



SE10EO – Nurses participate in the assessment and prioritization of the healthcare needs of the community.

Provide one example, with supporting evidence, of an improvement in an identified healthcare need that was associated with a nurse's partnership with the community. Supporting evidence must be submitted in the form of a graph with a data table that clearly displays the data.

Deficient Example (Not Accepted by ANCC): UVA Emergency Services trains community volunteers in the use of 12 lead electrocardiograms in the field.

Background/Problem:

In the 34,000 square miles that surround UVA, Emergency Medical Service (EMS) volunteer and career providers staff local rescue and fire agencies and provide service and Advanced Life Support (ALS) for 911 emergencies. This catchment area includes the counties of Albemarle, Buckingham, Fluvanna, Greene, Louisa, Madison, Nelson, Orange, the city of Charlottesville and the Shenandoah National Park. Most of the region is rural, with average transport times to the hospital exceeding 30 minutes. The regional volunteer EMS structure is a vital part of the local EMS system. These volunteers include basic EMTs, Intermediate and Paramedic level providers.

UVA has a dedicated resource to support the educational needs of this committed volunteer group of responders. Donna Burns, BSN, RN, is the Prehospital Education Coordinator. She is knowledgeable about the agencies that serve the communities in the surrounding counties and has established relationships to promote and provide training. Each month she travels 1,600 miles to 12 locations offering ALS continuing education classes, and providing case reviews of patients who were transported to the UVA Medical Center. Chest pain is one of the most common reasons patients' call 911, and all S-T Elevation Myocardial Infarction (STEMI) cases are discussed by Ms. Burns with the transporting EMS providers to enhance learning and optimize care.

For patients that experience acute cardiac events outside of the hospital, minutes matter. This is especially true for patients that arrive outside the cardiac intervention team's normal business hours requiring the teams to be called in from home. In 2012, having identified a need to increase the clinical information obtained from EMS agencies, UVA began providing EMS agencies with the necessary hardware to transmit 12-lead ECGs from the field to the emergency department. Fifty-four modems were distributed to the local EMS agencies. These modems provide the interface between the agency's 12-lead capable monitor/defibrillators and the cell carriers. The 12-leads are transmitted over cell data lines from the patient's home to UVA. Field 12-lead transmission allows the physicians in the emergency department to immediately determine the level of response necessary prior the patient's arrival.



This technological enhancement resulted in an increase in the number of STEMI Alerts activated prior to the patient's arrival for those that received 12-lead ECGs in the field. By improving the efficiency of alerting the STEMI team, patients received more timely treatment that results in the crucial reperfusion of cardiac muscle. This improvement was made possible by the distribution of modems and the focused training that included obtaining 12-lead ECGs and transmitting them to the emergency department. However, Ms. Burns and the Emergency Department's Acute Coronary Syndrome Quality Support Team assessed the status of STEMI transports and believed that the prioritization of this patient population's care was needed to optimize the process.

Goal Statement:

The goal was to decrease the median times between first medical contact to reperfusion times for STEMI patients that are transported by emergency medical services during off shift hours.

Description of the Intervention/Initiative/Activity(ies):

The transmission of 12-lead ECGs from the field to the hospital requires adequate cell coverage. In discussions with Ms. Burns and Emergency Department leadership, EMS providers reported that mountainous terrain and inadequate cell tower coverage prevent 12-lead ECG transmission from approximately 20% of the regional EMS area, most of which is rural. Additional training was needed to create another avenue for STEMI alert notification to the emergency department. The local EMS providers needed training in the interpretation of 12-lead ECGs, particularly the identification of STEMI, so that they could actively contribute to the activation of the STEMI intervention team.

Burns coordinates an annual training event that reaches all of the area EMS agencies. Scenario based stations provide community volunteers with the knowledge necessary to respond to a variety of emergencies. The 12 training sessions offered in March 2013 included a station that re-validated skills for obtaining 12-lead ECGs as with past training, but also provided an advanced 12-lead ECG interpretation station to expand the knowledge and skill of EMS volunteers. Posters were set up that displayed the inferior, lateral, septal and anterior infarct patterns. Providers were given written material that guided them through key infarct pattern recognition with correlation to the "culprit" coronary vessel. Next a series of printed 12-lead ECGs were provided and the participants were asked to identify the injury pattern and submit their answers. At the end of each session providers were able to verify their answers against the key and discuss relevant points of each scenario. Over 150 volunteer EMS providers participated in the March 2013 sessions.

