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Nicole O'Neil

University of San Diego, nwoollard@sandiego.edu

Karen Sue Hoyt

University of San Diego

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Implementing an EMR Change for the Diabetic Foot Assessment

Nicole O'Neil, BSN, RN, DNP Student

University of San Diego

Hahn School of Nursing and Health Science:

Beyster Institute for Nursing Research

San Diego, CA

Karen Sue Hoyt, PhD, FNP-BC, ENP-C FAEN, FANP, FAAN

Clinical Professor

University of San Diego

Hahn School of Nursing and Health Science:

Beyster Institute for Nursing Research

San Diego, CA

Abstract

The purpose of this project was to implement the American Diabetes Association (ADA) foot assessment guidelines utilizing an electronic medical record (EMR) template. Aims of this evidence based practice (EBP) project were to improve documentation of the comprehensive diabetic foot exam, increase identification of loss of protective sensation (LOPS), and increase podiatry and vascular surgery referrals. Diabetes Mellitus (DM) causes many health complications. The lifetime risk of foot ulceration in diabetic patients is 25%. The goal of Healthy People 2020 is to increase this number by 10% to a total of 21,617,200 individuals. The ADA recommends annual comprehensive foot exam for all patients with DM. In the clinic, visual foot and sensory exams are performed but currently there was no EMR documentation for the comprehensive diabetic foot exam. This evidence based practice project included randomly selected chart reviews of 180 type 2 DM patients from May 2015 to May 2016. Chart reviews identified if visual and/or sensory foot exams were documented and if referrals were made to podiatry and/or vascular surgery. A comprehensive diabetic foot exam EMR template was created and implemented between August 2016 and December 2016. Data was retrieved tracking the numbers of comprehensive DM foot exams documented. There was a 10% increase in comprehensive diabetic foot exams from August-December 2016. An EMR template for the comprehensive DM foot exam allows for improved documentation which can lead to improved patient outcomes.

Keywords: Diabetes Mellitus Type 2, electronic medical record, comprehensive diabetic foot exam, foot ulcers, improving patient outcomes

Description of Clinical Problem

Diabetes Mellitus (DM) is a major health concern in the United States. The Centers for Disease Control (CDC) reports there are 29.1 million people in the U.S. with DM. Of the 22 million people diagnosed with DM, 8.1 million people are undiagnosed (CDC, 2014). DM causes a number of health complications that ultimately become life-threatening conditions and result in costly medical care and decreased quality of life. Among these complications are peripheral neuropathy, foot ulcers, and peripheral artery disease (PAD).

The American Diabetes Association (ADA) reports that the lifetime risk of foot ulceration in diabetic patients is 25% (Boulton et al., 2008). The CDC reports in 2007 there were 113,000 people in the U.S. who were hospitalized secondary to diabetic foot ulcers; 75,000 people are hospitalized with a diagnosis of diabetic peripheral neuropathy and 84,000 hospitalized for PAD. DM has cost the U.S. a total of \$245 billion; \$176 billion in medical expenses, and \$69 billion in indirect costs including disability and work loss (CDC, 2014). Healthy People 2020 reports that 68% of people 18 years and older have comprehensive diabetic foot exam in the past 12 months. The goal for Healthy People 2020 is to increase this by 10% (Office of Disease Prevention and Health Promotion, 2017). Hoban et al. (2015) report that diabetic patients with foot complications have higher incidences of depression, pain, and suicidal behavior, which ultimately negatively affect the patient's quality of life. Foot complications not only affect the diabetic patient, but caregivers to diabetic patients who have foot complications experienced more anxiety and depression.

DM is not only a national health concern, it is also a local concern. The physician in a private family practice in San Diego where the evidence-based practice (EBP) project took place

had requested the project topic of DM and foot exam or foot care. Most of her patient population have DM.

