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14. ABSTRACT

Purpose: The goal of this project was to implement an evidence-based (EB) precepting program specific to the burn specialty. **Design**: The Iowa Model of Evidence-based Practice served as the model for this project. **Methods**: The EB Vermont Nurses in Partnership (VNIP) clinical coaching program was selected and education was provided to all Burn Center staff. Benchmarks for basic knowledge assessment (BKAT) by work site and education level and burn wound care (WC) were established among current staff members to evaluate new hires (NHs). Comprehensive Preceptor and Preceptee training manuals were created. **Sample**: 29 NHs were enrolled in the program, 26 completed the program, 3 did not complete the program. VNIP training (n=110) included 34 interdisciplinary staff (Rehab, Education, Respiratory Therapy, and Clinic Staff), Staff Nurses (n=43) and 100% of identified preceptors (n=33). **Analysis**: Descriptive and non-parametric statistics were used to describe and analyze results. **Findings**: The VNIP course satisfaction survey revealed a mean rating of 4.7±0.2 on a 1-5 (best) visual descriptor scale. NHs achieved passing BKAT scores >84% (n=22) and WC scores >92% (n=24) of the time; individual remediation was provided for those failing to achieve unit benchmarks. NH's competency progressions were evaluated weekly on a 1-10 (best) scale, with 7 indicating safe independent practice; initial ratings were 5.1 ± 2.0 final ratings were 9.0 ± 1.2 (n=25) ($p<0.001$). The Assessment of Process Used for Transition to Work (APUT) survey revealed an increase in staff satisfaction overall along with identifying items for improvement. Turn-over decreased from 33.6% (prior to program) to 16.5% (after program), a 50% decrease. **Implications for Military Nursing**: The EBP team created a standardized, comprehensive and flexible precepting program to assist and support transition to specialty burn practice for experienced nurses, new graduates, and other disciplines in healthcare. Use of objective metrics enables ongoing assessment, makes training adaptable, individualized, and cost effective. Application of this standardized approach across the enterprise will improve consistency in all transitions in practice and has Tri-Service applicability.

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precepting program, transition to specialty burn practice, recruitment and retention

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Abstract

Purpose: There is significant Military Nursing and nationwide interest in transitioning new nurses to practice along with precepting experienced nurses transitioning to a new specialty. The goal of this project was to implement an evidence-based (EB) precepting program specific to the burn specialty.

Design: The Iowa Model of Evidence-based Practice served as the model for this project. A working group of clinical nurse leaders, clinical nurse specialists, nurse scientists, senior preceptors, staff nurse preceptors and wound care coordinators was formed. A systematic review of the literature was conducted focusing on nurse transition. Preceptor development and preceptee training programs with competency assessment as well as ongoing multifaceted evaluation and retention strategies were created.

Methods: The EB Vermont Nurses in Partnership (VNIP) clinical coaching program was selected and education was provided to all Burn Center staff. Benchmarks for basic knowledge assessment (BKAT) by work site and education level and burn wound care (WC) were established among current staff members to evaluate new hires (NHs). Comprehensive Preceptor and Preceptee training manuals were created.

Sample: From SEPT 2012 to MAY 2014, 29 NHs were enrolled in the program, 26 completed the program, 3 did not complete the program. VNIP training (n=110) included 34 interdisciplinary staff (Rehab, Education, Respiratory Therapy, and Clinic Staff), Staff Nurses (n=43) and 100% of identified preceptors (n=33).

Analysis: Descriptive and non-parametric statistics were used to describe and analyze results.

Findings: The VNIP course satisfaction survey revealed a mean rating of 4.7±0.2 on a 1-5 (best) visual descriptor scale. NHs achieved passing BKAT scores >84% (n=22) and WC scores >92% (n=24) of the time; individual remediation was provided for those failing to achieve unit benchmarks. NH's competency progressions were evaluated weekly on a 1-10 (best) scale, with 7 indicating safe independent practice; initial ratings were 5.1 ± 2.0 final ratings were 9.0 ± 1.2 (n=25) ($p<0.001$). The Assessment of Process Used for Transition to Work (APUT) survey revealed an increase in staff satisfaction overall along with identifying items for improvement. Turn-over decreased from 33.6% (prior to program) to 16.5% (after program), a 50% decrease.

Implications for Military Nursing: The EBP team created a standardized, comprehensive and flexible precepting program to assist and support transition to specialty burn practice for experienced nurses, new graduates, and other disciplines in healthcare. Use of objective metrics enables ongoing assessment, makes training adaptable, individualized, and cost effective. Application of this standardized approach across the enterprise will improve consistency in all transitions in practice and has Tri-Service applicability.

TSNRP Research Priorities that Study or Project Addresses

Primary Priority

Force Health Protection:	☐ Fit and ready force ☐ Deploy with and care for the warrior ☐ Care for all entrusted to our care
Nursing Competencies and Practice:	☐ Patient outcomes ☐ Quality and safety ☒ Translate research into practice/evidence-based practice ☐ Clinical excellence ☐ Knowledge management ☐ Education and training
Leadership, Ethics, and Mentoring:	☐ Health policy ☐ Recruitment and retention ☐ Preparing tomorrow's leaders ☐ Care of the caregiver
Other:	☐

Secondary Priority

Force Health Protection:	☐ Fit and ready force ☐ Deploy with and care for the warrior ☐ Care for all entrusted to our care
Nursing Competencies and Practice:	☐ Patient outcomes ☐ Quality and safety ☐ Translate research into practice/evidence-based practice ☐ Clinical excellence ☐ Knowledge management ☐ Education and training
Leadership, Ethics, and Mentoring:	☐ Health policy ☒ Recruitment and retention ☐ Preparing tomorrow's leaders ☐ Care of the caregiver
Other:	☐

Progress Toward Achievement of Specific Aims of the Study or Project

Findings related to each specific aim, research or study questions, and/or hypothesis:
Specific Aims: The goal of this evidence-based practice (EBP) project was to implement an evidence-based Precepting Program within the U.S. Army Institute of Surgical Research (USAISR) Burn Center to reduce the incidence of turnover of staff nurses within a demanding healthcare environment. Lack of a structured EBP Precepting Program compromised the retention and satisfaction of burn nurses providing direct patient care, which served as the driving problem-focused trigger in the Iowa model of EBP.

PICOT Question: Does implementing an evidenced-based precepting program (I) for nursing staff (P) in the USAISR Burn Center improve nursing satisfaction and decrease turnover (O) when compared to staff satisfaction and turnover (O) during the previous 12 month period (T)?

