INCREASING EFFECTIVE PATIENT-TRIAGE NURSE COMMUNICATION

USING A TARGETED HISTORY QUESTION

by

Kristyn Huffman

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As members of the DNP Project Committee, we certify that we have read the DNP project prepared by Kristyn Huffman entitled “Increasing Effective Patient-Triage Nurse Communication using a Targeted History Question” and recommend that it be accepted as fulfilling the DNP project requirement for the Degree of Doctor of Nursing Practice.

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SIGNED: __Kristyn Huffman____________________
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DEDICATION

This project is dedicated to my friends and loved ones who helped me persevere these past three, very long, years.
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ABSTRACT
This quality improvement project identified a need to improve patient placement between the Fast Track and the Emergency Department treatment areas of an urban Southern Arizona hospital. The current triage process at this hospital excludes patient past medical history, limiting the information given to triage nurses when assigning patient acuity scores and determining placement in the ED. This project sought to improve patient to nurse communication during the triage interview process by educating nurses to ask a ‘targeted history’ question: a question created to obtain concise past medical history information related to the patient’s chief complaint. This targeted history question was worded as “Have you been treated for [chief complaint] before?” Chart audits were performed to gather quantitative data on patient placement, ESI scores, triage interview times, and nursing compliance rates. Stakeholders were also asked open-ended questions regarding their perceptions of triage and the integration of the targeted history question. These interviews were recorded, transcribed, and coded for common categories. Results show low nursing compliance with asking the targeted history question. However, almost two-thirds of triage notes mentioned some form of past medical history – showing that triage nurses assess for pertinent past medical history without prolonging total triage times. Additionally, stakeholder interviews showed healthcare personnel felt the targeted history question helped with gathering useful information and patient placement, and that past medical history is an important part of triage.
INTRODUCTION

The number of patients who seek care in Emergency Departments (EDs) continues to rise upwards of 130 million each year in the United States, resulting in overcrowding and detrimental health outcomes (Rui, Kang, & Albert, 2013; Quattrini & Swan, 2011). Overcrowding is shown to directly contribute to triage discrepancies, initiating a cascade of adverse events that can potentiate patient harm (Kim et al., 2015; Hitchcock et al., 2014). With healthcare-associated error known to cause nearly 100,000 hospital deaths each year (Hitchcock et al., 2014), providers are presented with an obvious need to address the issue in the ED, the point of origin. “Fast tracks” (FTs) have been implemented in EDs to address the issue of overcrowding. FTs expedite treatment for low-acuity patients (Huffman, 2015). FTs have two important goals for patients seeking care in the ED: first, decrease prolonged wait times resulting from overcrowding, and second, improve patient outcomes through accurately triaging less acute patients (Aksel et al., 2014). Despite literature showing advantages for FTs in the ED, there is a lack of literature describing standardized protocols and guidelines for FT operation. This creates opportunity for the improper placement of patients into treatment areas, which are inappropriate for their level of illness.

Background

Patients who seek care in the ED are triaged using the Emergency Severity Index (ESI). The ESI is a standardized triage algorithm supported by the Agency for Healthcare Research and Quality (AHRQ) for use in EDs throughout the United States (ESI, 2016). ED healthcare providers use the ESI to determine patient acuity, or level of illness or injury, on a scale ranging from 1 to 5 (ESI, 2016). ESI Level 1 signifies the need to provide a patient with immediate life-
saving measures and Level 5 signifies a low-risk patient that needs no emergent intervention (ESI, 2016). Patients assigned as ESI Level 4 or 5 are known to experience longer wait times and prolonged treatment times (Skar, Bruce, & Sheets, 2015), ultimately burdening the ED with non-emergent issues and contributing to overcrowding.

Nearly 80% of the EDs in the United States have implemented FTs as treatment areas for low acuity patients (ESI Levels 4 and 5) (Hwang, Lipman, & Kane, 2015). There is significant variation in how fast track clinical areas are staffed and operated. A review of current literature suggests that a team of ED personnel consisting of an attending physician or nurse practitioner, and one or more registered nurses (RNs) staff most FT clinical areas (Huffman, 2015). FTs commonly operate during a given ED’s busiest hours of the day, but hours of operation differ according to each site. Unfortunately, little is known about all FT characteristics due to a lack of research examining their average size and patient capacity, although the benefits of FTs have been well documented in recent years. Research has revealed FTs do contribute to a decrease in ED patient wait-times and total length of stay by 50%, improve patient outcomes, and reduce costs (Aksel et al., 2014; Quattrini & Swan, 2011).

The validity of the ESI as a triage tool continues to be questioned despite current literature demonstrating its accuracy (van der Wulp et al., 2010). These concerns arise from studies, which highlight triage discrepancies, where a significant number of ESI Level 4/5 patients require unexpected additional treatment despite clearly established ESI standards (van der Wulp et al., 2010). One study found that 17.1% of total admitted patients originated from a FT-like area (Kim et al., 2015). This means that almost a fifth of patients requiring inpatient treatment were originally triaged to a FT-like area, where the triage RN deemed the patient
needed minimal to no treatment resources. However, these discrepancies cannot solely be attributed to the inherent flaws of the ESI algorithm as other studies have correlated triage discrepancies with human error. Wolf (2010a) assessed reasoning patterns of triage nurses and found that triage discrepancies were most likely to occur during times of high patient volumes when the lobby was perceived to be the most crowded. Triage nurses attributed this phenomenon to poor unit leadership and high stress levels, but observational data showed that patient acuity was most often determined by a “first-look” assessment (Wolf, 2010a). The ‘first-look’ assessment is well-known among ED personnel to refer to a quick glance of the patient to infer his/her condition and severity of illness.

**Local Problem**

Triage discrepancies, also referred to as under- or over-triaging, threaten patient safety and health outcomes (ADHS, 2011). In Arizona, a total of 27% of severely injured patients were under-triaged in 2011, resulting in delayed care and an increased risk for mortality (ADHS, 2011). Conversely, 35% of patients in Arizona were over-triaged and were recipients of unnecessary care and a misappropriation of resources, which resulted in higher healthcare costs (ADHS, 2011). The most recent data for Arizona reports nearly 2 million visits to the Emergency Department in 2013 (ADHS, 2013).

With an estimated population of 6.6 million (U.S. Census Bureau, 2015), an assumed one-fourth to one-third of the Arizona population visited the ED during 2013. Examining the listed primary diagnoses for the same year, almost 300,000 of ED visits were due to non-emergent complaints such as otitis media, urinary tract infections, and superficial injuries with intact skin (ADHS, 2013).
A major academic hospital in the urban southwest uses a modified triage process called QuickLook (QL). This modified triage is intended to streamline patient flow, and sets a three-minute time limit for the triage RN (TRN) to assign an ESI acuity. QuickLook is built into the hospital’s electronic health record (EHR) as a single-page “narrator,” which is another term for navigation page. The triage RN uses QL to collect patient data on chief complaint, last menstrual period, allergies, vital signs, pain, Glasgow Coma Scale score, height/weight, travel screen for Ebola, diabetes, and smoking history. The TRN then writes a one-line triage note within the QuickLook narrator and assigns the patient an ESI score, completing the QL process. It is important to note QuickLook does not prompt the nurse to ask about the patient’s past medical history (PMH), beyond diabetes and smoking, to critically process the expected level of care required in the ED. PMH is eliminated from the QuickLook process to keep average triage times to 3 minutes or less. The patient is then placed in either FT or the main ED for treatment once QuickLook is completed.

**Purpose**

The primary purpose of this DNP project was to integrate a “targeted history” (TH) question into the QuickLook triage narrator to increase effective patient-to-nurse communication in the ED. As the average life expectancy and number of comorbidities continue to rise, asking for a patient’s full PMH can be time-consuming as the average triage interview is nine minutes long (DuGoff et al., 2014; Castner, 2011). A targeted history question is defined as a single-sentence question about the patient’s chief complaint, prompting the patient to respond to the triage RN with specific and concise information about his/her past medical history. For example, the TH question would be written into the QuickLook narrator, prompting the ED triage nurse to
ask the patient “Have you been treated for [chief complaint] before?” The TRN would insert the patient’s chief complaint into the question in each scenario.

Secondary purposes of this DNP project included looking for and identifying any significant impact the TH question may have had on ESI acuity scores, patient placement, and the triage interview process. The information obtained through this project can provide the primary site with key insights into the multifactorial process of emergency care, including the importance of PMH in triage and patient placement in the ED. Identifying how a targeted history question affects patient acuity assignments is the first of several steps towards understanding how to improve patient placement within FTs and Emergency Departments using QuickLook. The eventual aim is to cause meaningful change in the way patients are triaged and assigned to FTs, with an over-arching goal directed towards decreasing overcrowding, prolonged wait times, and delays in care.

**Project Questions**

1. Does the targeted history question affect ESI scores and patient placement within the fast track and the emergency department for patients 22 years and older?
2. What are stakeholder perceptions of the implementation and effectiveness of the targeted history question on the triage process?