Description of Project

The clinical question for this EBP project was, “Does having a structured diabetic foot assessment template based on the ADA foot assessment guidelines in the electronic medical record (EMR) improve documentation and early identification of loss of protective sensation (LOPS) by providers as opposed to not having a structured documentation template?” The purpose of this project was to implement the ADA comprehensive foot exam into an EMR template to help identify loss of protective sensation (LOPS).

Key stakeholders for this EBP project were identified as the physician who owns the practice, the Nurse Practitioner (NP) working with the physician, and the medical assistants (MAs). The physician’s support was needed for the implementation of the new documentation EMR template. The MD was one of the providers who carried out the assessment and documentation of the ADA foot assessment guidelines in the EMR. The DNP student secured 10-g monofilaments and 128-Hz tuning forks that were used to complete the foot assessments. The support of the NP was also needed to carry out the assessment and EMR documentation of the ADA guidelines. The MA helped with the EMR template formulation. The DNP student ensured that there were enough supplies to continue to perform the comprehensive foot exam on all patients with DM. She will need to order the 10-g monofilaments and the 128-Hz tuning forks.

Factors that influenced the need for this project included the fact that a large majority of the patients who are provided primary care in this specific private practice have DM and the availability of the 10-g monofilament and 128 Hz tuning forks needed to perform the sensory

assessment of the comprehensive foot exam. The DNP student ensured that there were enough 10-g monofilaments and 128-Hz tuning forks available to perform the assessment. The DNP student had ordered three 128-Hz tuning forks, one for each exam room. The DNP student ordered the 10-g monofilaments during the first phase of the practice change and continued that role as the project moved forward. Other factors included reliance on the visual cue in the exam rooms to remind the provider to complete the foot assessment and time allocation to perform the comprehensive foot exam.

The positive influence of this project was the support from MD at the clinic. The provider had suggested having a DNP project based on the diabetic foot exam for the patients seen in the clinic and the formulation of an EMR template. Barriers that contributed to the project were the use paper charting vs. an electronic medical record reporting system for patient encounters. The provider reported that she has tried using the computer in the past, but received negative feedback from the patients. The MD has bought small tablets to eventually start using the EMR in the exam room with the patient, but there is no projected time line of when that is going to be implemented. Therefore, as a solution there was a reliance that the provider saw the visual cue of the ADA foot exam on the wall of every exam room and then recording the foot exam in the EMR after the patient visit.

EBP Model

The EBP model used for this practice change project was the Iowa Model of Evidence-Based Practice to Promote Quality Care. Melnyk and Fineout-Overholt (2011) report that the Iowa model provides guidelines for clinicians and nurses in making decisions that impact patient care and outcomes. Although the Iowa Model is commonly used in acute care settings, the Iowa Model will be used for this EBP project because the practice change is intended for not only the

nurse practitioner, but also the physician provider. The Iowa Model begins with problem-focused and knowledge focused triggers. The trigger for this particular EBP change project is a knowledge focused trigger that includes national agencies or organizational standards and guidelines.

This EBP change project focused on incorporating the ADA foot assessment guidelines into the EMR. It was then determined if the practice change was a priority for the organization. With this EBP project, the physician provider recommended the project topic which included a more comprehensive diabetic patient foot exam and the documentation of the exam in the EMR. This EBP project became a priority for the organization. The Iowa Model incorporates high and low levels of evidence including case reports, expert opinion, scientific principles, and theory (Melnyk & Fineout-Overholt, 2011). The DMP student then used the Iowa Model as a framework for the EBP project. A pilot change was instituted, then evaluated. If the pilot change was deemed appropriate for the health care setting, the practice change would be implemented throughout the organization (Melnyk & Fineout-Overholt, 2011).

Proposed Evidence-Based Solution

The search for evidence began when the MeSH terms “diabetes mellitus”, “foot exam”, “foot assessment”, “American Diabetes Association”, “foot”, “loss of protective sensation”, and “guidelines” were used in both CINAHL and PubMed databases. The search for evidence was then expanded to a second search that included the MeSH terms “electronic medical record”, “disease management”, “loss of protective sensation” and “10-g monofilament”. The ADA website was also searched for diabetic foot guidelines. The searches were narrowed and a total of 20 articles were reviewed. The following eight articles which included guidelines, systematic reviews, and studies supported the proposed practice change.