The specific aims for this project were:

1) Implement an evidence-based Preceptor development program, where the best method for selection of the *Preceptor* is identified and based on an established training platform;

2) Develop an evidence-based Preceptee training program with identification of baseline Preceptee competency, ongoing multifaceted evaluation, and retention strategies for the competent staff nurse; and

3) Develop a 'toolkit' for precepting training program sustainment.

Specific Aim 1
1) Implement an evidence-based Preceptor development program, where the best method for selection of the *Preceptor* is identified and based on an established training platform.

A representative of Vermont Nurses in Practice (VNIP) program came to the USASIR to provide site training. This was a 2-day Train the Trainers course. The initial training in September 2012 encompassed 31 multidisciplinary attendees, including project Mentor Dr Linda Yoder (Table 1). For those that attended, 13.5 contact hours were provided for participants.

The VNIP representative remained on site for an additional 2 days to meet with 15 stakeholders to include: Chief Nurse of the Army Burn Center (ABC), Clinical Nurse Officers in Charge (CNOIC) of both the Intensive Care Unit (ICU) and Progressive Care Unit (PCU), Wound Care Coordinators, Preceptor Coordinators, Clinical Nurse Educators, Clinical Nurse Specialists, Nurse Scientists, and Project Mentors. The focus of these meetings was discussion about how to create coaching plans that would be used to educate the staff and create a shared mental model of preceptorship.

-Burn Center Preceptors were identified and their commitment was obtained based on the Roles and Responsibility Form created by the Burn Unit team (Final Report Appendices, p.95).
-Two Burn ICU Preceptors were identified but declined to participate.

-Commitment was obtained from 17 Burn ICU Preceptors (11 RN, 6 LVN) and 16 Burn PCU Preceptors (9 RN, 6 LVN). Although several of the identified preceptors were willing to participate in the program, only 7 Burn ICU Preceptors (7RN) and 9 Burn PCU preceptors (6 RN, 3LVN) completed the probation period.

- A rubric to select preceptors was adopted from VNIP; preceptors had to score a 2 or better in all categories to be considered for preceptor training and had to score a 3 or better to be considered a competent preceptor.

- 100% of identified preceptors were VNIP trained (n = 33)

-Training of 110 staff, 76 Burn Center staff nurses and 34 people from other disciplines (Administrative Leaders, Specialties to include: burn clinic, respiratory, occupational, and physical therapists).

-VNIP Course Evaluation
The VNIP Course attendance and evaluation data for November 2012 through April 2014 is provided in Tables 1 and 2. Each topic area was rated on a visual descriptor scale ranging from 1 (low rating) to 5 (high rating).

Table 1- Vermont Nursing In Partnership Course Attendance

2-Day Vermont Nursing In Partnership (VNIP) Clinical Coaching Preceptor Course Attendance											
Unit	Role	Sep. 2012	Nov. 2012	Dec. 2012	Jan. 2013	Feb. 2013	Apr. 2013	Dec. 2013	Total	Staff Census 2012	Unit Participation (%)
Burn PCU	LVN	3	2	1	2	0	0	8	16	26	61.5
	RN	3	4	1	2	2	3	7	22	23	95.6
Burn ICU	LVN	3	0	2	0	3	1	1	10	27	37.0
	RN	6	4	8	3	2	4	1	28	54	51.9
Nursing Education	Other	8	0	0	0	0	0	0	8	N/A	N/A
Other Disciplines	Other	8	3	2	0	3	5	5	26	N/A	N/A
Total Attendee's		31	13	14	7	10	13	22	110	N/A	N/A

Because course evaluations were completed by attendees in an anonymous fashion, data are unable to be stratified by nurse type (RN v. LVN) or discipline.

Table 2 - Vermont Nursing In Partnership Course Evaluations.

	VNIP Course Survey Ratings (Visual Descriptor Scale1-5)					
VNIP Course Sections	Nov. 2012	Dec. 2012	Jan. 2013	Feb. 2013	Apr. 2013	Dec. 2013
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
	N=13	N=11	N=7	N=9	N=10	N=20
Preceptor Development	4.5±0.6	4.6±0.4	4.9±0.1	4.7±0.5	4.8±0.3	4.7±0.5
Roles & Responsibility	4.7±0.4	4.8±0.4	5.0±0.0	4.7±0.5	4.7±0.4	4.9±0.3
Novice-to-Expert	4.4±0.5	4.8±0.3	5.0±0.0	4.7±0.6	5.0±0.1	4.8±0.4
Delegation	3.9±0.7	3.7±1.0	5.0±0.0	4.6±0.6	4.8±0.4	4.6±0.7
Competent Practice	4.3±0.7	4.7±0.4	5.0±0.0	4.1±0.7	4.5±0.5	4.6±0.5
Teaching & Learning	4.6±0.6	4.6±0.5	4.9±0.2	4.4±0.7	4.5±0.5	4.8±0.4
Communication *	4.7±0.6	4.9±0.5	4.9±0.2	4.3±0.7	5.0±0.1	4.8±0.4
Bridges & Barriers	4.6±0.5	4.6±0.4	5.0±0.0	4.8±0.5	4.7±0.5	4.7±0.4
Experiences	4.6±0.6	4.7±0.4	4.9±0.3	4.6±0.6	4.8±0.3	4.7±0.5
Toolkit	4.6±0.6	4.7±0.4	5.0±0.0	4.1±0.6	4.9±0.3	4.8±0.4
Critical Thinking	4.8±0.4	4.8±0.3	5.0±0.0	4.5±0.6	5.0±0.0	4.8±0.3
Team Building	4.6±0.6	5.0±0.1	5.0±0.0	4.7±0.6	5.0±0.1	4.8±0.3
Day 1 Overall	4.8±0.4	4.8±0.4	5.0±0.0	4.5±0.8	4.7±0.5	4.8±0.4
Day 2 Overall *	4.5±0.6	4.9±0.2	5.0±0.0	4.5±0.6	5.0±0.0	4.9±0.3
Overall	4.5±0.6	4.9±0.4	5.0±0.1	4.5±0.6	4.8±0.3	4.8±0.4

In September 2012, a different VNIP course evaluation was administered, therefore only a mean item score is represented. Survey item mean scores and overall survey scores are depicted in Table 2.

The VNIP survey allows the evaluator to write comments, major themes represented by the comments were:

" The interactive parts during the course were awesome and very effective. Great job!"
"Lots of information and handouts. Thank you. "
"Very informative; excited about the program."

Basic Knowledge Assessment Tool (BKAT) and Wound Care Test (WCT)

Thirty-three preceptors completed the BKAT and the WCT. A plan was developed to remediate preceptors who did not meet an above average BKAT score. Wound care remediation consisted of meetings with the wound care coordinators, preceptor coordinators, and clinical nurse specialists (CNSs) to review knowledge deficiencies identified by the WCT. The team of preceptor coordinators, CNSs, wound care coordinators, and senior clinical nursing leaders determined final competency.