**FRAMEWORK AND SYNTHESIS OF EVIDENCE**

**Theoretical Framework**

The theoretical framework that guided this DNP project is based on the Effective Nurse-to-Nurse Communication framework (Carrington, 2012). Carrington’s framework was adapted to fit the patient-to-nurse communication theme of this project. Effective Nurse-to-Nurse
Communication was developed after Carrington noted a gap in literature for empirical assessments of EHRs as nursing communication tools (Carrington, 2012). The purpose of her framework is to provide support for further research into the effectiveness of EHRs facilitating nursing communication for patient condition (Carrington, 2012).

Carrington’s conceptual framework is comprised of elements from Symbolic Interaction Theory and Information Theory (Carrington, 2012). Symbolic Interaction Theory was chosen by Carrington to provide insight for the user of a communication system (Carrington, 2012). The three concepts used by Symbolic Interaction Theory to explain communication are self, society, and mind (Carrington, 2012). This theory, also referred to as Symbolic Interactionism, was first described by Mead and later developed by Blumer (Carrington, 2012). The three concepts as described by Blumer (1986) are: self refers to a person reacting to an event based on his/her meaning of surrounding objects or people, society refers to how a person’s reaction to an event is affected by social interactions, and mind refers to how a person modifies an event through interpretation. Information Theory is a communication theory chosen by Carrington to describe the different factors which affect the communication of a message between the sender, communication device, and the receiver. The concepts of Information Theory are entropy, negentropy, redundancy, noise, and probability (Carrington, 2012). A summary of these concepts: entropy is the degree of uncertainty contained within a message, negentropy reduces entropy when more useful information is included in a message, redundancy refers to repetitious information in a message which increases negentropy, noise refers to environmental factors which increase entropy by distorting a message, and probability is the odds of a message
developing and its subject matter, and is proportionally correlated with entropy (Shannon & Weaver, 1964).

Carrington (2012) uses Gerbner’s Communication Model to synthesize and refine the concepts of Symbolic Interaction Theory and Information Theory. The concepts for Effective Nurse-to-Nurse Communication Theory are *stimulus, responder analysis, spectrum of effective communication, receiver analysis*, and *stimulus outcome* (Carrington, 2012). *Stimulus* refers to a clinical event, which is defined as a change in a patient’s condition (Carrington, 2012). *Responder analysis* describes how the nurse reacts to a clinical event based on the nurse’s perception, personal characteristics, and prior experiences (Carrington, 2012). The *spectrum of effective communication* involves the communication system, both electronic and verbal (Carrington, 2012). *Receiver analysis* refers to how the receiving nurse (during change of shift or hand-off report) interprets the information based on perception of written and verbal communication, perception of the event, and personal characteristics (Carrington, 2012). *Stimulus outcome* refers to the outcome of the original clinical event once the message has passed through responder, communication system, and receiver (Carrington, 2012).

The primary purpose of this DNP Project is to effectively improve patient-to-nurse communication during ED triage. Carrington’s Communication Theory can be modified to suit this purpose, as shown in Figure 1. *Stimulus* continues to refer to a clinical event, which is the patient’s chief complaint or reason for visiting the ED. The concept of *responder analysis* remains the same, as triage nurse’s initial interpretation of the event is based his/her perception of patient written and verbal communication, prior experiences, and personal characteristics. The *spectrum of effective communication* refers to the nurse’s use of the QuickLook algorithm built
into the EHR and the integration of the targeted history question into this process. The use of receiver analysis instead refers to how the triage nurse’s interpretations of the clinical event change after asking the targeted history question. The stimulus outcome continues to refer to the resolution of the clinical event, which is when the TRN assigns the patient an ESI score. These adaptations to Carrington’s framework are represented in Figure 1.

Describing Figure 1 from left to right, this patient-triage nurse communication framework begins with the patient presenting to the ED with a clinical event (stimulus). The triage nurse then simultaneously performs the QuickLook assessment while integrating the targeted history question (spectrum of effective communication). The triage RN then uses this information to assign an appropriate ESI rating to the patient (receiver analysis), and the patient is placed in the corresponding treatment area (outcome).

![Diagram of Patient-Triage Nurse Communication Framework]


### Synthesis of Evidence

A literature search was conducted using the databases PubMed, CINAHL, and Google Scholar for articles containing the key search terms: triage, emergency department, assessment, and history. Variations of the search term “quicklook” were used, but no applicable studies were
found. The search was limited to English language studies published within the last 10 years (2006-2016). Studies considered for inclusion were those, which specifically addressed the triage process within the ED and pertained only to adult subjects. The publications that were excluded lacked statistical significance or evidence-based information. In total, 10 publications are reviewed and evaluated in Appendix A and the following text.

Characteristics of Triage

Triage is a multivariate process beginning from the time a patient walks through the ED lobby doors. Triage is described throughout the literature as a process not just limited to the dialogue between nurse and patient within a triage room (Edwards & Sines, 2008; Hitchcock et al., 2014; Wolf, 2010a). Instead, triage begins with a visual “first look” assessment of the patient, starting the moment the patient enters the lobby (Edwards & Sines, 2008; Hitchcock et al., 2014; Wolf, 2010a). Two studies emphasize triage as a simultaneous collection of data, gained from the RN’s visual assessment in addition to information recounted by the patient (Hitchcock et al., 2014; Edwards & Sines, 2008). The formal triage interview usually takes place in an area near the ED lobby, but separated from the general population of patients. Current literature additionally indicates the initial triage interview is often conducted outside designated rooms, such as hallways, common areas, or at the bedside (Calder et al., 2012; Castner, 2011; Wolf, 2010a).

Triage nurses use accredited algorithms intended to guide their decision-making process (Castner, 2011; Edwards & Sines, 2008). The most commonly seen triage guidelines in English-speaking countries include The Emergency Severity Index, the Canadian Triage and Acuity Scale, and the Australian Triage Scale (Appendix A). The ESI algorithm guides nurses in
assessing the patient’s level of consciousness, pain, vital signs, and their anticipated need of resources (Castner, 2011). Using the ESI algorithm, the nurse assigns the patient an accompanying acuity number between 1 and 5 (Castner, 2011; Wolf, 2010a).

Four studies addressed time and triage (Calder et al., 2012; Castner, 2011; Hitchcock et al., 2014; Wolf, 2010a), where the reported average length of time to triage a patient was nine minutes (Castner, 2011). The AHRQ estimates the triage interview should be no longer than five minutes (Gilboy et al., 2005). Several studies comment on the inconsistencies of ESI ratings, with a consensus that the current algorithm does not adequately allow nurses to complete triage (Calder et al., 2012; Castner, 2011; Edwards & Sines, 2008). Almost all studies mentioned the known detrimental effects of improper triage on patient safety and outcomes (Appendix A).

**Nurses in Triage**

While many nurses endorse following a specific guideline when assigning patient acuity, several studies highlight the influence of subjective factors in the decision-making process (Arslanian-Engoren, 2009; Hitchcock et al, 2014; Wolf, 2010a). The “first-look” assessment previously described has been found to rely solely on intuition and the subjective feelings of the nurse (Edwards & Sines, 2008). In fact, several observational studies identify nursing intuition as significantly influential in the triage decision-making process (Arslanian-Engoren, 2009; Hitchcock et al, 2014; Wolf, 2010a).

Observations, interviews, and focus groups revealed some nurses feel a lack of experience and formalized training contribute to triaging errors (Arslanian-Engoren, 2009; Hitchcock et al., 2014; Wolf, 2010a). Varying levels of nursing experience is often attributed to accurately assigning acuity, where less experienced nurses have been linked to higher instances
of error (Arslanian-Engoren, 2009; Hitchcock et al., 2014; Wolf, 2010a). Experience is also linked to total triage times, where some may take an average 1-3 minutes and other less experienced nurses may average 5-10 minutes per triage interview (Hitchcock et al., 2014).

**Other Factors and Triage**

Several studies demonstrated the importance of the initial presentation of the patient, or the way the patient chose to manifest their illness and their apparent level of distress (Edwards & Sines, 2008; Arslanian-Engoren, 2009). Factors such as posture, demeanor, physical limitations, and facial expression were reported by nurses to influence triage acuity (Arslanian-Engoren, 2009; Edwards & Sines, 2008; Wolf, 2010a). The general appearance of the patient in regards to hygiene and clothes, and the perceived education and intelligence of the patient were also reported by nurses as influencing the credibility of the patient’s story (Edwards & Sines, 2008; Arslanian-Engoren, 2009). The duration of illnesses was also identified as an influential factor in a nurse’s acuity decision (Arslanian-Engoren, 2009; Edwards & Sines, 2008; Wolf, 2010a). If a patient’s symptoms had been present for several days or just a few hours, nurses were more likely to assign a lower acuity rating (Edwards & Sines, 2008; Arslanian-Engoren, 2009). These same studies found that triage acuity was ultimately influenced by the congruence of the patient’s story, attitude, and the physical manifestations of their symptoms (Edwards & Sines, 2008; Arslanian-Engoren, 2009).

Two studies addressed constraints on total triage time as contributing to error (Calder et al., 2012; Wolf, 2010a). Nurses reported feeling limited on time due to pressures placed on them by facility expectations and ED overcrowding (Calder et al., 2012; Wolf, 2010a). Other prominent factors influencing triage accuracy include facility set-up and triage location,
interprofessional communication, overcrowding, and factors inhibiting patient flow through the ED (Appendix A).

