjects	2183.44	146	15.06		
Within subjects	(3573.02)	(3822)			
k=27 Items (I)	780.55	26	30.02	41.96	***
Interaction G x I	95.10	26	3.66	5.11	***
Residual within subjects	2697.32	3779	.72		
Total	6122.24	3969			

II. Operational Nursing Competency					
Between subjects	(611.19)	(147)			
Nurse Group (G)	108.73	1	108.73	31.38	***
Residual between subjects	502.46	146	3.47		
Within subjects	(686.74)	(735)			
k=6 Items (I)	76.55	5	15.31	18.88	***
Interaction G x I	22.39	5	4.48	5.52	***
Residual within subjects	587.81	725	.81		
Total	1297.93	882			

Table 2 – continued

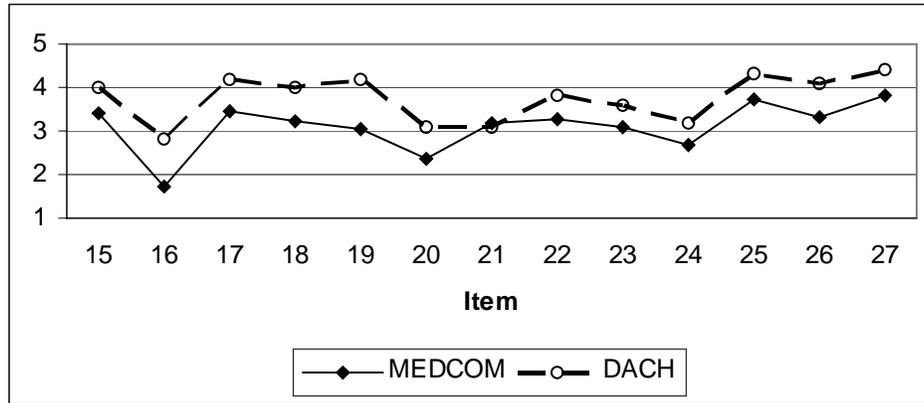
Effect Sources	SS	df	MS	F	p
III. Soldier and Survival Skills					
Between subjects	(762.19)	(147)			
Nurse Group (G)	3.52	1	3.52	.67	n/s
Residual between subjects	758.66	146	5.23		
Within subjects	(1091.48)	(1470)			
k=11 Items (I)	108.13	10	10.81	16.72	***
Interaction G x I	45.84	10	4.58	7.09	***
Residual within subjects	937.51	1450	.65		
Total	1853.67	1617			

Note: probability associated with F statistic comparisons, n/s not significant, ***p<.001



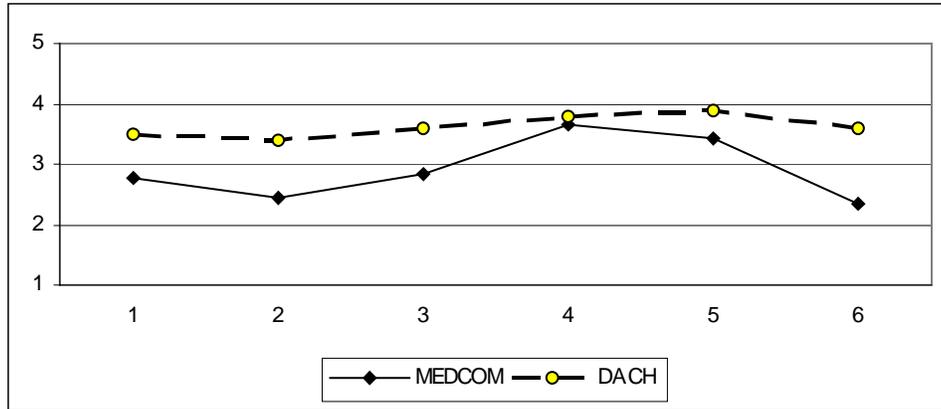
Section one: Clinical Nursing Competency (k=27 items) Army Community Hospital	MEDCOM		Darnall	
	Mean	S.D.	Mean	S.D.
1 - Familiar with the different types of shock	3.6	3.6	3.9	1.1
2 - Competent in caring for hemorrhagic shock	3.2	1.1	3.6	1.4
3 - Competent in documenting in field environment	2.2	1.2	3.3	1.2
4 - Competent in IV drip calculations	3.7	1.1	4.0	1.2
5 - Competent in instituting standing orders	3.5	1.3	4.2	1.1
6 - Understands and calculates body surface area burn patient	3.8	.8	3.8	1.0
7 - Competence in deciding which patient is seen first	3.6	.9	4.0	.9
8 - Competence in performing ACLS protocol	2.5	1.4	3.4	1.3
9 - Competence in caring for life threatening injuries	3.0	1.1	3.7	1.1
10 - Competence in caring for patient with NBC injuries	2.4	.1	2.9	.9
11 - Competence in caring for patient with ballistic missile injuries	2.0	1.0	3.5	1.2
12 - Competence in recognition of tension pneumothorax	3.0	1.3	3.9	1.2
13 - Competence in providing fluid resuscitation of burn patient	2.9	1.1	3.4	1.2
14 - Competence in using universal blood donor protocol	3.2	1.2	3.8	1.2

Figure 1. Panoramic display depicting READI profiles and a statistical comparison of MEDCOM non-PROFIS and Darnall Army Community Hospital PROFIS nurses for self-reported clinical nursing competency (Items 1 through 14).