Unit Specific Preceptor training for ICU and PCU staff was conducted for standardizing practice knowledge used to orient preceptees.

Personality Assessment and Learning Style

To provide each preceptor and new hire insight into their personality type and preferred learning style, the Keirsey Temperament Sorter (KTS) was administered prior to attending the Vermont in Nursing Partnership Clinical Course or at inprocessing (for new employees). Although the KTS was not used to match Preceptors with Preceptee's, the majority of the nursing staff, preceptors, and preceptees fell within the Guardian temperament (Figure 1).

The KTS provided information about the preceptees' primary personality and learning styles. It gave the preceptors the ability to augment their teaching style to fit the preceptees' needs with support from the Preceptor Coordinators and CNSs.

Temperament is a configuration of observable personality traits, such as habits of communication, patterns of action, and sets of characteristic attitudes, values, and talents. It also encompasses personal needs, the kinds of contributions that individuals make in the workplace, and the roles they play in society. According to Keirsey Temperament Theory, four basic temperament groups describe human behavior. Keirsey's four temperaments are referred to as Artisans™, Guardians™, Rationals™ and Idealists™. These four temperaments can be further subdivided into sub-groups often referred to as "Character Types." There are four types of Artisans, four types of Guardians, four types of Rationals, and four types of Idealists.

Each temperament has its own unique qualities and shortcomings, strengths and challenges. What accounts for these differences? To use the idea of Temperament most effectively, it is important to understand that the four temperaments are not simply arbitrary collections of characteristics, but spring from an interaction of the two basic dimensions of human behavior: our communication and our action, our words and our deeds, or, simply, what we say and what we do.

The Four Temperaments

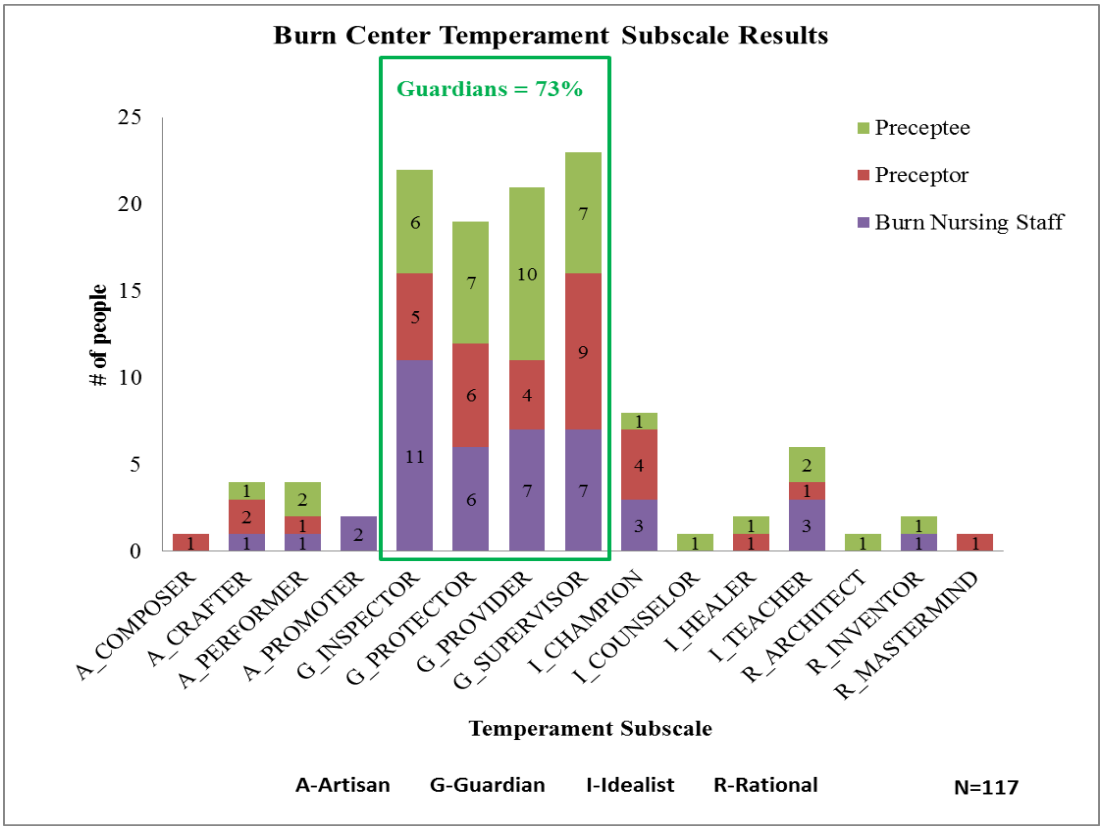
As Concrete Cooperators, Guardians speak mostly of their duties and responsibilities, of what they can keep an eye on and take good care of, and they're careful to obey the laws, follow the rules, and respect the rights of others.

As Abstract Cooperators, Idealists speak mostly of what they hope for and imagine might be possible for people, and they want to act in good conscience, always trying to reach their goals without compromising their personal code of ethics.

As Concrete Utilitarians, Artisans speak mostly about what they see right in front of them, about what they can get their hands on, and they will do whatever works, whatever gives them a quick, effective payoff, even if they have to bend the rules.

As Abstract Utilitarians, Rationals speak mostly of what new problems intrigue them and what new solutions they envision, and always pragmatic, they act as efficiently as possible to achieve their objectives, ignoring arbitrary rules and conventions if need be.

Figure 1-Keirsey Temperament Sorter Results



<u>Specific Aim 2</u>

Develop an evidence-based *Preceptee* training program with identification of baseline Preceptee competency, ongoing multifaceted evaluation, and retention strategies for the competent burn staff nurse.

Multiple forms were created along with establishment of the Preceptor Development Program to include: the USAISR Burn Center Preceptee Program Training Manual (Appendix A, p.1); the Preceptorship Evaluation Survey Form, (Appendix A, p.80) and an exit interview. The exit interview was created to evaluate nurses' reasons for leaving the USAISR Army Burn Center.

Assessment of Process Used for Transition to Work (APUT)

<u>Existing staff members</u> completed the "Assessment of Process Used for Transition to Work (APUT) Survey," (Appendix B) to evaluate their satisfaction with training before the precepting program was implemented.