**Past Medical History in Triage**

Half of the included literature specifically demonstrated that both nurses and physicians identify past medical history as an important aspect of triage (Arslanian-Engoren, 2009; Bansal et al., 2014; Castner, 2011; Ryan et al., 2015; Wolf, 2010b). When assessing the importance of past medical history in triage, it is important to identify its relevance to the critically ill patients that frequent emergency departments. One retrospective study examining the demographics of myocardial infarction (MI) patients in the ED found that 57% had a history of hypertension, 38% had a history of hyperlipidemia, and 9% had a prior MI (Bansal et al., 2014). These statistics include both EMS and walk-in patients who ultimately required percutaneous coronary intervention (Bansal et al., 2014). In total, four studies specifically commented on the important role PMH has in the triage decision-making process for MI patients (Arslanian-Engoren, 2009; Atzema et al., 2009; Bansal et al., 2014; Ryan et al., 2014). A questionnaire sent to Emergency Nursing Association (ENA) members revealed that 429 out of 430 respondents “strongly agree” with PMH being an important aspect of the triage process (Castner, 2011). Additionally, almost all respondents reported PMH as a requirement of triage by their facility (Castner, 2011). Castner (2011) suggests that these findings should be used to prioritize the clinical data obtained during triage. Wolf (2010b) assessed nursing triage practices and ESI accuracy through the use of simulated patient scenarios. Nurses were found to have an ESI accuracy rate ranging 48% to 69% for all clinical scenarios (Wolf, 2010b). Inaccurately assigning an ESI acuity was directly
attributed to ignoring vital signs, not having a working diagnosis, and not asking for a past medical history (Wolf, 2010b).

**Gaps in Literature**

Much of the included literature demonstrates the triage process is more dependent on nurse-related factors and less dependent on the actual ESI algorithm. There is a large body of evidence showing triage as a significantly influential factor in delaying care of critical ill patients (Bansal et al., 2014). Current literature provides evidence for many factors, which can influence triage, but there are still many variables that need to be researched. Thus far, research has provided adequate explanations for how nursing and facility variables affect the outcomes of triage acuity. However, almost no literature exists regarding the effects of questions asked and subsequent information obtained during the triage process. While there are several studies, which identify PMH as a necessary part of the triage process, only one study (Wolf, 2010b) could be found which specifically addressed the effects of PMH on triage accuracy. Considering this study directly attributed a lack of medical history to a 50% instance of triage error, Wolf (2010b) states it is imperative that further research be conducted on the relevance of PMH in triage accuracy.

**METHODS**

The original purpose of this DNP project was to integrate a targeted history (TH) question into the QuickLook (QL) triage narrator to increase effective patient-to-nurse communication in the ED. The primary purpose of this project remained consistent, but alterations to the original plan were necessary directly prior to starting implementation. It was found the EHR could not be altered to include the TH question, as originally planned, after the author was received final
permission from appropriate hospital personnel. Due to this misunderstanding, this project’s plan was changed days prior to implementation to incorporate educating TRN’s to ask the TH question and then write patient responses directly into the triage note. The author then received additional permission to access all necessary triage notes to facilitate data collection for this project. To remind the reader, the study questions are:

1. Does the targeted history question affect ESI scores and patient placement within the fast track and the emergency department for patients 22 years and older?
2. What are stakeholder perceptions of the implementation and effectiveness of the targeted history question on the triage process?

**Design**

This DNP project used a quality improvement (QI) approach to satisfy its purposes. This descriptive design QI project used databased methods to improve health care systems outcomes (Rouen, 2014). Quality improvement projects are defined by the systematic collection of data to evaluate and improve quality and safety outcomes within health care (Rouen, 2017). The implementation of this QI project was guided by the Plan-Do-Study-Act (PDSA) cycle, a four-step process which allows for rapid implementation and assessment of an intervention within a small-scale setting (IHI, 2017). This project consisted of two PDSA cycles, each over a two-week period to facilitate the purposed change within the QuickLook process. Step 1 of PDSA Cycle 1 (C1), *plan*, refers to planning the intervention - adding the targeted history question to the QuickLook process - and was fulfilled through this DNP project proposal. Step 2, *do*, involves testing the TH question on a small scale (IHI, 2017). Step 2 for each cycle was completed within a single ED over the two-week timeframe previously mentioned. Step 3, *study,*
involved data collection from the EHR and analysis of results once Step 2 was completed (IHI, 2017). Information learned from PDSA Cycle 1 was disseminated in Step 4 of the cycle, *act*, where the original intervention was refined based on findings from the previous steps (IHI, 2017).

Information learned from PDSA Cycle 1 was then integrated into PDSA Cycle 2 (C2), a second two-week PDSA cycle. The PDSA steps 1-4 were then repeated for Cycle 2. Step 1 (C2) involved changing the intervention according to preliminary data analysis and stakeholder feedback. These changes included clarifying directions given to triage RNs during in-services and providing more frequent reminders to ask the TH question. The processes of Step 2 (C2), *do*, and *Step 3 (C2), study*, were repeated. Step 4 of PDSA Cycle 2, *act*, involves the dissemination of project findings to stakeholders and other healthcare professional who may benefit.

Secondary purposes of this DNP project were satisfied through qualitative methods. Discourse analysis, also known as conversation analysis, is a method used by sociolinguists to understand the mechanisms and structures of conversations (Polit & Beck, 2012). Data for discourse analysis is usually collected from transcripts translated from audio recordings of naturally occurring conversations (Polit & Beck, 2012). For this DNP project, stakeholders were interviewed with open-ended questions (Appendix B & C) about their perceptions of the TH question at the beginning and end stages of the PDSA cycles. Stakeholders important to this DNP project were nurses, nurse practitioners, and attending physicians within the ED. Volunteers for this project were recruited through convenience sampling conducted within the triage and Fast Track treatment areas. The author acknowledges that while convenience sampling
is not the preferred sampling method for collecting the greatest amount of information (Polit & Beck, 2012), it is the most practical and efficient form of sampling for this project.

Setting

This project took place in the Emergency Department (ED) of an urban Level 1 trauma center in Southern Arizona, named Banner University Medical Center – Tucson (BUMC-T). The most recent U.S Census in 2015 shows the city’s population above 500,000 people (U.S. Census Bureau, 2015). BUMC-T is a 479-bed hospital (U.S. News, 2016), with a 40-bed adult-only and 20-bed pediatric-only ED. The triage area in the ED consists of three adult-only and two pediatric-only triage rooms. It is staffed with 2-3 triage nurses at a time, who are responsible for both adult and pediatric patients. The ED also consists of two additional adjacent treatment areas, including a seven-bed trauma unit and a Fast Track area that sees between 0-10 patients at a time. Fast track is staffed by two nurse practitioners and a RN, and is used as treatment area between the hours of 1000 and 2030. The targeted history question was applied towards all adult patients triaged in designated triage rooms between the hours of 1000 and 2030.

Participants

Participants were limited to the accessible population of ED healthcare personnel within the ED and applicable patient charts which met the inclusion criteria and were accessible for this project (Polit & Beck, 2012). A nonprobability form of sampling known as convenience sampling was used to enlist ED personnel (nurses, physicians, and nurse practitioners) for stakeholder interviews (Polit & Beck, 2012). Although convenience sampling has known limits and is subject to bias (Polit & Beck, 2012), it served as the most practical and efficient form of enlisting participants for this project.
According to the hospital’s current policies, all patients aged 21 years and younger should be treated within the pediatric ED. Therefore, adult patient encounters included in this DNP project for EHR audits were aged 22 years and older. Participants for integrating the TH question into the QuickLook interview included triage nurses and the EHRs of the patients they triaged within the designated triage rooms. Triage nurses were selected based solely on availability and agreement to participate in the proposed changed. Nurses were not excluded based on years of practice or experience in triage. This project included only patient encounters who had a triage interview and ESI score completed in the designated triage area of the ED. All non-trauma adult ED patient encounters were eligible for inclusion in this QI project. Trauma patients were excluded as these are always triaged within the trauma area, and are automatically assigned a high-acuity ESI score. Patients who arrived by ambulance and were assigned to a main ED room prior to a completed triage were also excluded. Patient encounters and triage notes completed between FT hours, 1000 to 2030, were included in this project. Patient encounters outside of this time frame were not included.

Stakeholders for open-ended questioning were selected based on availability and willingness to participate in the interview. Convenience sampling was used to interview three triage nurses, two nurse practitioners, and two Rapid Medical Evaluation (RME) attending physicians. A single RME physician staffs the triage area for the purpose of completing an initial medical assessment on all patients being triaged. RME physicians work closely with triage nurses to assist with critical decision making and patient placement.

In summary, inclusion criteria for this project were: (a) patient encounters where the patient was aged 22 years and older (b) triage interviews conducted by triage nurses within
designated triage rooms, not within the trauma unit or an ED room, (c) patient encounters between the hours of 1000 and 2030, (d) stakeholders willing to participate in interviews.