The ADA guidelines for 2015, (evidence level VI), was used as a basis for this EBP change project. The ADA (2015) recommends comprehensive foot exam for all patients with DM every year. The exam consists of visual examination, sensory examination assessing for LOPS, and vascular exam assessing the pulses in the feet. The sensory exam assesses for LOPS rather than peripheral neuropathy. A 10-g monofilament is used, in addition one of the following vibration using 128-Hz tuning fork, pinprick sensation, ankle reflexes, or vibration perception threshold using a biothesiometer. The comprehensive diabetic foot exam is recommended to be completed annually for screening of LOPS (ADA, 2015). LOPS is defined as one or more abnormal sensory test. If patients have LOPS and/or deformity, the ADA recommends diabetic foot assessments every 3 to 6 months.

The 10-g monofilament was used as part of the sensory assessment of the comprehensive diabetic foot exam. Crawford et al. (2015), (Level I evidence), conducted a systematic review to identify highly prognostic factors for diabetic patients at risk for foot ulcers. The systematic review looked at data from 10 different studies and over 11,000 people. Crawford et al. (2015) concluded that the use of the 10-g monofilament and palpation of pedal pulses identifies patients who are at moderate risk of foot ulceration. The researchers noted that the most consistent results were from the 10-g monofilament for predicting foot ulcers in diabetic patients.

Feng, Schlösser, and Sumpio (2009) conducted a systematic review, (Level I evidence), to evaluate the evidence on the 10-g Semmes Weinstein monofilament (SWME) in diagnosing peripheral neuropathy in diabetic patients. Feng et al. (2009) identified 30 different studies. It was concluded that the SWME had a sensitivity from 57% (95% CI, 0.44-0.68) to 93% (95% CI, 0.77-0.99) and a specificity of 75% (95% CI, 0.64-0.84) to 100% (95% CI, 0.63-1). Feng et al. (2009) recommends using the SWME as a screening tool for diabetic peripheral neuropathy early

in diabetic care. The SWME had the best sensitivity when it was applied to at least three sites on the plantar surface of the great toes, third and fifth metatarsal heads. Feng et al. (2009) also recommended that if LOPS is identified at any site of the SWME then the patient should receive an intervention of therapeutic footwear and education of diabetic foot care to decrease risk of foot ulcers and amputation.

The 128-Hz tuning fork was the other tool used to complete the sensory assessment as part of the comprehensive foot exam. Wolos, Tarach, and Nowicka-Tarach (2007) conducted a case study, (Level V), examining the use of the 128-Hz tuning fork and the 10-g monofilament to assess for peripheral neuropathy. Wolos et al. (2007) concluded that assessing vibration with the 128-Hz tuning fork allows for early identification of patients who will likely develop LOPS. It is recommended that the 128-Hz tuning fork be used simultaneously with the monofilament (Wolos et al., 2007).

An EMR template was developed to document the comprehensive foot assessment. The EMR template is based on the ADA guidelines. Herrin et al. (2015) conducted an observational study, (level V evidence), that assessed the impact of a diabetes management form (DMF) accessible within the EMR that involved 2,108 diabetic patients who were at least 40 years and older. The DMF used by providers was made optional. The DMF provided patient specific clinical decision support about DM self-education and reminders for providers of evidence-based care practices. The DMF also summarized therapeutic recommendations for the patient. There was an increase in foot exams, and eye exams. There was also an increase in microalbumin testing and aspirin prescriptions in patients whose provider used the DMF in the EMR (Herrin et al., 2015).