Table 3- Demographic characteristics of nurses completing APUT survey

Benchmark Demographics		Burn PCU		Burn ICU	
		LVN	RN	LVN	RN
Age	N	8	9	20	30
	Mean	32.4	42.0	39.2	36.8
	SD	8.8	12.1	7.7	8.2
Total Nursing Yrs.	N	12.0	12.0	26.0	41.0
	Mean	5.9	15.0	13.4	12.1
	SD	3.1	9.7	7.6	7.0
ICU Nursing Yrs.	N	9	9	23	39
	Mean	1.0	5.0	8.6	7.1
	SD	1.5	5.7	6.9	4.9
Burn Nursing Yrs.	N	12	11	25	36
	Mean	2.1	5.7	6.3	4.5
	SD	2.0	4.0	4.7	4.5
Army Burn Nursing Yrs.	N	10	10	25	37
	Mean	2.4	6.0	6.0	4.3
	SD	2.06	3.86	4.41	3.6
Wound Care Nursing Yrs.	N	10	10	24	31
	Mean	2.3	6.6	7.1	5.8
	SD	1.5	5.3	5.8	5.7
Medical Surgical Nursing Yrs.	N	7	9	19	33
	Mean	2.2	5.4	4.1	2.8
	SD	2.8	4.9	6.1	3.5
		LVN	RN	LVN	RN
Professional Certification					
No		2	0	15	7
Yes		2	5	0	18
No Answer		11	13	11	16
Nursing Education Level					
Diploma/Certificate		8	0	8	4
Associates		1	1	13	11
Baccalaureate		0	11	1	23
Masters		0	0	0	3
No Answer		8	8	4	0
Employment Length at USAISR					
<1yr		5	5	3	12
1-5yrs		11	10	13	16
6-10yrs		1	1	7	11
11-15yrs		0	4	3	1
>15yrs		0	0	0	1
Employment History					
New employee		12	7	17	29

Benchmark Demographics	Burn PCU		Burn ICU	
	LVN	RN	LVN	RN
Prior USAISR staff member	1	3	5	5
Transfer from another unit	3	8	4	5
No Answer	1	1	0	2

The average nurse completing the initial APUT was representative of the nurses working in the burn center.

Table 4- Initial Assessment of Satisfaction using the APUT Survey using a 1 to 5 Visual Descriptor Scale

	Before Program Implementation Burn PCU n= 43	Before Program Implementation BICU n= 67
"Assessment of Process used for Transition to Work" Survey Questions	Mean ± SD	Mean ± SD
The transition to work (TTW) is through and effective	3.6 ± 0.9	3.8 ± 0.7
The TTW is structured	3.4 ± 1.0	3.9 ± 0.8
The length/ completeness of TTW process is adequate	3.7 ± 0.9	3.9 ± 0.8
The experienced staff feel that their TTW was adequate and supportive	3.5 ± 1.0	3.8 ± 0.8
Expectations, policies and procedures are well communicated	3.3 ± 1.0	3.7 ± 1.0
Manager, staff and orientees are satisfied with current TTW process	3.4 ± 1.0	3.7 ± 0.8
The TTW process effectively supports the growth and development of new staff	3.5 ± 1.1	3.9 ± 0.8
Newly hired staff, with prior experiences, feels well prepared for the work that is expected from them.	3.3 ± 1.1	3.8 ± 0.8
New hire staff feel prepared for the work that is expected of them.	3.2 ± 1.0	3.7 ± 0.8
All necessary skills experiences are included in the transition process	3.1 ± 1.1	3.6 ± 0.9
TTW process helps develop critical thinking	3.4 ± 1.0	3.8 ± 0.8
Preceptors and other staff are satisfied with the resources and support that are available to them	3.4 ± 1.0	3.6 ± 0.8
Competence and capabilities are accurately assessed and documented during TTW process	3.4 ± 1.0	3.6 ± 0.9
Colleagues feel confident about capabilities of new hires during the novice's first year of work	3.1 ± 1.1	3.4 ± 0.8
All paper work is completed in a timely manner	3.3 ± 0.9	3.4 ± 1.0
There is minimal frustration felt regarding TTW	3.0 ± 1.1	3.5 ± 0.9
Staffing levels and the TTW plan support the quality and completeness of orientation	3.3 ± 1.0	3.6 ± 0.9

A supportive environment is provided for new hires	3.5 ± 1.1	3.9 ± 0.9

There were three open-ended questions in the APUT survey. Major themes identified were:
1. *More didactic and hands on learning would improve training.*
-The Preceptor Team developed simulation scenarios regarding the care of the burn patient to include but not limited to wound care, resuscitative, and recovery aspects of burn care.

2. *The most difficult thing encountered during my preceptorship was a personality conflict and/or staff not being supportive. A secondary theme was fluctuation in census, either too high and difficult to learn or too low and not enough experience to learn.*
-Together the Preceptor and Leadership teams developed policies to support the Preceptor and Preceptee as 0.5 FTE on the schedule. These staffing adjustments were made to meet the requirements needed to deliver safe and effective patient care.
-With support from the nursing leaders, staff members that were not preceptors were also sent to the VNIP course to enhance understanding and provide mutual support to the preceptors and preceptees.

3. *More up front didactics and exposure to more difficult patients while in preceptorship.*
-In the ICU, staff were augmented to facilitate the Preceptor Coordinators ability to meet with the preceptees and preceptors during the first week of the program. The Preceptor Coordinators helped coach them through simulation scenarios with more difficult patients and they facilitated interprofessional education.

Table 5- APUT results after program implementation **using a 1 to 5 Visual Descriptor Scale**

	After Program Implementation Burn PCU n= 42	After Program Implementation BICU n= 40
"Assessment of Process used for Transition to Work" Survey Questions	Mean ± SD	Mean ± SD
The transition to work (TTW) is through and effective	4.0 ± 0.8	3.6 ± 0.8
The TTW is structured	3.7 ± 1.0	3.7 ± 0.8
The length/ completeness of TTW process is adequate	3.8 ± 1.1	3.8 ± 0.9
The experienced staff feel that their TTW was adequate and supportive	3.7 ± 1.0	3.8 ± 0.8
Expectations, policies and procedures are well communicated	3.8 ± 1.0	3.6 ± 1.0
Manager, Staff and orientees are satisfied with current TTW process	3.8 ± 0.9	3.3 ± 0.9
The TTW process effectively supports the growth and development of new staff	3.8 ± 1.0	3.6 ± 0.9
Newly hired staff, with prior experiences, feel well prepared for the work that is expected from them.	3.8 ± 0.9	3.6 ± 0.9
New hire staff feel prepared for the work that is expected of them.	3.7 ± 1.0	3.5 ± 0.8
All necessary skills experiences are included in the transition	3.6 ± 1.1	3.4 ± 1.0

process		
TTW process helps develop critical thinking	3.6 ± 1.1	3.5 ± 0.9
Preceptors and other staff are satisfied with the resources and support that are available to them	3.7 ± 1.1	3.5 ± 1.0
Competence and capabilities are accurately assessed and documented during TTW process	3.6 ± 0.9	3.3 ± 1.0
Colleagues feel confident about capabilities of new hires during the novice's first year of work	3.4 ± 1.1	3.4 ± 1.1
All paper work is completed in a timely manner	3.5 ± 0.8	3.1 ± 1.2
There is minimal frustration felt regarding TTW	3.5 ± 1.0	3.1 ± 1.1
Staffing levels and the TTW plan support the quality and completeness of orientation	3.7 ± 0.9	3.5 ± 1.0
A supportive environment is provided for new hires	4.0 ± 0.8	3.7 ± 0.9

Table 6- Benchmark results of Basic Knowledge Assessment Tool.