**Intervention: PDSA Cycles**

**Plan**

The original purposed intervention was to integrate a targeted history question into the ED’s QuickLook narrator located within the EHR system. The QuickLook narrator at this hospital does not prompt triage nurses to ask patients about past medical history. Instead, a full past medical history assessment is completed during the “intake” process. Intake is completed by the non-triage RN once a patient has been placed within either fast track or the main ED, only after an ESI rating has been assigned. Permission was initially received for the purposed intervention – to add a single TH question to the existing QuickLook narrator in the EHR, targeted at obtaining historical information directly related to the patient’s chief compliant.

Permission was also received for the changes to this project’s plan. As previously described, the plan was changed to instead provide TRNs with a more thorough 5-minute in-service (Appendix E), educating them on how to include the TH question into the triage interview for both PDSA Cycles 1 and 2. Triage RNs were then instructed to write an acceptable form of ‘TH’ into the triage note, used later during EHR audits for tracking purposes. An acceptable form of ‘TH’ to be written into the triage note when the TH question was asked was described as ‘targeted history,’ ‘target history,’ ‘TH,’ and ‘THx.’ The original planned in-service did not include examples on how to integrate the TH question into QuickLook, and did not instruct the TRN to alter the triage note.
For PDSA Cycle 2, the plan was changed to incorporate findings from Cycle 1. These changes for Cycle 2 included clarifying instructions given to TRNs during the in-services on how to properly ask the TH question and how to integrate answers into the triage note, while also providing easier to understand examples of the TH question being used during patient scenarios. More frequent reminders to ask the TH question, increasing from daily to multiple times throughout the day, were also provided to triage nurses by the author.

Do

Step 2 of the PDSA – do – involved carrying out the process described in the plan step (IHI, 2017), over the course of two weeks for each cycle. Triage nurses were instructed to ask the patient “Have you been treated for [chief complain] before?” integrating this at any point during the triage interview. The triage nurse continued to follow triage protocols according to current organizational policies and ESI standards. The purpose of adding this TH question to the QuickLook narrator was to improve patient placement within the ED by improving patient-to-nurse communication among triage nurses. The intervention required a brief in-service education session for triage nurses, aimed at reviewing current policies, benefits and limitations to current triage practices, and the proposed addition of the TH question (Appendix E). This in-service was no longer than five minutes, and multiple nurses were briefed simultaneously. The in-service was provided daily at the beginning of each triage nurse’s shift. For Cycle 2, the in-service was changed, as previously described, to clarify directions and visual reminders were placed in each triage room next to the computer (Appendix D).

The author of this project also offered to sit-in on a single triage interview for each TRN to provide guidance for integrating the TH question. The author did not interfere with or alter
any triage interviews during this time. The author was available in the triage room to answer questions from the TRN for this single triage interview, only, if the TRN requested it. The author did not sit-in for any additional triage interviews.

At the beginning of the ‘do’ step in Cycle 1, stakeholders were interviewed with open-ended questions, listed in Appendix B. Stakeholders were asked about their feelings regarding the current QuickLook process, its effectiveness, and any benefits or disadvantages it may have. Triage nurses and were also asked about their willingness to implement the TH question, and about their feelings on its potential impact on patient placement. Stakeholders were also asked questions between Cycle 1 and Cycle 2 to gather perceptions on the implementation of the TH question (Appendix B). These responses were then compared to the answers gathered from interviews prior to implementing the TH question.

**Study**

The ‘study’ step of the PDSA is where outcomes are measured and weighed to determine the success and progress made by the plan (IHI, 2017). ‘Study’ is also used to identify weaknesses and areas for improvement within the plan (IHI, 2017). As previously described, EHR audits were performed to collect information on patient age, ESI ratings, triage times, patient placement, RN compliance with the TH question, and past medical history. Audits were performed on all adult visits to the ED in the two weeks prior to the intervention, which met inclusion/exclusion criteria previously listed. These patient encounters were compared with information obtained from chart audits from PDSA Cycle 1 and Cycle 2. Stakeholders were also asked program evaluation questions during this step (Appendix C). These questions vary from the questions asked in Appendix B at the beginning and during the ‘do’ step of the PDSA cycle.
Appendix C questions were meant to gauge stakeholder perceptions of the completed intervention, and to allow for suggestions for improvements to future PDSA cycles. It was here, during the *study* step of Cycle 1, that information was gained and later used to alter the *plan* for Cycle 2.

**Act**

The ‘*act*’ step is the fourth step, which symbolically closes the PDSA cycle (IHI, 2017). The purpose of the ‘*act*’ step is to integrate knowledge learned from throughout the cycle to improve or adjust the original plan (IHI, 2017). Quantitative data obtained through chart audits and the perceptions, thoughts, and suggestions of stakeholders obtained from questions asked in Appendix B and C were used to identify areas for improvement in the Cycle 1 *plan*. Knowledge learned from this process was used to improve the *plan* for PDSA Cycle 2. Now that both PDSA cycles are complete, knowledge gained from this project will be disseminated to stakeholders and other hospital personnel who may benefit.

**Data Collection**

Approval from the Institutional Review Board (IRB) of the College of Nursing at The University of Arizona and all permissions from Banner University Medical Center Tucson were obtained prior to beginning this DNP project (Appendix F). Patient consent for the electronic health information exchange (eHIE) is obtained during registration for treatment, and is therefore ensured prior to accessing patient EHRs. Quantitative data was obtained through EHR audits before, during, and after the intervention was implemented. Data collected from patient charts included outcome measures for total triage time, ESI rating, patient placement, and the frequency of patient reallocation within the ED. Data regarding patient demographics, chief complaint, and
RN compliance with the targeted history question was also obtained during chart audits. Interviews with stakeholders were recorded, transcribed, and grouped into common categories according to the methods of discourse analysis for common language patterns. Recordings were deleted once transcription was complete, and no personal identifiers are included in the transcriptions.

**Data Analysis**

The first step of data analysis involves evaluating distributions of dependent and independent outcomes for normality (Rouen, 2014). The statistical analysis software SPSS was used for data analysis in this project. Each category of data considered for inclusion in this project was evaluated for abnormal distributions, and outliers were excluded. The second step of analysis involves examining the relationships between variables and different groups, traditionally done using independent or paired t-tests, ANOVA, or Mann-U tests (Rouen, 2014). The author was unable to analyze relationships between multiple variables due to low compliance with asking the TH question. The author feels it is difficult to draw definitive conclusions regarding the cause of changes to data categories included in this project since the TH question was asked so infrequently. Data analysis methods typically used for QI data include: frequencies, histograms, scatter, plots, line graphs, descriptive statistics, traditional statistical analyses, run charts, and Pareto charts (Rouen, 2014). Descriptive statistics, statistical analysis, and various forms of graphs were run to for this project. Demographic data on patient encounters were analyzed using univariate descriptive statistics (Polit & Beck, 2012), while the main project outcomes were analyzed using bar graphs, percentages, and frequencies (Rouen,
Interviews were recorded and transcribed to written text. This data was then reduced and organized into a category scheme to be more manageable for coding (Polit & Beck, 2012).

**Ethical Considerations**

According to the U.S. Department of Health and Human Services (HHS), the concept of respect for persons includes a respect for an individual’s autonomy and protection of autonomy for “diminished” individuals (HHS, 1979). In order to give respect for persons, one must refrain from obstructing another’s choices (HHS, 1979). To accomplish this when conducting a quality improvement project, the author ensured to properly inform all possible participants, allowing them to choose whether they would like to participate in the project. The purposes and plan of this project were described to each potential nurse, physician, and nurse practitioner so that each could make an informed decision.

The term beneficence is defined as doing no harm, and maximizing benefits while minimizing possible harms to another (HHS, 1979). Researchers and investigators are obligated to give forethought to these concepts and how they may occur from the research or investigation (HHS, 1979). In order to meet these requirements, the author considered both the benefits and harms that may come not only from conducting this quality improvement project, but also what may come from not conducting the project. Benefits to conducting this QI project included improving patient-to-nurse communication, improving patient placement, and the overall improvement to health outcomes for patients. Potential harms included prolonging triage times and delaying patient care to ask the TH question. An informed decision was made regarding the total beneficence of this project, where the author felt potential beneficence greatly outweighed any potential harms.
The term justice refers to equality between persons, particularly in regards to the balance between the distribution of burden and benefits in research (HHS, 1979). When applied to choosing research subjects, justice refers to the selection of participants and in regards to who will benefit from the research (HHS, 1979). For this QI project, justice was accomplished by not limiting participants and patient encounters to ease of availability, and the selection of patient encounters was not manipulated. Additionally, the findings will be made available to all in order to distribute the knowledge evenly, so that others can learn from this project.

It is important to consider the vulnerabilities of this population of stakeholders (ED triage nurses, nurse practitioners, and physicians), which include participants from varied educational backgrounds and socioeconomic status. The author understood that each stakeholder understands the explanation of this project differently, so it was important to ensure justice by creating a clarified in-service, which all possible participants were able to comprehend. The author also considered the health status of participants and the effects this may have had on the project. Arguably, severe illness and other medical comorbidities may have affected comprehension, participation, and findings.