This training provided these EMS volunteers to not only the skill to obtain the 12-lead ECG, but also the proficiency to accurately recognize cardinal ECG changes that represent possible myocardial infarction. Following this training, EMS volunteers were



able to evaluate the patient, obtain the 12-lead ECG, call the emergency department physician on duty and describe what they were seeing in enough detail that the physician could determine the need for STEMI team activation. Providing the physicians with the specific information needed to activate the STEMI team during off-shift hours, allows simultaneous activation of the team and patient transport to the hospital. The identification of the need for 12-lead ECG interpretation training by Ms. Burns and the emergency department leadership facilitated the prioritization of expanded 12-lead ECG training for EMS providers in 2013. Empowering EMS providers with a more substantial role in STEMI team activation contributed to the prioritization of the cardiac care needs of patients within the 34,000 mile radius of UVA and is resulting in a more rapid transit to the cardiac catheterization lab during off-shift hours. Ms. Burns long-standing partnership with the EMS providers enabled these changes and is directly impacting the reperfusion of cardiac muscle, the ultimate goal.

Participants:

SE10EO Table 1. Participants, EMS 12-Lead ECG Initiative Planning

Name	Discipline	Title	Department
Donna Burns	Nursing	Pre-Hospital Education Coordinator	Prehospital Education
Mark Adams	Nursing	RN Clinician 4	Coronary Care Unit
Kirk Barbieri	Information Technology	Director, Specialty IT and Outcomes	Heart Center
Will Barnhardt	Emergency Services	Project Coordinator	Medical Transport Network
Brannelly Batman	Nursing	Nurse Manager	4 East, Cardiology
Lea Becker	Research	Clinical Researcher	ED Clinical Research
Myra Brent-McGarry	Quality	Quality Improvement Coordinator	Heart IT and Outcomes
David Burt	Medicine	Associate Professor	Department of Emergency Medicine
Barbara Craighead	Nursing	RN Clinician 4	Emergency Department
Steven Dunn	Pharmacy	Pharmacy Clinical Coordinator	Pharmacy Services
Nancy Fauber	Quality	Quality Improvement Coordinator	Cardiac Catheterization Lab