Basic Knowledge Assessment Tool Results	BKAT Critical Care		BKAT Med-Surg	
	RN n=36	LVN n=20	RN n=18	LVN n=20
Mean ± SD	83.4 ± 7.7	67.3 ± 6.3	77.9 ± 4.0	69.3± 4.3
Unit Participation (%)	67.9%	76.9%	78.3%	71.4%

The BKAT and WCT were administered to existing staff members to create a benchmark for new incoming staff for didactic purposes. This was the first time the BKAT was administered to the burn center LVNs. Within the ICU staff, the BKAT RN score=84%, LVN=70%; the PCU RN BKAT score=75%, PCU LVN BKAT score=70%.

Table 7 - Benchmark results of Wound Care Test -.

Wound Care Test	RN n=39	LVN n=19	RN n=16	LVN n=18	RN n=55	LVN n=37
Mean ± SD	84.9 ± 7.26	79.4 ± 6.8	81.4 ± 8.5	78.7 ± 9.1	83.9 ± 7.7	79.1 ± 7.9
Unit Participation (%)	73.6%	73.1%	69.6%	64.3%	72.4%	68.5%

A score of 80% was adopted as passing for all RNs and LVNs in the ICU and PCU.

Table 8 - Preceptee Demographics

Preceptorship Program Enrollment and Demographics	N
Preceptorship	
Enrolled in the program	29
Excluded From Program (none patient care)	1
Incomplete Preceptorship	3
Unsafe to practice	1
Unable to meet competency	1
Wrong Specialty, n	1
New Hires who completed the program	26
Complete Data	24
Incomplete Data	2
Pilot Program,	7
Age (yrs)	33 ± 9.8
	N %
Women	13 (44.8%)
Men	16 (55.2%)
Military Service or Civilian	
Army	13 (44.8%)
Civilian	16 (55.2%)
Service Component	
Active Duty	13 (44.8%)
Prior Military but not Retired	5 (17.2%)
Civilian	11 (37.9%)
Education Level	
ADN	5 (17.4%)
LVN	13 (44.8%)
BSN	10 (34.5%)
Unknown	1 (3.45%)
Completed Professional Certification	4 (13.8%)
Completed Professional Training	20 (69.0%)
Prior Preceptors	15 (51.7%)
Prior Preceptor Training	6 (20.7%)
Nursing Experience	Yrs ± SD
Overall Nursing Experience	6.0 ± 7.5
Intensive Care Nursing	3.5 ± 7.1
Medical Surgical Nursing	1.6 ± 2.1
Burn Nursing	0.7 ± 1.4
Wound Care Nursing	1.9 ± 4.0

This table showed clearly that the majority of nurses coming to work in the burn center had little if any prior burn experience.

Preceptorship Evaluation Survey (PES)
At the conclusion of the preceptorship period, each preceptee completed the PES in an anonymous fashion. The intent of the evaluation was to identify any issues and areas of improvement needed.

Table 9 - Preceptorship Evaluation Survey results (1-5 scale)

Preceptorship Evaluation Survey Categories	Burn PCU n=6	Burn ICU n=19
	Mean ± SD	Mean ± **SD**
ADULT LEARNER	4.4 ± 0.4	4.3± 0.4
ADVOCATE	4.3 ± 0.5	4.3± 0.5
FEEDBACK	4.4 ± 0.5	4.6± 0.4
JOB SATISFACTION	4.1 ± 0.7	4.1± 0.7
MANAGEMENT SUPPORT	4.0 ± 0.9	3.5± 1.0
PROGRAM SUPPORT	3.8 ± 1.1	4.2± 0.5
ROLE MODEL	4.4 ± 0.5	4.1± 0.6
SOCIALIZATION	4.4 ± 0.5	4.5± 0.5
TEACHER	4.4 ± 0.4	4.4± 0.4

The major themes to the three open-ended questions in the PES were

1. More resources and literature about wound care, more hands on experience and additional learning opportunities needed.
2. High census and inability of the preceptor to focus on training due to high patient load.
3. Provide preceptors with more staff support to allow time to teach and give feedback.

Similar comments were made during the APUT and similar strategies were used to address the comments.

Out of the 26 preceptees who completed the program, 24 remain employed at USAISR Burn Center. Four preceptees separated from the unit and had an average length of stay of 4.6 months; two separated from the military and two were terminated.

Table 10- Burn Center Turn Over Before and After VNIP Program Implementation

	Turnover (Lab Demo & Contractors)				**Turnover All (Lab Demo, Contractors and Active Duty)**			
	Prior to program		After Program		Prior to program		After Program	
	2010-2011	**2011-2012**	**2012-2013**	**2013-2014**	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**
# of employee's that left that year	7	23	9	9	17	46	21	21
# employee's at the beginning of the year	87	98	89	95	136	144	130	134
# at the end of the year	98	89	95	88	144	130	134	121
Burn Center Nursing % Turn over	**7.6%**	**24.6%**	**9.78%**	**9.84%**	**12.1%**	**33.6%**	**15.9%**	**16.5%**
# of employee's that left that year	4	19	7	7	8	28	14	13
# employee's at the beginning of the year	57	65	57	63	83	90	80	84
# at the end of the year	65	57	63	57	90	80	84	77
Burn ICU Nursing % Turn over	**6.6%**	**31.1%**	**11.67%**	**11.67%**	**9.2%**	**32.9%**	**17.1%**	**16.1%**
# of employee's that left that year	3	4	2	2	9	18	7	8
# employee's at the beginning of the year	30	33	32	32	53	54	50	49
# at the end of the year	33	32	32	31	54	50	50	44
Burn PCU Nursing % Turn over	**9.5%**	**12.3%**	**6.25%**	**6.35%**	**16.8%**	**34.6%**	**14.0%**	**17.2%**

During implementation of this program, the Army Burn Center experienced the highest census and turnover in its history. . This program occured at the right time to facilitate “just in time training” to help provide a consistent platform and to offset the potential significant variances in training the preceptor and preceptee.