RESULTS

The two PDSA cycles of this project were performed over the course of four weeks in an urban, level-1 trauma hospital in Southern Arizona. Data are categorized into three 2-week time blocks for data comparison. Each time block, or phase, consists of 14 days total. Table 1 illustrates the dates of importance for this project, separated into pre-implementation, PDSA Cycle 1 (C1), and PDSA Cycle 2 (C2). Cycle 1 was not completed as a continuous two-week cycle. All permissions were received directly from the BUMC-T hospital site prior to starting
Cycle 1, and the author was given approval to move forward with implementation from the hospital’s Director of Professional Practice on June 15, 2017. After Cycle 1 began, the author received notice from the hospital’s corporate offices (located in a different region of Arizona) stating that ‘final’ permission for this QI project was still pending. The author was instructed to halt the implementation of the QI project until final permission was given. The author was allowed to resume implementation for Cycle 1 the following week.

**TABLE 1. Project Phases and Dates**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Beginning Date</th>
<th>End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Implementation</td>
<td>07/04/17</td>
<td>07/17/17</td>
</tr>
<tr>
<td>C1</td>
<td>07/18/17</td>
<td>07/19/17</td>
</tr>
<tr>
<td>C1, cont.</td>
<td>07/27/17</td>
<td>08/07/17</td>
</tr>
<tr>
<td>C2</td>
<td>08/08/17</td>
<td>08/21/17</td>
</tr>
</tbody>
</table>

*Note: This table includes the exact dates of each phase of this DNP project.*

Inclusion criteria applied to the participants in this project include:

- All adult patient encounters aged 22 years and older, who were triaged between the hours of 1000 and 2030
- Patients triaged in designated triage areas, not immediately placed into an ED or trauma treatment room
- RN’s assigned to triage between the hours of 1000 and 2030

Original data was extracted by and was received from the ED’s Business Intelligence (BI) developer for the current EHR charting system, who routinely conducts chart audits for various reasons within the ED. After all exclusion criteria were applied, the total number of patient encounters included for analysis in this project were $n = 841$ (pre-implementation), $n = 838$ (C1), and $n = 956$ (C2).
Triage and Patient Placement

Extreme outliers were excluded from all triage time categories. Total triage times did not change across the phases of this project. The mean triage time during pre-implementation (n = 824) was 2.79 ± 1.88 minutes. The mean triage times during Cycle 1 (n = 812) and Cycle 2 (n = 929) were 2.29 ± 1.80 minutes and 2.66 ± 2.12 minutes, respectively (Table 2).

<table>
<thead>
<tr>
<th>Phase</th>
<th>Total n</th>
<th>Mean minutes</th>
<th>Median minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Implementation</td>
<td>824</td>
<td>2.79 ± 1.88</td>
<td>3.00</td>
</tr>
<tr>
<td>Cycle 1</td>
<td>812</td>
<td>2.29 ± 1.80</td>
<td>2.00</td>
</tr>
<tr>
<td>Cycle 2</td>
<td>929</td>
<td>2.66 ± 2.12</td>
<td>2.00</td>
</tr>
</tbody>
</table>

Note: This tables includes information regarding the mean and median triage times for all patient encounters (n), which met all inclusion/exclusion criteria previously listed, included in this project.

Fast Track encounters increased over the course of implementation. There was a total of 181 Fast Track encounters (21.52% of total patient encounters) during the pre-implementation phase, 265 FT encounters (31.62%) during Cycle 1, and 274 FT encounters (28.66%) during Cycle 2. The mean ESI score for FT patients did not change between phases (Table 3). Table 3 includes further information regarding ESI scores for FT patients. The percentage of FT patients transferred to the main ED declined. Prior to implementation, 7.73% of patients (n = 14) were moved to an ED treatment room after being initially placed in Fast Track. During Cycle 1, 7.17% of FT patients (n = 19) were moved to an ED room, and 5.11% of FT patients (n = 14) were moved during Cycle 2. Fast Track length of stay decreased from an average of 172 ± 126 minutes (pre-implementation) to 166 ± 104 minutes during Cycle 2. Of the patients initially placed into FT, n = 7 (3.87%) were admitted during pre-implementation, n = 2 (0.75%) were admitted during Cycle 1, and n = 9 (3.28%) were admitted during Cycle 2. The rate of patients...
admitted from FT initially decreased during C1 ($n = 2$) when compared to pre-implementation ($n = 7$), but then returned to baseline rates during C2 ($n = 9$).

TABLE 3. *Fast Track Times*

<table>
<thead>
<tr>
<th>Categories</th>
<th>Pre-Implementation</th>
<th>Cycle 1</th>
<th>Cycle 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FT Total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$n$ (%)</td>
<td>181 (21.52)</td>
<td>265 (31.62)</td>
<td>274 (28.66)</td>
</tr>
<tr>
<td><strong>ESI Scores</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$n$ (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>13 (7.18)</td>
<td>8 (3.02)</td>
<td>17 (6.20)</td>
</tr>
<tr>
<td>4</td>
<td>133 (73.48)</td>
<td>191 (72.08)</td>
<td>204 (74.45)</td>
</tr>
<tr>
<td>3</td>
<td>33 (18.23)</td>
<td>64 (24.15)</td>
<td>50 (18.25)</td>
</tr>
<tr>
<td>2</td>
<td>2 (1.10)</td>
<td>1 (0.38)</td>
<td>3 (1.09)</td>
</tr>
<tr>
<td>N/A</td>
<td>0 (0)</td>
<td>1 (0.38)</td>
<td>0 (0)</td>
</tr>
<tr>
<td><strong>Moved to ED</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$n$ (%)</td>
<td>14 (7.73)</td>
<td>19 (7.17)</td>
<td>14 (5.11)</td>
</tr>
<tr>
<td><strong>FT LOS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minutes</td>
<td>172.39 ± 126.92</td>
<td>172.04 ± 126.51</td>
<td>166.48 ± 104.58</td>
</tr>
<tr>
<td><strong>Admissions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$n$ (%)</td>
<td>7 (3.87)</td>
<td>2 (0.75)</td>
<td>9 (3.28)</td>
</tr>
</tbody>
</table>

*Note: This tables includes information regarding FT patient encounters prior to and during this DNP project. ‘N/A’ represents patient encounters which did not have an assigned ESI score.

**Targeted History and Triage Notes**

The following information was gained from EHR chart audits and lists rates at which the Targeted History (TH) question was asked during triage, along with other pertinent data regarding past medical history during the triage interview. The TH question was asked for 26.25% of patient encounters ($n = 220$) during Cycle 1 and 17.57% of patient encounters ($n = 168$) during Cycle 2. For those asked the TH question, over 59% (C1) and over 65% (C2) of patient encounters had a pertinent medical history related to their chief complaint stated within the triage note (Table 4).
During chart audits, it was found that very few triage notes addressed the TH question. To address this issue the author deemed it appropriate to additionally audit triage notes for any information related to past medical history, keeping in line with the main objectives of this project. The ‘PMH’ category (Table 4) was created to account for triage notes that did not state any variations of ‘TH’ previously described, but included the words “history,” “past medical history,” or “diagnose.” In triage notes that did not specifically state an acceptable form of ‘TH,’ it was found that PMH was addressed in 31.6% (Cycle 1) and 27.2% (Cycle 2) of remaining triage notes.

There were a remaining 421 triage notes (C1) and 571 triage notes (C2) which did not meet acceptable criteria to be included in the categories of ‘TH’ nor ‘PMH.’ Almost one-fifth (C1) and almost one-fourth (C2) of these remaining triage notes addressed the patient seeking treatment prior to visiting the ED (Table 4). Patients reported most commonly seeking prior treatment from a PCP or specialist provider, an urgent care, or another hospital. Figure 2 presents a visual representation of the number of triage notes, which addressed patient history or prior treatment. In total, 59% of triage notes in Cycle 1 and 54% of triage notes in Cycle 2 addressed either the TH question, past medical history, or the patient seeking prior treatment (Table 4).
FIGURE 2. TH, PMH, or Prior Treatment Information Obtained from Triage Note Audits. (This figure lists the frequency of triage notes which assessed for TH, and the number of those encounters which had a pertinent medical history related to the chief complaint. Additionally, the frequency of triage notes which addressed PMH or prior treatment (but not TH) are included.)