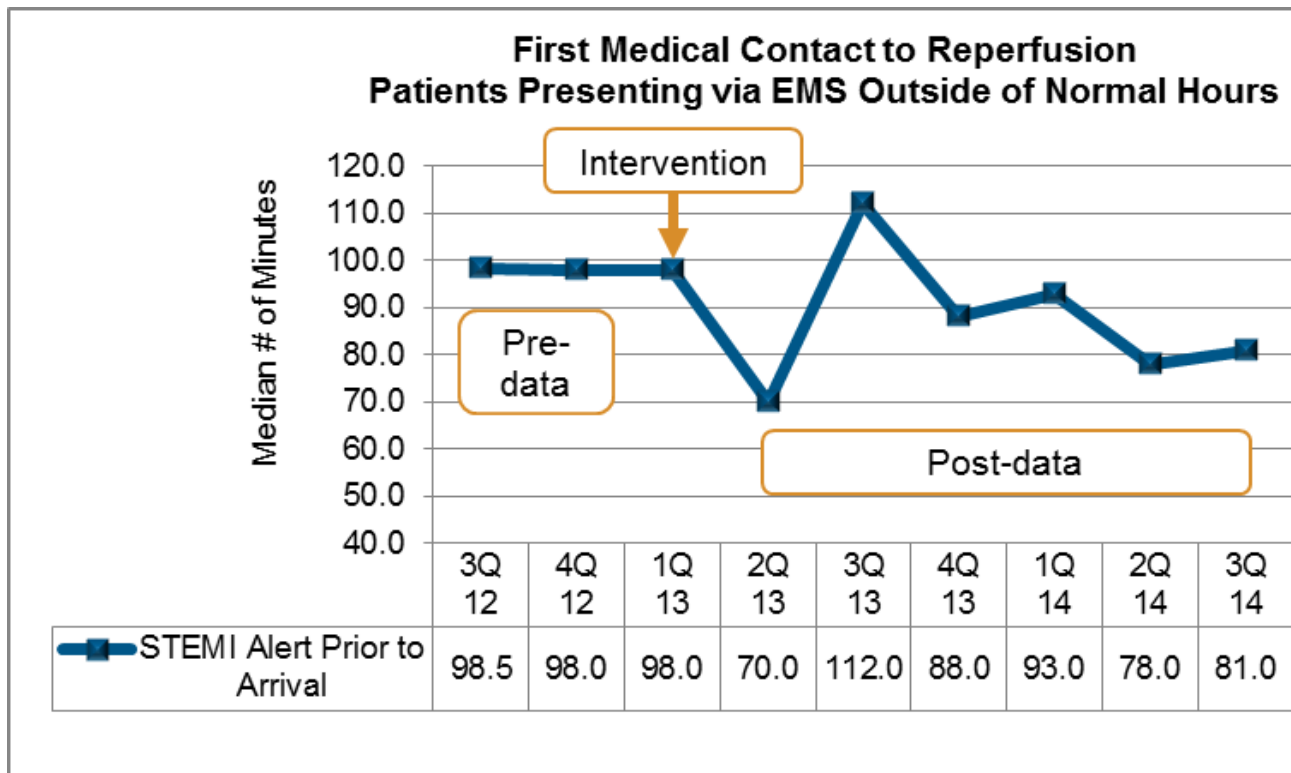


Suzanne Fuhrmeister	Nursing	Advanced Practice Nurse 1-CNS	4 Central Cardiology
Chris Ghaemmaghami	Medicine	Associate Professor	Department of Emergency Medicine
John Gilday	Nursing	RN Administrative Coordinator	Emergency Preparedness and Response
Larry Gimple	Medicine	Professor	Department of Medicine, Cardiovascular
Marian Lawson	Nursing	Nurse Manager	Coronary Care Unit
Lewis Lipson	Medicine	Associate Professor	Department of Medicine, Cardiovascular
Blee Moffett	Nursing	Nurse Manager	Medical Emergency Team
Mike Ragosta	Medicine	Professor	Department of Medicine, Cardiovascular
Joan Tepper	Nursing	Nurse Manager	4 Central Cardiology
Sandy Weaver	Nursing	Assistant Nurse Manager	Cardiac Catheterization Lab
Marc Winstead	Emergency Services	Emergency Services Instructor	Prehospital Education
Greg Wozneak	Nursing	Director, Heart Center	Heart Center



Outcomes:

SE10EO Figure 1. Median Number of Minutes, First Medical Contact to Reperfusion - Patients Presenting via EMS Outside of Normal Hours (3Q 2012 – 3Q 2014)



Example: UVA Teen Health Center Improves Use of Long-Acting Reversible Contraception (LARC)

Background/Problem:

The UVA Teen and Young Adult Health Center provides full-spectrum care for adolescents and young adults in our community. Contraceptive counseling and education is an important part of every patient encounter. In addition, our nurse practitioners educate, train and supervise UVA nursing and medical students, as well as pediatric and OB-GYN residents, in the provision of such counseling.

The American Congress on Obstetrics and Gynecology (ACOG) has stated that promotion of long-acting reversible contraceptive (LARC) methods should be the cornerstone of the U.S. and global strategy to reduce unintended pregnancy. LARC is the name given to methods with long duration of action without the need for active



adherence once initiated. They are characterized by extremely low failure and high continuation rates. LARC contraceptive methods, once placed or inserted, can be safely relied on for three or more years. This includes five- and 10-year intrauterine devices (Mirena and Paragard) and the three-year contraceptive implants (Nexplanon). At UVA, the two LARC methods used are Mirena (IUD) and Nexplanon (implant). LARC methods hold great promise for reducing unintended pregnancy rates in the United States and worldwide. Unfortunately, short-acting methods like birth control pills, the birth control patch, the birth control vaginal ring, condoms and contraceptive injection continue to be the contraceptive methods used by the majority of women and teens in the United States. All of these short-acting methods have high failure and low continuation rates. Failure (unintended pregnancy) rates for short-acting contraceptives are 22 times higher than for LARC methods. Continuation rates for short-acting methods range from 11-30% at 12 months, compared to 86% for LARC methods.

Despite strong statements from ACOG and the Institute of Medicine recommending increased use of LARC methods, many barriers exist. Evidence shows that barriers include lack of familiarity with or misperceptions about the methods, the relatively high cost of LARC in some settings and lack of access. Interestingly, healthcare providers may be one of the most significant barriers to increased use of LARC methods. Many contraceptive providers maintain misperceptions about the safety and acceptability of these methods and have not been trained in their use. The Teen and Young Adult Health Center, thanks to its presence within the UVA community, is in a unique position to significantly improve use of LARC methods among teens and young women in its patient population and in ongoing outreach efforts in the community and statewide.