The implementation of this program did in fact lower turnover among our civilian staff and moved closer to the 2010 turnover level when adding the Active Duty nurses.

Table 11-Information about nurses that left the Burn Center

Follow Up after Leaving		
Primary Reason for Leaving	n	%
Career Advancement	10	55.6
Situational	5	27.8
Job Dissatisfaction	1	5.6
Incomplete Preceptorship	2	11.1
Gender	n	%
Women	8	38.9
Men	11	61.1
Military Service or Civilian	n	%
Active Duty Military	11	61.1
Civilian	6	33.3
Unknown	1	5.6
Education Level	n	%
ADN	1	5.56
LVN	6	33.3
BSN	4	22.2
MSN	2	11.1
Other	5	27.8
Professional Certification	9	50
Professional Specialty Training	16	88.9
Prior Preceptors	10	55.6
Prior Preceptor Training	5	27.8
Age and Nursing Experience	Yrs. $\pm$ SD	
Age	35 ± 8.2	
General Nursing	7.8 ± 6.8	
Intensive Care Nursing	4.4 ± 4.3	
Medical Surgical Nursing	1.9 ± 2.8	
Burn Nursing	2.8 ± 1.9	
Wound Care Nursing	2.2 ± 2.0	

Specific

Aim 3
Develop a 'toolkit' for precepting training program sustainment.

A toolkit was developed that included: USAISR Burn Center Preceptorship Program Training Manual (Appendix A, p.1); a Preceptor Skills course based (developed and implemented by the preceptor coordinators, nurse managers, and CNSs); Coaching Plans; a quarterly newsletter; and a preceptor recognition program.

The USAISR Burn Center Preceptorship Program Training Manual (Appendix A, p.1-145)

This manual includes both the training manuals for Preceptor and Preceptee development. All the Appendices combined include the overall Preceptorship Program components.

Preceptor Skills course (Appendix C) consisted of a multi-disciplinary approach of enhancing the skill set of each preceptor to include opportunities for fellowship and recognition.

Coaching Plans (Appendix D-E) are roadmaps that provide both the Preceptor and Preceptee on the teaching and learning activities along with validated performance outcomes. It helps to decrease variances at the bedside to facilitate a shared mental model of didactic and clinical outcomes.

Quarterly Newsletter
The Burn Center preceptor newsletter was developed by Preceptor Coordinators; it addressed common precepting issues and provided supplemental information (Appendix F).

Preceptor Recognition
Recognition was identified by both units. Each preceptor was recognized by Burn Center leaders with a gold badge (Burn ICU) or a gold pin (Burn PCU) at the end of the Preceptor Skills Fair event (Appendix G).

Effect of problems or obstacles on the results:

-Implementing an electronic survey and training platform was more difficult than expected due to CAC access, email access, and network drive access.

-Due to the 2013 federal employee furlough and increased burn center census, four VNIP courses were canceled. Within the duration of this EBP project, all preceptors attended VNIP.
-Despite the furlough and increased census, every preceptee was able to finish their preceptorship with support from the Preceptor Team.
-Because of competing time demands, nurse manager support declined over time. Ongoing information about the precepting program in leadership meetings is essential to maintain managers' support.

Conclusion:

In Summary overall program sustainment was achieved by development of a:
-Formal Burn Center Preceptorship Policy (Appendix H)
-USAISR Burn Center Preceptor Training Manual (Appendix A, p.90-145) to include the VNIP Preceptor Workbook (Appendix I)
-USAISR Burn Center Preceptee Program Training Manual (Appendix A, p.1-89)

Sustainment of the VNIP after the grant expires includes:
-Annual site license renewal fee (~$1000/year)
-Ongoing VNIP training
-Sending new preceptors to the 2-day VNIP course
-Support for preceptor coordinator administrative time
-Ongoing preceptor recognition

Produced and presented 3 Courses of Action to COL Gordon (Deputy, ANC Chief Nurse) for possible implementation of VNIP in the entire Army Nurse Corps:

COURSE OF ACTION 1

- Hire Ms. Boyer who is the VNIP Consultant for 3 years for roll-out of the VNIP across the AMEDD
- =$80,000/year
- All VNIP Resources are provided
- It moves within the public domain and now is accessible across the DOD

- 3 Legged Stool for Success
    - Education Department involvement
    - CNOIC (Leadership)
    - Preceptor Coordinator (Staff Nurse appointed by CNOIC
    - Force Multiplies: Clinical Nurse Specialist and Clinical Nurse Leaders

COURSE OF ACTION 2

- Purchase Annual Membership of VNIP and receive all the resources
    - Critical Access <30 beds $985.00
    - Small up to 200 beds $1,675.00
    - Medium up to 201-500 beds $2715.00
    - Large 501 beds and over $3745.00
- Discount with 3 year
    - <30 beds $850/yr TOTAL=$2,550.00
    - 31-200 beds $1,450/yr TOTAL=$4,350.00
    - 201-250 beds $2350.00/yr TOTAL=$7,050.00
    - >500 beds $3250.00/yr TOTAL=$9750.00

COURSE OF ACTION 3

- Do nothing,
- Continue to have multiple preceptor programs across MTFs
- Continue to have different standards across the MTFs
- Spend a great deal of time and money working on the same project

COURSE OF ACTION 4

- Appoint LTC/COL to create and lead our own preceptor program to create a standard across the enterprise
- Creation would consist of years of development and validation of tools
- LTC salary $100,000 x3 year=$300,000 spent before rolling out a standard
- MTFs are looking for solutions now, how long can we wait for a standard?

Mentor Evaluation:
Dr. Linda Yoder

Mentor Meeting Date	Interaction
June 22, 2012	Meeting with EBP Team to delineate implementation plan timeline goals
August 28, 2012	Preceptorship Progress Review (Teleconference)
September 18, 2012	VNIP Clinical Coaching Train-the-Trainers Course
September 19, 2012	VNIP Clinical Coaching Train-the-Trainers Course
September 19, 2012	Stakeholders Meeting and Grant Expectations
September 20, 2012	VNIP Management Meeting
September 21, 2012	VNIP Management Meeting
November 20, 2012	Preceptorship Progress Review (Teleconference)
December 19, 2012	Grant Mid Report TSNRP Review and Progress Review
May 8, 2013	Review of Preliminary Data
May 22, 2013	Data Review for TSNRP Annual Report
August 6, 2013	Cost Analysis Meeting
October 31, 2013	Mentor Meeting
December 17, 2013	Abstract and Data Meeting
March 12, 2014	Abstract and Progress Meeting
April 3, 2014	Col. Gordon Meeting
May 14, 2014	Report Review and Progress Meeting
June-October 2014	Ongoing emails with the PI regarding editing of the final report