TABLE 4. Targeted History

<table>
<thead>
<tr>
<th>Categories</th>
<th>Cycle 1</th>
<th>Cycle 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TH Question asked? n (%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y</td>
<td>220 (26.25)</td>
<td>168 (17.57)</td>
</tr>
<tr>
<td>N</td>
<td>617 (73.63)</td>
<td>786 (82.22)</td>
</tr>
<tr>
<td>N/A</td>
<td>1 (0.12)</td>
<td>2 (0.21)</td>
</tr>
</tbody>
</table>

If TH asked (yes): Pertinent History

<table>
<thead>
<tr>
<th>n (%)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>131 (59.55)</td>
<td>110 (65.48)</td>
</tr>
<tr>
<td>N</td>
<td>90 (40.91)</td>
<td>58 (34.52)</td>
</tr>
</tbody>
</table>

If TH not asked (no):

<table>
<thead>
<tr>
<th>PMH n (%)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>195 (31.60)</td>
</tr>
<tr>
<td></td>
<td>214 (27.23)</td>
</tr>
</tbody>
</table>

If TH nor PMH asked:

<table>
<thead>
<tr>
<th>Prior Treatment n (%)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>84 (19.95)</td>
</tr>
<tr>
<td></td>
<td>140 (24.52)</td>
</tr>
</tbody>
</table>

Total n (%)              |              |
|                         | 499 (59.55)  |
|                         | 522 (54.60)  |

Note: This table includes information gained from EHR audits regarding patient history within the context of the triage note. ‘n’ for each category signifies the number of triage notes which fell into that specific category. ‘Total’ refers to all notes that mentioned either TH, PMH, or prior treatment.
Stakeholder Factors

Nursing Compliance

There were 48 triage nurses, in total, who participated in asking patients the TH question and whose triage notes were included for data analysis. Triage RN compliance varied greatly from day to day (Figure 3). Compliance was measured according to how many triage notes addressed ‘TH’ or an accepted version of TH, which is previously described. The highest daily compliance was 52%, while the lowest daily compliance was 0% (Figure 3). Overall compliance for Cycle 1 was $25.70 \pm 19\%$ and $17.65 \pm 13.37\%$ for Cycle 2.

![Figure 3](image)

**FIGURE 3.** Triage Nurse Compliance with the TH Question. (This figure illustrates the daily RN compliance percentage, with the days numbered and correlated with the day of the week.)

Interview Outcomes

Three triage nurses, two RME attendings, and two nurse practitioners were interviewed for this quality improvement project ($n = 7$). Table 5 provides a detailed description of stakeholder answers to questions from Appendix B, and Table 6 provides answers to questions from Appendix C. Stakeholders who participated in pre-implementation interviews were also asked evaluation questions once the project was complete.
The following information pertains to data collected during the pre-implementation phase from questions 1-4, listed originally in Appendix B. Overall, stakeholders had negative feelings regarding the QL process, and most stakeholders mentioned the role of PMH in triage or had a positive opinion of the TH question (Table 5). For question 1, almost half of stakeholders verbalized that QuickLook did not provide the RN with enough information during triage, due to the exclusion of PMH. For question 2, all nurses interviewed (n = 3) stated they felt QL did not have an impact on the triage process. Three out of seven stakeholders stated they felt the three-minute time limit for QuickLook was too restricting due to the multiple responsibilities of a triage nurse (Table 5). For question 3, almost all stakeholders verbalized a positive opinion of the TH question after the TH question was explained to them. Additionally, all RNs stated they feel they already ask about PMH during some triage interviews, while one nurse went on to described exiting the QL narrator during triage in order to look up the patient’s history elsewhere in the EHR. The interviewed stakeholders could not identify any issue with the prospect of implementing the TH question, or thought implementation would be very feasible when asked question 4 (Table 5).

Question 5 was asked during implementation, between the course of Cycle 1 and Cycle 2. Over half of stakeholders interviewed stated they felt useful information was gained when the TH question was asked (Table 5). Two-thirds of nurses stated PMH information was obtained without asking the TH question, and they forgot to ask the TH question during some triage interviews (Table 5). Almost all providers interviewed commented on the low RN compliance rate during implementation.
### TABLE 5. Stakeholder Interview Common Related Comments

<table>
<thead>
<tr>
<th>Question</th>
<th>Common Related Comments</th>
</tr>
</thead>
</table>
| 1. What are your personal opinions regarding the QuickLook process? Feel free to provide examples of advantages or disadvantages.                                                                           | • QL is succinct but also limits the RN (RN1, NP2)  
• Strongly dislike QL, preferred previous triage process (RN2)  
• QL provides the RN with unsatisfactory information due to lack of history (RN3, NP1, NP2)  
• Unfamiliar with details of QL (MD1, MD2)                                                                                                                                                                                                                                           |
| 2. How do you feel QuickLook has impacted the triage process and patient placement between fast track and the ED?                                                                                           | • No effect on triage process or patient placement (RN1, RN2, RN3)  
• Feels 3-minute time limit too restricting due to multiple responsibilities (RN2, RN3, NP2)  
• Sometimes read triage note, but prefer to be in the room during triage or receive verbal report from triage RN (MD1, MD2)  
• Mostly read the triage note before seeing the patient (NP1, NP2)  
• Some triage notes are too succinct, don’t provide enough information (NP1, NP2)                                                                                                                                                                                                   |
| 3. A targeted history question is a single question about past medical history, worded as: “Have you been treated for this [chief complaint] before?”, and is intended to be added to the QuickLook process. How do you think this will affect ESI scoring and patient placement? | • Agree with or have a positive opinion of the TH question (RN1, RN2, RN3, MD1, NP1)  
• Important to ask about PMH in triage (RN1, NP1, NP2)  
• Sometimes, RN already asks patient about PMH during triage (RN1, RN2, RN3)  
• Exits the QL narrator to look up patient history (RN3)  
• The TH question will help RNs make better triage and patient placement decisions (RN3, MD2, NP1, NP2)  
• Unaware that QL does not include PMH (MD1, MD2)                                                                                                                                                                                                                                           |
| 4. How feasible is it to add the TH question to QuickLook and still complete the triage interview according to Banner standards of under 3 minutes?                                                        | • Cannot identify issues with adding TH question to QL (RN1, RN3, MD1, MD2, NP2)  
• Very feasible (RN2, NP1)  
• Predicting maintaining < 3 minute standard (RN1, RN2, RN3)                                                                                                                                                                                                                                  |
| 5. What have you noticed about the integration of the TH question into QuickLook?                                                                                                                         | • Useful information gained when TH question asked (RN1, MD1, MD2, NP1)  
• Forgot to ask TH question (RN1, RN3)  
• RN already asks about PMH during triage (RN2)  
• PMH information gained during triage, prior to asking TH question (RN2, RN3)  
• Low RN compliance with asking TH question (MD2, NP1, NP2)  
• TH question relevant for determining patient placement (NP1)  
• Desire for higher compliance with asking TH question (NP2)                                                                                                                                                                                                                               |

*Note.* This table contains answers obtained from stakeholder interviews that have been analyzed and summarized according to common themes.

The following information pertains to evaluation questions (6-9) which were asked at the end of Cycle 2. Overall, stakeholders had positive opinions associated with using the TH
question (Table 6). While stakeholders encountered several issues with implementation, they reported gaining useful information when the TH question was asked (Table 6). For question 6, all three nurses recounted specific situations where information was gained after asking TH question, and this information was useful in determining an ESI score. Almost every stakeholder commented on how information gained from the TH question was useful in determining patient placement (Table 6). Question 7 revealed stakeholders encountered several difficulties when implementing the TH question. Nurses were unclear on when to ask the TH question and how to integrate it into the triage interview. Interviewed nurses also found it difficult to change their “routine” during QuickLook, and reported easily forgetting to ask the TH question during times of high patient volumes (Table 6). When asked what they would like to see changed (question 9), almost every stakeholder verbalized wanting PMH to be included in the QL narrator in the EHR. Stakeholders also suggested changing the wording of the TH question, integrating the question into the EHR, and providing more education to triage nurses (Table 6).

TABLE 6. Evaluation Questions: Stakeholder Interview Common Related Comments

<table>
<thead>
<tr>
<th>Question</th>
<th>Common Related Comments</th>
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</thead>
</table>
| 6. Compared to QuickLook before the TH question, to now – how do you feel the TH question has impacted the triage process and patient placement between fast track and the ED? | • Information gained from TH question was useful for determining ESI acuity (RN1, RN2, RN3)  
• No change to triage process (RN2, RN3)  
• Able to make more informed decision about patient placement (RN1, RN3)  
• Information from TH question was sometimes helpful with patient placement (MD1)  
• Answers to TH question helped place patients appropriately into FT (MD2, NP1, NP2) |
| 7. What difficulties did you encounter with integrating the TH question into the triage process? | • Unsure how to use question, at first (RN1)  
• Unsure when to ask TH question during triage interview (RN1, RN2, RN3)  
• Forgot to ask TH question during high patient volume times (RN1, RN2)  
• Difficult to change routine (RN2, RN3)  
• TH question not appropriate for chief complaint (RN2, RN3, NP2)  
• Not involved in integrating TH question (MD1, MD2, NP1, NP2)  
• Did not observe any difficulties with integration (MD1, MD2, NP1)  
• Observed low RN compliance (NP2) |
### TABLE 6. – Continued

<table>
<thead>
<tr>
<th>Question</th>
<th>Common Related Comments</th>
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| 8. In what ways did the TH question help you with assigning an ESI acuity score and placing a patient in either fast track or the ED? | • Helped in assigning acuity for chronic patient complaints (RN1, NP2)  
• Described specific instances where RN able to use information gained from the TH question to determine patient placement appropriate for FT (RN1, RN2)  
• Helped identify a high acuity patient (RN2)  
• Asked about history prior to implementation (RN3)  
• Did not ask TH (MD1, MD2, NP1, NP2)  
• Observed that useful information obtained from asking TH question when reviewing triage notes (NP1) |
| 9. What would you like to see changed?                                   | • The wording of the question (RN1)  
• The TH question included in the EHR QuickLook narrator (RN2, NP1)  
• Would like to visualize patient’s history, but not ask about full PMH (RN3)  
• PMH added to QL narrator (RN2, RN3, MD1, MD2, NP1, NP2)  
• More education for nurses to ask PMH during triage (MD2)                                                                 |

*Note.* This table contains answers obtained from stakeholder interviews that have been analyzed and summarized according to common themes.