To promote accessibility to patients, the Teen and Young Adult Health Center offers same-day LARC appointments. Patients can be seen on the day of their choice for LARC placement or follow-up for any problems or concerns. Same-day appointments are not typically available from private community providers. Ongoing support is provided through quick response, via phone call or appointment, to any problems with LARC methods. Breakthrough bleeding is the most common (and usually the only) side effect with LARC methods. Teen and Young Adult Health Center providers counsel patients thoroughly about the expected bleeding patterns with LARC methods, the safety of changes in menstrual bleeding, the health benefits of decreased menstrual bleeding and strategies for managing any annoying bleeding patterns.

The UVA Teen and Young Adult Health Center supports a variety of community outreach and education programs to address reproductive health issues for adolescents. Our community education and advocacy program provides reproductive health education in a variety of community settings and advocates for adolescent health needs at the local and state legislative levels. One example of a broad intervention is the role the Teen and Young Adult Health Center had in overseeing the Virginia HIV/STDs Resource Review Panel. This body met quarterly to review materials for potential use in Virginia schools and for inclusion in the Virginia Comprehensive Health



Education Training and Resource Center's database. This ensures that materials available to students are medically accurate and timely.

Goal Statement:

Increase use of LARC methods in Teen and Young Adult Health Center patients as measured by the total number of LARC placements.

Description of the Intervention/Initiative/Activity(ies):

Many approaches are used to increase the use of LARC in the teen population:

- Training – The two nurse practitioners at the Teen and Young Adult Health Center are trained in LARC placement and are trained to teach other providers to place LARC devices. This has led to numerous training courses locally and nationally conducted by these nurse practitioners.
 - Fairfax, Virginia, on Dec. 5, 2012
 - Statewide VCNP conference, April 17, 2013
 - Lynchburg, Virginia, March 12, 2014
- Formulary Change – Teen and Young Adult Health Center nurse practitioners successfully advocated for two LARC options (Mirena – January 2013 and Nexplanon – June 2012) to be included on the UVA formulary, so that LARC methods are always available for same-day placement.
- Medical/nursing education – Teen and Young Adult Health Center nurse practitioners provide educational sessions about LARC methods for UVA medical faculty, UVA nursing students and providers within the community. They have also have given talks on LARC at national and regional medical and nursing conferences.
 - Monthly – “Talking about sensitive issues with teens,” presented monthly to third-year medical students rotating through pediatrics
 - May 9, 2012 – “Birth control,” presented to UVA School of Nursing third-year students
 - July 9, 2012 – “Birth control,” presented at Longwood College for Virginia public school health educators
 - July 10, 2012, July 9, 2013 and July 10, 2014 – “Birth control,” UVA Summer Medical/Dental Education Program
 - April 5, 2013 – “Managing Contraception,” Birdsong Annual Pediatric Conference, Charlottesville, Virginia
 - October 14, 2013 – Teen Culture Conference, a statewide conference sponsored by the UVA Teen and Young Adult Health Center
 - December 6, 2013 – “Adolescent health and contraception,” presented at the Blue Ridge Dieticians annual conference
- Community Education – Teen and Young Adult Health Center nurses provide educational programs on LARC for parent groups, school groups, school nurses,



family life educators, Latino community educators and others who work with teens and young adults in the community.

- April 9 and 12, 2012 – School Health Advisory Board, Albemarle County Schools, review of Family Life Education
- June 12, 2012 – “Preparing your child for college,” Teen and Young Adult Health Center
- July 13, 2012; August 1, 2014 – Boys/Girls Club health fair
- January 13, 2014 – “Teaching about Birth Control to Students,” Waynesboro Office on Youth
- Research initiated February 2014: The UVA Teen and Young Adult Health Center collaborated with an OB/GYN third-year resident to look at provider bias in the use of LARC with adolescents. A survey was sent to 320 Charlottesville and Waynesboro physicians, nurse practitioners and physician assistants to determine if there was bias among providers against prescribing LARC. Of the 115 responses received, only 33 % reported NO BIAS against the use of LARC for adolescents. The complete study analysis is underway at this time.