The PI and all members of this evidence-based project team have performed in an outstanding manner! This team has made tremendous progress in terms of getting all preceptors trained, developing training materials, and determining evaluation metrics. I have never worked with a team that has been as proactive and collaborative as this team. In addition to working with the PI, I have spent time with the project director (PD) to discuss collection and graphing of metric data. A strength of this team also has been the phenomenal senior leadership support they received and the on-site oversight by LTC Mann-Salinas. Additionally, the PI and PD know how to reach out and ask for assistance when needed and their problem solving skills served to enhance the training materials and preceptor/preceptee education as needed. The PI and PD have demonstrated ongoing growth in their ability to manage an EBP project of this magnitude. In the next year, the team will conduct a variety of cost analyses and will examine ways the program could be streamlined if it were to be exported to other specialties or across the entire Army Nurse

Corps. Manuscripts and presentations at professional healthcare meetings continue to be developed from this important and successful EBP project.

Relationship of current findings to previous findings:
There were no previous published results for VNIP and precepting the burn nurse. However, there have been various successes with VNIP to include:

- 14 grants implemented using VNIP
- 12 manuscripts about VNIP
- Over 100 speaking engagements for VNIP
- Over 250 hospitals use VNIP
- Hospitals in 28 U.S. states and Canada use VNIP.

VNIP offers to share their evidence-based competency development framework. The most important learning from 14 years of regional and nationwide VNIP implementation is that development of students, new hires, new graduates and new-to-specialty professionals requires three distinct supporting structures. Preceptor development and support, clearly defined roles, and protocols, and data collection, are the three structures that are vital to the work of the preceptor-preceptee team to ensure the safe and effective care of the patient.

There are over 100 VNIP (Appendix J) Competencies Assessment and Coaching plans that provide roadmaps for the management, preceptor and Preceptee for both didactic and expected demonstrated outcomes in outpatient and inpatient areas. Below are examples of the areas:

- Outpatient Clinics
- Medical-Surgery
- Emergency Room
- Intensive care units
- Progressive care units
- Rehabilitation
- Respiratory therapy
- RN, LVN, CNA
- Vascular units
- Renal units
- Neuro units
- Geriatric care units
- Perioperative units
- Neonatal
- Pediatric
- OB/GYN units
- Psych units
- Home care
- Oncology
- Long term care

- Clinical Nurse Leader/Educator role

Within VNIP there are tools online for Protocols and Policies (Appendix J) templates that documents specific to the Internship, RN, LVN, CNA orientation, competency assessment, and/or performance appraisal. These are a sample of how the COPA model has been incorporated from Job description through performance appraisal at one VT agency. These tools are intended as a demonstration and example only.

There are over several dozen survey and evaluation tools (Appendix J) that have been validated for evaluation of the Preceptorship programs and participants. These include but not limited to:

- Satisfaction survey for assessment of agency pre and post-internship model adoption
- Annual Summative Evaluation Form used to summit a summary of the program evaluation results and any planned/recommended changes
- Effective Process Survey
- Retention Survey
- Weekly Orientation Evaluation Eval Retention
- Evaluates Transition
- Intern Evaluates Program
- Periodic Evaluation Form
- Preceptor Eval-COPA
- Preceptor Evals Program
- Preceptor Expertise Eval
- Survey Tools
- Survey Tools – Reporting Plan
- VNIP Survey Tools and Planning
- Workplace Support Survey

Effect of problems or obstacles on the results:
Although we had a tremendous amount of support from senior leaders, patient care must always come first. Two VNIP courses were cancelled due to an increased census, low staffing and experiencing the highest turnover of nursing staff in the history of the burn center. Possibly for other units where agency nurses are used and there are no shortages of staffing, canceling VNIP would not have been an issue. However, due to the nature of the burn specialty a highly specialized nurse with proficiency in burn care is required. Nevertheless, VNIP training for all the formal preceptors in this program was achieved. We are continuing our goal of providing to 100% training of the multi-disciplinary staff of the Army Burn Center.

Program success was dependent on sustained support by unit and executive leaders. Due to circumstances outside this project, the Burn ICU suffered greater obstacles in the implementation phase of the precepting program such as: high staff turnover, sustained high census and shortage of float nurses able to augment staffing to allow preceptor coordinator administrative time to coach and support the program. Without dedicated leadership support, implementation of a robust preceptor program is unsustainable.

Limitations:
This project was implemented in a single specialty center and may not be generalizable to non-specialty care units.

The civilian federal furlough, sustained high census, high staff turnover, and lack of dedicated administrative time for preceptor coordinators were unanticipated and difficult to overcome.

Conclusion:
All aims for this EBP project were successfully achieved. An EBP precepting program was established. A systematic and standardized way to train and develop both preceptors and preceptees for transition to specialty care was developed. This included unit specific coaching plans to evaluate and sustain competency coupled with valid and reliable metrics, applicable to both new graduates and experienced nurses.

A sustainment plan is in place that includes training manuals and a formal burn center policy for precepting.

Significance of Study or Project Results to Military Nursing

Needed for the Military Nurse Corps is a robust Precepting Program that provides coaching, supports leader development, and is:
-Evidence-based
-Comprehensive
-Flexible
- Adaptable
-Cost effective
-Consistent across the Enterprise
-Introduced on entry to the Military Health System
-Reinforced throughout a nurse's career

Additionally, the Precepting Program should:
-Use objective validated metrics
-Enable ongoing assessment
-Have Tri-Service applicability

As a result of this project, we have created a systematic and standardized way to train and develop preceptors and preceptees that can be expanded to address a comprehensive coaching program for nurse leaders.

Recommendations for future research are to evaluate incorporation of the VNIP program in ongoing leadership development in the Military Nurse Corps throughout nurses' military careers.

Changes in Clinical Practice, Leadership, Management, Education, Policy, and/or Military Doctrine that Resulted from Study or Project

This project was briefed to COL Gordon (ANC Deputy Corps Chief) as a possible solution to replace over a 100 unit Precepting programs and create a shared mental model (standard) across the enterprise. This program offers a "complete package" (infrastructure) for training/assessment for bedside leaders:
-Preceptor development
-Preceptee evaluation/orientation
-Ongoing coaching platform

Could replace:
-MEDCOM Competency Program
-Army Competency Tools
-Clinical Nurse Transition Program Preceptor Program and Guidelines

Cost effective program
-Established evidence-base
-No need to revalidate
-Can modify at local levels but maintain entire program

Significant Team Members who Supported this Study

In any undertaking, there are always people (listed below) who take significant roles in developing, implementing, and evaluating its effectiveness to include those at the bedside. Memorandums are also included from the Executive, CNOIC, Education and Preceptor Coordinator that highlight their perspectives in this study (Appendix K-O). This PI will forever be indebted and deeply appreciative for their passion and enthusiasm throughout the past years.