### Summary

The primary purpose of this quality improvement project was to integrate a targeted history question into the QuickLook triage narrator to increase effective patient-to-nurse communication in the ED. To achieve this primary purpose, the project was guided by a modified version of the Effective Nurse-to-Nurse Communication framework (Carrington, 2012). The author modified this framework to better understand the different variables involved in patient-to-nurse communication, using information learned from Carrington’s framework (2012). This was used to guide the processes for planning, implementation, and data collection throughout this project. Secondary purposes for this QI project were to identify any significant impact the TH question may have on ESI scores, patient placement, and the triage interview process. This DNP project was guided by the following questions: (1) Does the targeted history question affect ESI scores and patient placement within the fast track and the emergency department for patients 22 years and older, (2) What are stakeholder perceptions of the implementation and effectiveness of the targeted history question on the triage process?
The primary purpose of this project was achieved. TRNs were educated to ask and integrate the TH question into the triage process. Data analysis shows that TRNs were able to successfully integrate the TH question into triage despite low RN compliance, and stakeholder responses show positive outcomes to asking the TH question. Quantifying the success of integration of the TH question is based on the fact that triage times did not change between pre- and post-implementation. Secondary purposes to identify any impact on ESI scores and patient placement were partially achieved. There were several limitations to this QI project which hindered multivariate analysis, but stakeholder perceptions show that they believe the TH question had a positive impact on patient placement and the triage interview process.

There was difficulty answering QI project question one. Data analysis shows the TH question was asked without effecting ESI scores. It is difficult to attribute changes in patient flow and other data point due to the low TRN compliance with asking the TH question. This made it difficult to draw multivariate conclusions with the quantitative data. Table 3 shows the TH question may have influenced Fast Track in several ways, including an increase in patients placed in FT and a shorter LOS for FT patients. Project Question 2 was answered through qualitative data from stakeholder interviews. Responses showed that the TH question impacted patient placement when the TH question was asked. Interviews with stakeholders revealed a great amount of information for project question two. Stakeholders provided several suggestions for improving the implementation of the TH question. Overall, stakeholders had positive perceptions of the TH question and felt it was helpful with assigning ESI scores and patient placement, when used.
DISCUSSION

Data obtained for this DNP project shows triage nurses can ask patients about pertinent medical history without prolonging total triage times. Table 1 demonstrates that integrating the TH question into the triage interview did not affect mean triage times when compared to pre-implementation triage times. The number and percentage of FT patient encounters increased for Cycle 1 and 2, and there was a decline in the percentage of FT patients that needed to be moved from FT to an ED room during these cycles (Table 2). The percentage of admissions from FT decreased during Cycle 1, but then increased during Cycle 2 to be equivalent to the pre-implementation phase percentage of admissions (Table 2). Additionally, the total LOS for Fast Track patients decreased during Cycle 2. As previously described, the author is limited in making any further multivariate conclusions regarding the direct effects of the TH question on these FT variables.

While the TH question was infrequently asked, chart audits showed that assessing for pertinent past medical history is currently an active part of the triage process. This was demonstrated through the overall high percentage of triage notes that mentioned a form of TH, PMH, or prior treatment (Figure 2). Nursing compliance, measured by the frequency of triage notes that addressed the TH question, was low for both Cycles 1 and 2 (Table 3). This can be attributed to the many difficulties nurses faced during implementation, including but not limited to: confusion surrounding the TH question, the perception of being “too busy” during high patient volumes, and forgetfulness (Table 4). Almost two-thirds of patients who were asked the TH question had a history related to their chief complaint (Table 3). In total, over half of triage
notes from patient encounters during Cycle 1 and 2 addressed either the TH question, PMH or a previous diagnosis, or the patient seeking prior treatment (Table 3).

There was a significant amount of stakeholder perceptions gained from asking the pre-implementation and evaluation questions. Based on stakeholder responses (Table 4), it can be argued that nurses felt asking the TH question provided them with information useful in determining ESI scores and patient placement. Overall, stakeholders identified the importance of PMH in triage, had positive opinions regarding the TH question, and expressed a desire for PMH to be included in QuickLook (Table 4).

**Recommendations**

Based on the results of this quality improvement project, a patient’s PMH should be added to the QL narrator in the EHR program for the nurse to visualize during the triage interview. The author acknowledges unknown costs associated with altering an existing EHR narrator template, but argues that the potential to improve patient placement and outcomes greatly outweighs monetary obstacles. The author does not believe that asking for a full PMH during triage would provide any additional benefit to the triage nurse. The author recommends adding a synopsis of the patient’s history into the QL narrator for the triage RN to review for pertinent information, following the principle of the targeted history question. This will allow nurses to use their critical thinking skills to assess for pertinent history related to the patient’s chief complaint, while also placing the patient in the appropriate treatment area. This can also prevent issues obtaining information from poor historians. The author also recommends that all triage nurses be educated on the importance PMH plays during triage.


**Strengths and Limitations**

There were several strengths to this QI project. The original timeframe for this project was doubled based on recommendations from multiple stakeholders, including nurse practitioners and attending physicians. The timeline of this project was doubled with the intention of increasing TRN buy-in and the total number of patient encounters to be used for analysis. Trending data shows that prolonging the PDSA cycles past a month would not change measured outcomes. The author is currently employed at the project site as an RN, but bias can be excluded from compliance rates as the author did not complete any triage notes during the course of implementation. The author audited a single triage interview for each TRN to assist with answering questions and help with integration of the TH question. Beyond this initial audit, the author did not participate in any other patient encounters and did not have direct influence on what was written in triage notes. Additionally, TRNs were provided with daily reminders and visual reminders located directly next to triage computers to prompt increased compliance.

This QI project encountered several limitations. TRN buy-in and compliance cannot be excluded from bias as the author has worked with each triage nurse, ranging from several months to several years. The author cannot exclude that this familiarity with TRNs may have impacted compliance rates with asking the TH question. The rate at which PMH or prior treatment was mentioned in triage notes was not assessed for patient encounters prior to implementation. Therefore, no comparison can be made between PDSA cycles and pre-implementation regarding the rate of change in which TRN asked about PMH during the triage interview. This QI project was also limited by the involvement of a single author to execute in-services. It was difficult for
the author to provide an in-service to every TRN on a daily basis as the ED frequently rotates TRNs throughout the day. This may have contributed to poor compliance rates.

This was a single center project conducted at an urban hospital in Southern Arizona. Results are not generalizable in QI projects. Additionally, bias cannot be excluded from the analysis of stakeholder interviews, as qualitative analysis is inherently subjective.

Next Steps

The next step of this DNP project is to disseminate findings to stakeholders and all other parties within the hospital who may benefit from this project. Guided by the recommendations previously addressed, the author will advocate for an abbreviated, or ‘targeted’, form of past medical history be reintroduced into the QuickLook process at this Southern Arizona hospital. The author will also continue to educate triage nurses on the importance and benefits of assessing for a targeted medical history during triage. The strengths and limitations encountered during this project will be used to better plan for future quality improvement projects in the Emergency Department.