Section one: Clinical Nursing Competency (continued) (k=27 items) Army Community Hospital	MEDCOM		Darnall	
	Mean	S.D.	Mean	S.D.
15 - Competence in caring for patients with disease and non-battle injury	3.4	1.1	4.0	1.0
16 - Competence in using field ventilator	1.7	1.0	2.8	1.4
17 - Competence in airway management	3.5	1.1	4.2	1.0
18 - Competence in implementing triage categories	3.2	1.1	4.0	1.1
19 - Competence in assuming clinical team leadership	3.0	1.2	4.2	1.0
20 - Competence in caring for refugees	2.4	1.2	3.1	1.1
21 - Competence in providing ante/post-partum care	3.2	1.3	3.1	1.3
22 - Competence in field infection	3.3	1.1	3.8	1.0
23 - Competence in orthopedic nursing	3.1	1.1	3.6	1.0
24 - Competence in neurologic nursing	2.7	1.0	3.2	1.0
25 - Able to identify components of physical exam	3.7	1.2	4.3	0.9
26 - Able to list five examination techniques to perform physical exam	3.3	1.4	4.1	1.1
27 - Able to perform a complete nursing assessment and interpret abnormal findings	3.8	1.0	4.4	0.7

Figure 2. Panoramic display depicting READI profiles and a statistical comparison of MEDCOM non-PROFIS and Darnall Army Community Hospital PROFIS nurses for self-reported clinical nursing competency (Items 15 through 27).

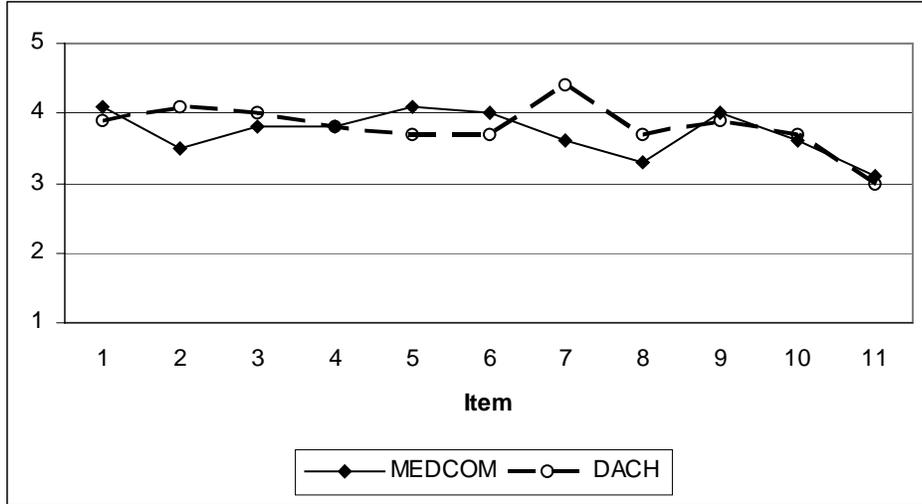


Section two: Operational Nursing Competency (k=6 items)
Army Community Hospital

MEDCOM		Darnall	
Mean	S.D.	Mean	S.D.

1 - Competence in obtaining 12 lead EKG in given scenario	2.8	1.4	3.5	1.3
2 - Competence in evacuation procedures	2.5	1.0	3.4	1.0
3 - Competence in echelons of care operations	2.8	1.0	3.6	1.1
4 - Level of competency in reporting unlawful acts	3.6	0.9	3.8	1.0
5 - Competence in field sanitation	3.4	1.0	3.9	0.9
6 - Competence in DEPMEDS setup	2.3	1.4	3.6	1.1

Figure 3. Panoramic display depicting READI profiles and a statistical comparison of MEDCOM non-PROFIS and Darnall Army Community Hospital PROFIS nurses for self-reported operational nursing competency.



Section three: Soldier Survival skills (k=11 items) Army Community Hospital	MEDCOM		Darnall	
	Mean	S.D.	Mean	S.D.
1 - Familiarity with M-16 rifle	4.1	1.1	3.9	0.9
2 - Familiarity with 9mm pistol	3.5	1.1	4.1	0.8
3 - Competence in defending self and patient if called to do so	3.8	1.2	4.0	1.0
4 - Competence and confidence in protecting self with mask/MOPP	3.8	1.0	3.8	0.9
5 - Competence in ability to navigate using a map and compass	4.1	1.0	3.7	1.1
6 - Competence in ability to maintain weapon in working order	4.0	1.2	3.7	1.1
7 - Competence in ability to perform duties in adverse conditions	3.6	1.1	4.4	0.8
8 - Competence in ability to decontaminate self and patient using decontamination equipment	3.3	1.0	3.7	0.8
9 - Familiarity with status under Geneva Conventions	4.0	0.9	3.9	1.0
10 - Competence in ability to resist enemy if captured	3.6	1.0	3.7	1.0
11- Familiarity with standard Army communication equipment	3.1	1.2	3.0	0.9

Figure 4. Panoramic display depicting READI profiles and a statistical comparison of MEDCOM non-PROFIS and Darnall Army Community Hospital PROFIS nurses for self-reported soldier survival skills.