Participants:

SE10EO Table 1. Participants, Teen Health Center

Name	Discipline	Title	Department
Heather Payne	Nursing	Advanced Practice Nurse 2, Nurse Practitioner, Women’s Health Nurse Practitioner	Teen and Young Adult Health Center
Dyan Aretakis	Nursing	Advanced Practice Nurse 3, Nurse Practitioner, Family Nurse Practitioner	Teen and Young Adult Health Center
April Garrison	Nursing	RN Clinician II Ambulatory	Teen and Young Adult Health Center
Mary Sullivan	Health Education	Community Education and Advocacy Director	Teen and Young Adult Health Center
Ruth Cowan	Administrative Support	Access Associate	Teen and Young Adult Health Center

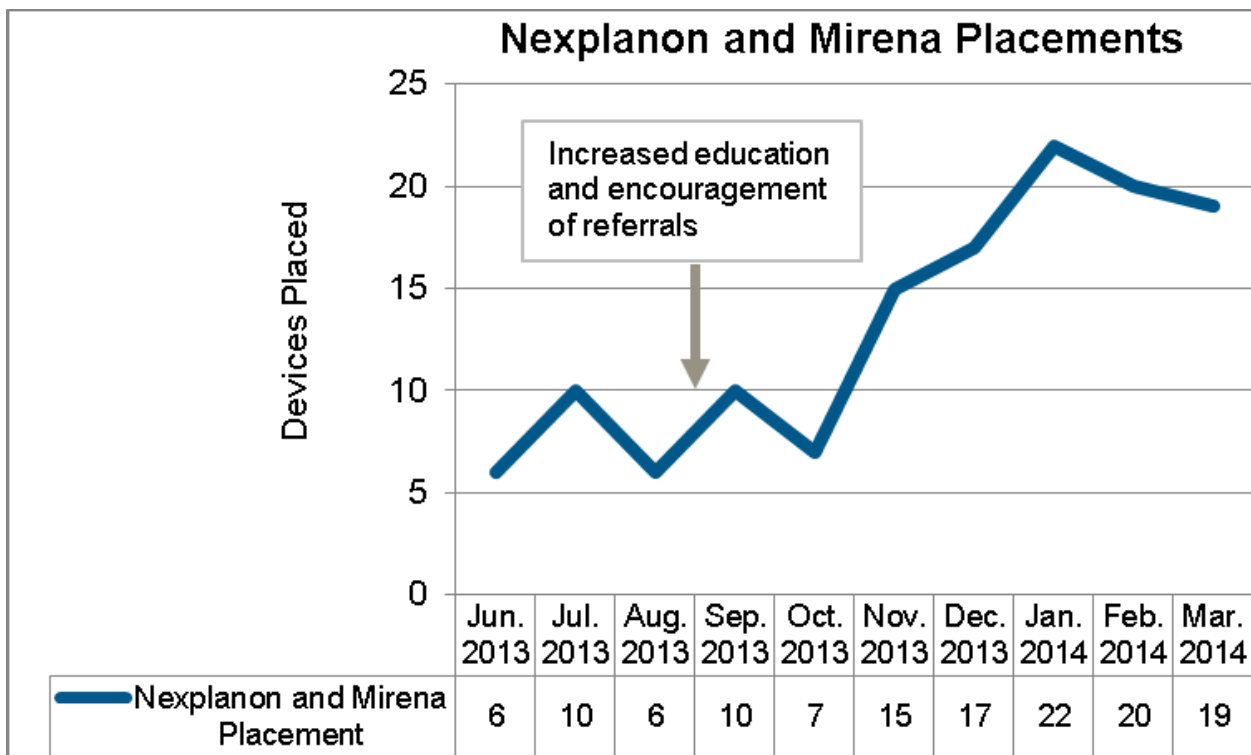
Outcome(s):



The comprehensive community education to patients and providers provided the necessary knowledge to encourage patients to seek LARC, and gave providers the education to recommend it. Influencing this barrier was a key aspect leading up to the increase in the LARC placement rates in the fall of 2013.

One important aspect of the Teen and Young Adult Health Center services that began to gain momentum during this period was the response to ongoing professional consultation. Teen and Young Adult Health Center nurses targeted outreach to individual practices within the region as a referral site for LARC placement. The combination of education and encouraging referral services has resulted in significant increases of LARC placements.

SE10EO Figure 1. LARC (Nexplanon and Mirena) Placements



The number of patients using Nexplanon has more than doubled over the course of the post-intervention period. Chart review is ongoing, but it does appear that LARC methods are now the most commonly used methods among our patient population.