Linder, Schnipper, and Middleton (2012) conducted a retrospective analysis, (evidence level V), of DM patients and patients with coronary artery disease (CAD) whose primary care visit notes were dictated, free text, or followed an EMR structured documentation format. The outcome measures were 15 EMR based DM and CAD measures. The providers who dictated the majority of their notes had lower quality of care than the providers who used a structured EMR. The providers that used the EMR structured documentation had better quality of care as evidenced by improved blood pressure documentation, body mass index documentation, and DM foot exam documentation.

The DNP project proposed was to incorporate the ADA 2015 diabetic foot assessment recommendations into the documentation of the EMR. The evidence-based solution included placing a paper cue of the ADA foot assessment guidelines in each exam room on the wall to help remind the provider to perform the ADA foot exam. Under the *physical assessment section* in the EMR there was a check box for visual foot exam. The provider is already performing the visual foot assessment. The ADA guidelines were imbedded in the physical exam portion of the EMR template for patients with DM. ADA foot exam guidelines were the top template in the physical exam portion of the EMR. The sensory assessment consisted of the 10-g monofilament exam and the vibration testing with the 128-Hz tuning fork. These were followed by the feet pulse assessment and the visual assessment. There are places on the right of each check box to make notes if needed. There was a discussion with the provider once the paper cues were placed in the exam rooms and the EMR template was developed. This provided a step-by-step instruction and return demonstration of the new documentation of the DM foot assessment.

Program Development and Implementation Timeline

There were three phases in this EBP project. They are discussed herein.

Phase I

Phase I started in March 2016. There had been informal discussion between the DNP student and the physician. The physician had informally approved the DNP student to conduct the EBP change project in her private family practice clinic in San Diego. The DNP student ordered the 10-g monofilaments and the 128-Hz tuning forks. In April 2016, a formal letter of approval from Dr. Villa was obtained. The DNP student obtained approval from the USD IRB for the implementation of the DNP project. After formal approval was obtained, the DNP student then collected pre-data of visual foot exams, sensory foot exams, foot ulcers, leg ulcers, foot deformities, vascular surgery referrals, and podiatry referrals. The DNP student reviewed 15 random diabetic patient charts per month May 2015 to May 2016.

In May and June of 2016, the paper cue of ADA foot assessment guidelines for the exam rooms was formulated. The DNP student met with the MA to discuss how to formulate EMR documentation based on the ADA foot assessment guidelines. An EMR template for type 2 diabetic patient comprehensive foot exam was developed. The comprehensive foot assessment can be accessed from the type 2 diabetes EMR template in the physical exam portion of the EMR. The comprehensive exam includes visual foot exam, including sensory and pulse exam. The visual exam includes skin color, dryness, thickness, cracking, sweating, infection, ulceration, calluses, deformity, and muscle wasting (ADA, 2015). The sensory exam includes using the 10-g monofilament and the 128-Hz tuning fork (ADA, 2015). After the sensory exam, the dorsalis pedis and posterior tibialis pulse assessments (ADA, 2015). Once the EMR template was assembled, the DNP student met with the provider to present the comprehensive diabetic foot exam EMR template to be incorporated into practice. The goal of this project was to refine this

documentation based on the ADA guidelines so all diabetic patients are included in the EMR foot assessment documentation.

Phase II

Phase II started July 2016. A meeting was held with the provider. The DNP student provided an explanation of the visual cue for the diabetic foot assessment in the exam rooms. This meeting also provided education for the EMR update by showing the new template to the provider. The meeting was held and stakeholders agreed with the diabetic foot exam EMR template, the DNP student printed and placed visual cue in each exam room. The ADA EMR documentation was implemented at the beginning of August 2016.

Phase III

The first part of phase III occurred between August 2016 and October 2016. After the recommendations are incorporated into the EMR documentation, the DNP student conducted chart reviews. The DNP student tracked the EMR documentation to identify if foot assessment documentation is was completed in accordance to the ADA guidelines. The DNP student then analyzed the number of DM patient charts that have the EMR foot assessment documented for the months of August 2016 through October 2016. The data collected was then discussed with the MD. The DNP student asked the provider for feedback regarding the EMR documentation template and made changes as necessary.