4T Burn Intensive Care Unit:
Ms. Hope Greely-Preceptor Coordinator
Ms. Colleen Mitchell-Preceptor Coordinator
MAJ Trinity Peak-CNOIC
CPT Justin Miller-ACNOIC
Mr. Jimmy Rodriguez-ACNOIC
SFC Hardin Thomas-NCOIC

4E Progressive Care Unit:
Ms. Mica Barba-Preceptor Coordinator
Ms. Jennifer Sherman-Preceptor Coordinator
Mr. Raul Vanegas-Preceptor Coordinator
SSG Marie Thomas-NCOIC

Wound Care Coordinators:
Ms Sarah Shingelton
Mr Reuben Salinas
Mr CD Peterson

USAISR Education: Ms Elizabeth Hayes
ISR Nurse Scientist: Dr Mann-Salinas

USAISR Leaders:
COL Evan Renz: Director
COL Booker King: Deputy Director
COL Louis Stout: Chief Nurse "2011-2012"
LTC Paul Mittelsteadt: Chief Nurse "2012-2014"
MAJ Scott Phillips: Chief CNS
Wardmaster: SFC Brandon Gibson

SAMMC Clinical Nurse Science Clinical Inquiry:
COL Laura Feider-Chief Nurse Scientist
MAJ David Allen-Chief CNS

MEDCOM: Ms Jean Sabido

University of Texas of Austin: Dr Linda Yoder: EBP Mentor

Preceptor Grant Program Coordinator: Ms Krystal Valdez

TAMC: Ms. Sheila Bunton

Appendices A-O:

- A: USAISR Preceptorship Training Manual
- B: Assessment of Process Used for Transition to Work (APUT)
- C: 4E-4T Preceptor Skills Agenda
- D: Burn Wound Care Coaching Plans
- E: 4E Coaching Plans
- F: Preceptor Newsletter
- G: USAISR Preceptor Recognition
- H: USAISR Preceptorship Policy
- I: VNIP Preceptor Workbook
- J: VNIP Resources
- K: ISR Chief Nurse Perspective
- L: ISR Educator Perspective
- M: ISR CNOIC Perspective
- N: 4E Preceptor Coordinator Perspective
- O: 4T Preceptor Coordinator Perspective

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Summary of Dissemination

Type of Dissemination	Citation	Date and Source of Approval for Public Release
Publications	EA Mann-Salinas, E Hayes, JR Robbins, J Sabido, L Feider, D Allen, L Yoder, "A Systematic Review of the Literature to Support an Evidence-Based Precepting Program" *Burns, 40*(3), 374-387. doi:10.1016/j.burns.2013.11.008. Epub 2013 Dec 9.	USAISR PAO May 2012

Published Abstracts	Expert Practitioner as Change Agent: Translating and Implementing Evidence into Practice. Robbins J, Tubera D, Shingleton S, Serio-Melvin M, Phillips S, Hayes E, Mann-Salinas E, Mittelsteadt P, US Army Institute of Surgical Research, San Antonio, Texas. (Clinical Nurse Specialist Vol 27(2) pg. E64, March/April 2013)	USAISR PAO December 2012
	Part of a Symposium "Synergistic Clinical Nurse Specialists Pillars within a Region Military Burn Center", Mittelsteadt P, Robbins J, Phillips S, Shingleton S, presented at the annual 2013 National Association of Clinical Nurse Specialists March 7-9, 2013 in San Antonio, TX.	
	"Demonstrated Benefits of an Evidence-Based Burn Precepting Program" *J Burn Care Res*, *Supp*, May 2014 Vol 35, 3, p.S93 JR Robbins, EJ Hayes, KK Valdez-Delgado, JM Sabido, LH Yoder, HL Greeley, C Mitchell, MG Barba, JJ Sherman, SK Shingleton, TF Peak, CA Vanfosson, DA Allen, LL Feider, SA Phillips, PB Mittelsteadt, EA Mann-Salinas,	USAISR PAO October 2012

Podium Presentations	Expert Practitioner as Change Agent: Translating and Implementing Evidence into Practice. Presented at the annual 2013 National Association of Clinical Nurse Specialists March 7-9, 2013 in San Antonio, TX	USAISR PAO December 2012
	A Systematic Review of the Literature to develop an Evidence Based Practice Nursing Precepting Program. Presented at the annual 2013 American Burn Association Conference April 23-26	USAISR PAO December 2012
	Demonstrated Benefits of an Evidence-Based Burn Precepting Program Presented at the annual American Burn Association Conference, Boston, MA March 25-28, 2014	USAISR PAO October 2013
	Developing an Evidence Based Practice (EBP) Nursing Precepting Program Presented at 21st National Evidence-Based Practice Conference, Iowa City, IA, April 24-25, 2014 Presented at TSNRP Research and EBP Dissemination Course, San Antonio, TX, September 15-18, 2014	USAISR PAO October 2013
Poster Presentations	Mann-Salinas E, Hayes E, Robbins J, Sabido J, Feider L, Allen D, Yoder L, "Developing an Evidence Based Practice Nursing Precepting Program Poster presented at the AMSUS 16Oct2012	USAISR PAO October 2012
	Poster presentation BAMC Nurses' Week 2014 – 9 MAY 2014	BAMC PAO May 2014

	Demonstrated Benefits of an Evidence-Based Burn Precepting Program Presented at the annual American Burn Association Conference, Boston, MA March 25-28, 2014 Developing an Evidence Based Practice (EBP) Nursing Precepting Program Presented at 21st National Evidence-Based Practice Conference, Iowa City, IA, April 24-25, 2014 Presented at TSNRP Research and EBP Dissemination Course, San Antonio, TX, September 15-18, 2014	USAISR PAO October 2013 USAISR PAO October 2013
Other	Presentation to COL Howell, SAMMC DCN, 24June2013 Presentation to LTG Horoho, Army Surgeon General, 21May2013 Presentation to MG Keenan, Army Nurse Corps General, 26Jul2013 Initial Presentation to COL Gordon, Deputy Army Nurse Corps, 20Aug2013 Follow-up Presentation to COL Gordon, Deputy Army Nurse Corps, 9April 2014	

Reportable Outcomes

Reportable Outcome	Detailed Description
Applied for Patent	None
Issued a Patent	None
Developed a cell line	None
Developed a tissue or serum repository	None
Developed a data registry	None