In the second part of phase III, the EMR documentation for diabetic patients was evaluated every 3 months until January 2017. The provider was notified quarterly of the number of comprehensive foot exams being documented in the EMR. The providers were asked for feedback about any strengths and weaknesses experienced using the EMR documentation template.

Project Outcomes

In the first 5 months, the short-term project outcome goal was that the ADA diabetic foot assessment was performed on at least 25% of diabetic patients. The other goals were that at least 25% of the diabetic patients in the office would have their diabetic foot assessments documented in the EMR template. During the first 5 months after project implementation, there was a 10% increase in comprehensive diabetic foot assessments documented in the EMR. During the post intervention period, seven podiatry and no vascular surgery referrals were made. Patient health outcomes included early detection of LOPS, which can lead to early intervention and specialty referral for preventing diabetic foot ulcers and amputations. Although the short-term goal of increasing documentation of comprehensive foot exams was not met, the increase in comprehensive diabetic foot exams was successfully met, with a 10% increase in foot exams.

Project Impact

The overall impact of this project was that all patients diagnosed with DM receive a foot assessment that follows the ADA guidelines documented in their EMR at least once per year and more often if indicated. Requiring that regular foot exams are performed and documented on patients with DM helps ensure identification of LOPS. Early identification of LOPS in diabetic patients improves quality of life by helping prevent foot ulcers and amputations, and making sure patients with DM receive appropriate referrals to podiatrists. Early intervention and prevention of foot ulcers and amputations can also decrease direct and indirect health care costs of complications that are a result of DM.

Project Approval

Site approval was necessary to implement this project. The project was discussed with the physician. A formal approval letter from the physician, the owner of the clinic where the project

was implemented was obtained in April 2016. Dr. Hoyt is the USD faculty chair. The application form for the University of San Diego IRB approval was received in May 2016.

Stakeholder Identification

The process stakeholders for this EBP project were the physician that owns the clinic, the NP who works at the clinic, and the three MAs that work at the clinic. Methods used to keep these stakeholders informed throughout the process were through lunch meetings with the provider once every 3 months. The outcome stakeholders were the MD. The physician was updated at lunch meetings after 3 months of project implementation. The number of electronically documented foot assessments as a result of the patients' foot assessment findings and feedback regarding the EMR template were discussed.

Process Indicators Data Monitoring

The process indicators that were monitored were the initiation of the ADA guidelines for the comprehensive diabetic foot assessment into the EMR template. The provider education regarding the documentation of the diabetic foot assessment EMR template was monitored by having the provider perform return demonstration when using the EMR template. The number of 10-g monofilaments and tuning forks were monitored monthly in order to ensure that there were enough supplies to complete and document the comprehensive foot exam. At one point, the office was painted and the paper cues needed to be reprinted and hung on the walls. Feedback from the providers regarding the ease of the process and the EMR template was evaluated and changes were made based on provider feedback. Feedback from the provider was positive and no changes were made throughout the project implementation period.

Outcome Indicators Data Monitoring

The outcome indicators monitored were the number of electronically documented comprehensive foot assessments in diabetic patients EMR. Electronic documentation was monitored by conducting chart reviews of all type two diabetic patients every other month, then every 3 months. The number of specialty referrals based on the result of the diabetic foot assessment were monitored every 3 months. All the outcome indicators were presented and discussed with the provider at meetings during the lunch hour. Monitoring of outcome indicators was discussed at lunch once every 3 months.

Data Analysis

This EBP project included randomly selected chart reviews of 180 type 2 DM patients. The charts were chosen by selecting every third patient visit that contained the diagnosis of type 2 DM from May 2015 to May 2016. A total of 15 charts per month were selected. The chart reviews identified if visual and/or sensory foot exams were documented, if foot ulcers or deformities were documented, and if referrals were made to podiatry and/or vascular surgery. Pre-implementation data showed that from May 2015 to May 2016, 47 visual foot exams, 83 sensory exams, 3 podiatry referrals, 1 vascular surgery referral, 1 foot ulcer, 2 foot deformities, and 1 leg ulcer were documented in type 2 DM patient charts without the comprehensive foot exam EMR template.

After the implementation of the comprehensive foot assessment EMR template, chart reviews were conducted every other month on all type two diabetic patients. While conducting chart reviews, the electronic documentation of the comprehensive diabetic foot exam in the EMR and specialty referrals based on the comprehensive foot exam findings were evaluated. In August 2016, five comprehensive diabetic foot exams were performed and two podiatry referrals were made. During September 2016 four comprehensive diabetic food exams were performed. Two

podiatry referrals were also made during this time. In October 2016, three comprehensive diabetic foot exams were documented and no podiatry referrals were made. In November 2016, nine comprehensive foot exams were documented and one podiatry referral was made. In December 2016 four comprehensive foot exams were documented and two podiatry referrals were made. During the post intervention period, no vascular surgery referrals were made. The DNP student compared pre-intervention data to post-intervention data and displayed the data in a control chart.

Data analysis was important to ensure that providers benefited from this project through a structured template that will help providers document, LOPS, and make specialty referrals future when indicated in the future. During the post intervention period there was a 10% increase in documentation of comprehensive diabetic foot exams (Figure A). Diabetic patients benefited from this project by receiving regular comprehensive foot exams, which will identify LOPS. Patients received specialty provider referrals based on the findings of their comprehensive foot exam. Comparing pre-intervention data to post-intervention data showed the providers that 10% of patients received comprehensive foot assessments and that patients were referred to specialty providers when indicated. This improved the quality of life for patients by helping them avoid foot ulcerations and amputations. This analysis also ensured that these patients were receiving the standard of care.

Cost Avoidance Analysis

The initial investment cost for this project was a total of \$149.14. The tuning forks cost \$4.38 per tuning fork (“ADC adult tuning fork c128 with weight”, 2016). Three tuning forks were purchased, one for each exam room. The 10-g monofilaments cost \$136.00 for 200 disposable 10-g monofilaments (“Order monofilaments”, 2014). Initial training and meeting cost

was no cost, the meetings were held during the lunch hour. The provider can receive reimbursement through Centers for Medicare and Medicaid Services (CMS). CMS reimburses providers \$69.45 for every comprehensive foot exam with the initial diagnosis of LOPS (CMS, 2016). CMS reimburses providers \$40.52 for follow up comprehensive foot exams for diabetic patients diagnosed with LOPS as frequent as every 6 months as long as the patient is not seeing another provider for their foot exam (CMS, 2016). During the post intervention period, there were no identification of LOPS billed. Rice et al. (2014) report that the average total healthcare costs per diabetic patient is \$13,700 per year. Additional medical costs of diabetic patients with foot ulcers range from \$11,710.00 to \$15,890.00 per patient over 12 months. By implementing the comprehensive EMR based diabetic foot assessment template, there is a potential cost avoidance of \$975.83 per patient per month for identification and prevention of foot ulcerations in diabetic patients. This improves quality of life for diabetic patients. Diabetic patients who have foot complications are more likely to suffer from depression, pain, and have suicidal behavior (Hoban et al., 2015).

Dissemination: Key stakeholders and Venues

In April of 2017, the DNP student presented the findings to the physician, NP, and the MAs at the clinic during a lunch meeting. It was important to involve all stakeholders so these stakeholders were aware of their impact on the outcomes of the EBP project. The physician and the NP were also invited to attend Graduate Nursing Research Day at the University of San Diego (USD). The two venues submitted for this EBP change project were to the Western Institute of Nursing (WIN) conference in April 2017 in Colorado and the Graduate Nursing Research Day at USD in April 2017.

Sustainability

In order for this EBP project to be sustainable there needs to be a champion. The physician that owns the clinic was the one who requested an EBP project on the diabetic foot assessment. She is the champion for the project. She will have a complete EMR template to document more comprehensive diabetic patient foot exams, and will be making referrals to specialty providers as needed based on the results of the comprehensive diabetic foot exam. The physician is open to having a different DNP student continue this project. In the future, the provider would like to assess whether Type 2 diabetic patients received a vascular ultrasound, and if these patients were started on anticoagulation or antiplatelet medications depending on the results of their comprehensive foot exam. The easiest way for this project to be sustainable is for the provider to no longer use paper medical records, but to use the EMR during patient office visits. This EMR template can be used for all diabetic patients and the EMR prompt will be seen in the room during the patient visit. There would no longer be reliance for the provider to see the paper que on the wall. Another way for this project to be sustainable is to have a different USD DNP student identify and review the weaknesses of this project. The student can continue and make evidence-based improvements for their DNP project and look at other outcomes.

Implications for the APRN

Implications for the APRN include clinical practice, education and research. Clinical practice implications for this EBP project were the use of the comprehensive diabetic foot exam as a tool to use in everyday clinic practice when providing care to patients with Type 2 DM. Having an EMR template for comprehensive diabetic foot exams provides improved documentation of the comprehensive foot exam as recommended by the ADA. The comprehensive diabetic foot exam assessed for LOPS, foot deformities, and pulses in the feet.

Ensuring that diabetic patients receive comprehensive foot assessments at least once a year will identify LOPS and ensure that patients with DM receive the necessary referrals.

Implications for education included educating diabetic patients that it was important to have their feet assessed on a regular basis. Educating the MAs in the office of the importance of having diabetic patients take off their shoes when these patients were in the exam rooms helped ensure providers are assessing their feet.

Implications for research are vast. The provider might be able to initiate a research project that stems from this EBP project. The provider wanted to know if diabetic patients who had abnormal comprehensive foot exams were started on antiplatelet medications and received an arterial ultrasound of their lower extremities in assessing PAD. This is perhaps a potential study. Another implication for research is the fact that while there is evidence to support EMR use in the care of patients with DM, additional research might be performed to support the current available evidence.

Conclusion

It is important to perform diabetic foot assessments in the primary care setting. Evidence suggests that the ADA foot assessment guidelines help identify LOPS in diabetic patients. Evidence suggests that having a structured EMR template improves documentation of the foot exam in patients with DM. This EBP project helped ensure that diabetic patients received regular foot exams and that the foot exams were documented in the EMR. Consistent comprehensive foot exams and early identification of LOPS in diabetic patients can lead to decreased foot ulcers and lower extremity amputations that are often complications of DM. Once LOPS is identified, patients can be referred to the podiatrist for further intervention. These measures can lead to improved quality of life by decreasing the anxiety, depression, pain, and suicidal behavior that

are common among patients who suffer from foot ulcers and amputations (Hoban et al., 2015).

Consistent foot assessment will also decrease healthcare costs associated with complications from DM by helping identify LOPS early in the management of the diabetic patient.

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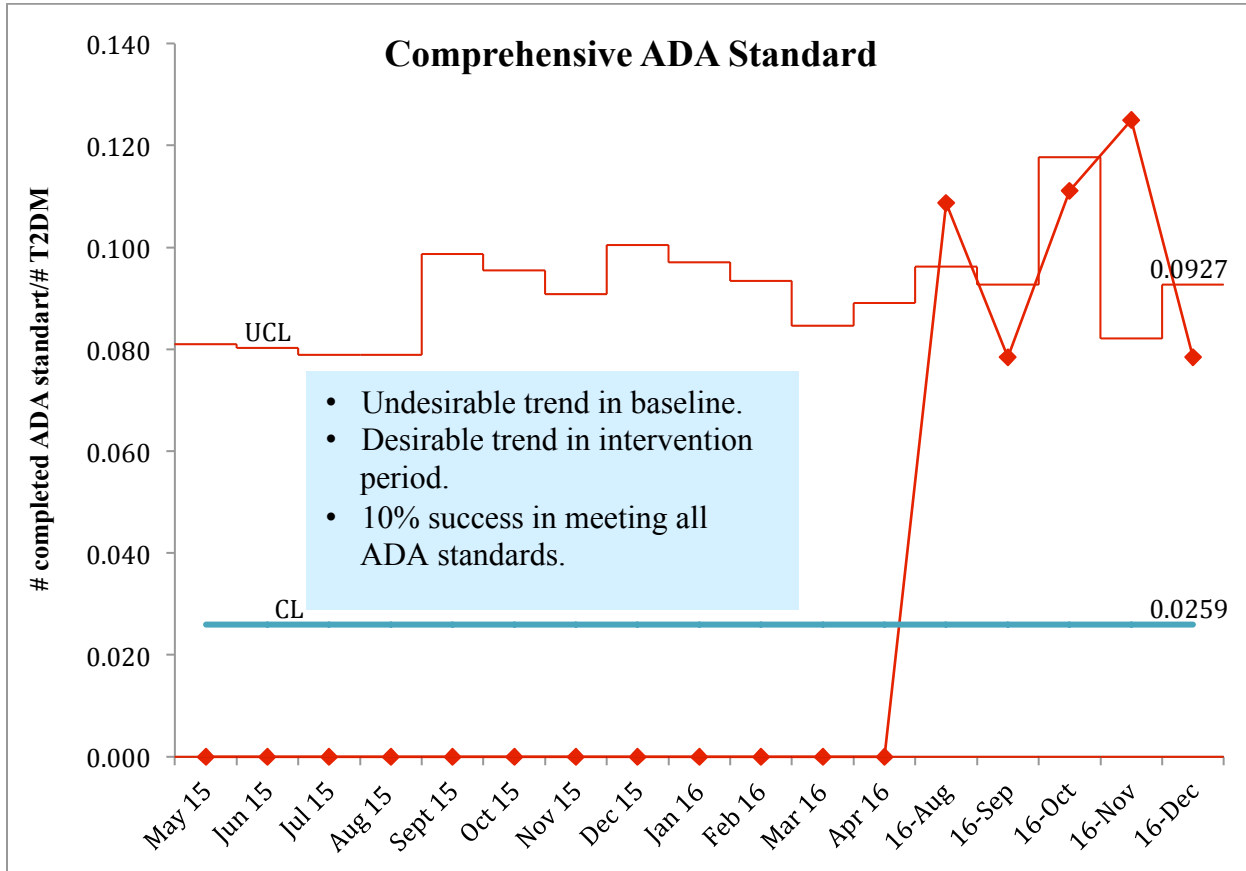
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<https://sandiego.illiad.oclc.org/illiad/copley/illiad.dll?Action=10&Form=75&Value=5690>

Figure 1. Documentation of the diabetic foot exam using the comprehensive diabetic foot assessment EMR template.



Trend in completed electronically documented comprehensive diabetic foot exams from May 2015 through December 2016 using the comprehensive diabetic foot assessment EMR template.

Pre-implementation period was from May 2015 until May 2016. The intervention period was from August 2016 through December 2016. There was a 10% increase in comprehensive diabetic foot exam documentation using the structured EMR template.



Institutional Review Board Project Action Summary

Action Date: May 5, 2016 *Note: Approval expires one year after this date.*

Type: New Full Review New Expedited Review Continuation Review
 Exempt Review
 Modification

Action: Approved Approved Pending Modification Not Approved

Project Number: 2016-04-221

Researcher(s): Nicole Woollard DNP student SON
Dr. Karen Sue Hoyt Fac SON

Project Title: Implementing the ADA Guidelines into the Electronic Medical Record for a Comprehensive Diabetic Foot Assessment

Note: We send IRB correspondence regarding student research to the faculty advisor, who bears the ultimate responsibility for the conduct of the research. We request that the faculty advisor share this correspondence with the student researcher.

Modifications Required or Reasons for Non-Approval

None

The next deadline for submitting project proposals to the Provost's Office for full review is N/A. You may submit a project proposal for expedited review at any time.