Conclusion

This project sought to address a practice issue of patient placement in the emergency department with appropriate acuity for efficient and effective care. Here the communication between the triage nurse and patient was explored with the inclusion of a “targeted history” question where the patient provides a brief history of what brought them to the emergency department. This project has had a positive impact in the emergency department towards increased patient safety and improved outcomes.
<table>
<thead>
<tr>
<th>Reference</th>
<th>Research Question/Aims</th>
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<th>Sample and Setting</th>
<th>Methods and Data Collection</th>
<th>Findings</th>
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</thead>
<tbody>
<tr>
<td>Arslanian-Engoren, C. (2009). Explicating nurses' cardiac triage decisions. <em>Journal of Cardiovascular Nursing, 24</em>(1), 50-57 8p. doi:10.1097/01.JCN.0000317474.50424.4f</td>
<td>Explicate the decision-making processes of ED triage nurses for MI patients</td>
<td>Qualitative: descriptive</td>
<td>Setting: US, ED Sample: 12 ED RNs (11 women, 1 man) -3 focus group sessions -age range: 25-62 years old, average 47 y.o.</td>
<td>-focus groups to help determine best approach for instrument development that can be used to quantify the decision-making process in ED triage -script used to interview ED RNs, experienced with triage -focus groups were audiotaped, recordings transcribes, data extrapolated from transcripts -themes developed from transcripts, data coded into categories</td>
<td>-Themes in determining underlying causes patient’s chief complaint: PMH, pt demographics, clinical presentation, attitudes and perceptions, cultural beliefs, nursing knowledge and experience -important patient cues: general appearance, transportation mode, cardiac history, vital signs, chest pain -determine relevant cues/triage status: life threatening symptoms, PMH, ED staff</td>
</tr>
<tr>
<td>Atzema, C. L., Austin, P. C., Tu, J. V., &amp; Schull, M. J. (2009). Emergency department triage of acute myocardial infarction patients and the effect on outcomes. <em>Annals of Emergency Medicine, 53</em>(6), 736-745. doi:10.1016/j.annemergmed.2008.11.011 [doi]</td>
<td>Examine triage acuity of MI patients, identify any delays to care -identify how many MI patients were triaged as low-acuity</td>
<td>Quantitative: retrospective cohort</td>
<td>Setting: Ontario, Canada, ED Sample: N=102 acute care Canadian hospitals</td>
<td>Data obtained from EHR auditing</td>
<td>Half of acute MI patients were given a low acuity triage score when they presented. -independently associated with substantial delays in ECG acquisition and to reperfusion therapy. -Quality of ED triage important factor limiting performance on key measures of quality of acute MI care</td>
</tr>
<tr>
<td>Bansal, E., Dhawan, R., Wagman, B., Low, G., Zheng, L., Chan, L.,... Shavelle, D. M. (2014). Importance of hospital entry: Walk-in STEMI and primary percutaneous coronary intervention. <em>The Western Journal of Emergency Medicine, 15</em>(1), 81-87. doi:10.5811/westjem.2013.9.17855 [doi]</td>
<td>Evaluate baseline demographic and clinical differences between walk-in and EMS-transported STEMI patients -identify factors associated with prolonged door to balloon (D2B) time in walk-in STEMI patients</td>
<td>Quantitative: retrospective, observational</td>
<td>Setting: Urban academic teaching hospital, ED Sample: 136 STEMI patients -N=115 patients with STEMI undergoing PCI -51 walk-ins, 64 EMS transport</td>
<td>Data obtained from EHR auditing</td>
<td>-CC of STEMI walk-ins = 94% CP, 6% other -CC of STEMI by EMS = 83% CP, 17% other -Medical history in STEMI patients undergoing PCI: walk-in’s only: 55% HTN, 33% hyperlipidemia, 49% DM, 29% current smoker, 8% prior MI, 10% prior PCI -door to ECG, ECG to Cath lab times were significantly longer for walk-in group -D2B times longer for walk-ins, 136 min versus 60 min for EMS -59% of walk-in patients with D2B time &lt;90 minutes, EMS 91% of pts</td>
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<td>Calder, L. A., Forster, A. J., Stiell, I. G., Carr, L. K., Perry, J. J., Vaillancourt, C., &amp; Brehaut, J. (2012). Mapping out the emergency department disposition decision for high-acuity patients. <em>Annals of Emergency Medicine</em>, 60(5), 567-576.e4. doi:10.1016/j.annemergmed.2012.04.013 [doi]</td>
<td>Create process map highlighting error-prone areas for disposition decisions for high-acuity patients</td>
<td>Qualitative: focus groups</td>
<td>Setting: Academic tertiary ED, Canada</td>
<td>Conducted 6 focus groups within ED: residents, social workers and registered nurses only, attending physicians, patient safety committee, consensus group -focused questions, prompts, open-ended guiding questions -interviews were audiotaped, transcribed, analyzed for themes -content analysis approach -moderator used during focus groups -scribe created process map -note taker identified major themes, nonverbal cues</td>
<td>-themes identified by focus groups affecting disposition decisions in order of prevalence: triage, ED location of patient assessment, monitoring, diagnosis, departmental busyness, clinical gestalt, response to treatment, social work involvement, patient and family communication -ED resident themes: triage, monitoring, response to treatment, clinical gestalt -RN and SW themes: triage, location in ED, SW involvement -all focus groups but attending physicians identified triage as primary and dominant theme -all focus groups but attending physicians identified triage as dominant contributor to errors</td>
</tr>
<tr>
<td>Castner, J. (2011). Emergency department triage: what data are nurses collecting?. <em>Journal of Emergency Nursing</em>, 37(4), 417-422. doi:10.1016/j.jen.2011.01.002 [doi]</td>
<td>Questions: What data do triage RNs believe they are required to obtain? What data do they believe is most important? What amount of time do they feel is required to triage a patient?</td>
<td>Qualitative: questionnaire, descriptive cross-sectional</td>
<td>Setting: Mailed survey, US</td>
<td>Created list of data points on questionnaire, each including 5-point Likert scale ranging from “always” to “never”, “strongly agree” to “strongly disagree” -Mailed survey to ED triage RN’s registered through ENA - data analysis on survey responses</td>
<td>-429/430 respondents rated medical history as “strongly agree” when asked if they believe this is important to include in triage -other data points rated as “strongly agree”: vital signs, allergies, pain, surgical history, weight, maltreatment scale -respondents report average time of triage was 9.03 minutes with standard deviation of 7.25 minutes</td>
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<tr>
<td>Hitchcock, M., Gillespie, B., Crilly, J., &amp; Chaboyer, W. (2014).</td>
<td>Explore and describe triage, to identify potential problems and vulnerabilities that impact triage</td>
<td>Qualitative: observational, ethnographic</td>
<td>Setting: Pre-ED, Australia</td>
<td>-in-field observations of triage and interviews with ED staff including RN, shift leaders, medical officers, clerical staff and nurses. -researcher collected data while observing triage process -methods: observer only, field notes, informal and formal interviews -data = interview transcripts, field notes, diagrams, journal entries, transcripts -themes derived from information collected</td>
<td>Themes identifying problems/vulnerabilities in triage: --&quot;negotiating patient flow and care delivery through the ED&quot; --&quot;interdisciplinary team communicating and collaborating to provide appropriate and safe care to patients” --“varying levels of competence of the triage nurse” --selected categories: triaging the patient, extended time to triage and further assessment, inexperienced triage RNs, limited triage education, triage errors</td>
</tr>
<tr>
<td>Ryan, K., Greenslade, J., Dalton, E., Chu, K., Brown, A. F., &amp; Cullen, L.</td>
<td>Identify factors associated with triage acuity in AMI patients; patient demographics, clinical characteristics, nursing triage experience in years</td>
<td>Quantitative: retrospective cohort</td>
<td>Setting: ED, Australia</td>
<td>EHR charts reviewed of patients discharged with diagnosis of AMI, between June 2009-May 2010</td>
<td>-20% of patients undertriaged -18% of category 1 and 2 patients had cardiac history (22 out of 123 total) -30 pts with AMI undertriaged to groups 3-5 -93% of undertriaged group presented with atypical symptoms (did not present with chest pain)</td>
</tr>
<tr>
<td>Wolf, L. (2010a). Acuity assignment. Advanced Emergency Nursing Journal,</td>
<td>Explore RN understanding of patient acuity levels during triage interview, explore decision making processes, understand</td>
<td>Qualitative: ethnographic</td>
<td>Setting: ED, two hospitals, US</td>
<td>-nonparticipant observation of RN and patient interaction during triage interview over 3-month time period -simultaneous data collection and data analysis -field observations and analysis</td>
<td>-RN understood acuity to be based on: patient presentation, complain, duration of symptoms, body habitus -acuity influences by patient volume, unit leadership, communication with patients and other services</td>
</tr>
<tr>
<td>J. 32(3), 234-246 13p.</td>
<td></td>
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<td>Sample: N=12 ED RN (10 triage RN, 2 non-triage RN)</td>
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APPENDIX B:

STAKEHOLDER QUESTIONS
Prior to intervention:

1. What are your personal opinions regarding the QuickLook process? Feel free to provide examples of advantages or disadvantages.

2. How do you feel QuickLook has impacted the triage process and patient placement between fast track and the ED?

3. A targeted history question is a single question about past medical history, worded as: “Have you been treated for [chief complain] before?”, and is intended to be added to the QuickLook process. How do you think this will affect ESI scoring and patient placement?

4. How feasible is it to add the TH question to QuickLook and still complete the triage interview according to Banner standards of under 3 minutes?

During intervention:

5. What have you noticed about the integration of the TH question into QuickLook?
APPENDIX C:

EVALUATION QUESTIONS
1. Compared to QuickLook before the TH question, to now – how do you feel the targeted history question has impacted the triage process and patient placement between fast track and the ED?

2. What difficulties did you encounter with integrating the TH question into the triage process?

3. In what ways did the targeted TH question help you with assigning an ESI acuity score and placing a patient in either fast track or the ED?

4. What would you like to see changed?
APPENDIX D:

TH QUESTION VISUAL REMINDER
Targeted History Question
a DNP Project by Kristyn H
Active Times: 10:00 through 20:30 on all adults

“Have you been treated for [chief complaint] before?”

Scenario: Pt’s chief complaint is right shoulder pain. Ask the patient: “Have you been treated for shoulder pain before?”
Scenario: Pt’s chief complaint is RLQ abd pain. Ask the patient: “Have you been treated for abdominal pain before?”

Please write into triage note for tracking purposes

Example: “Pt c/o SOB for three days, worse with exercise. Denies chest pain. Targeted history: pt treated for SOB 2 months ago, told he has ‘heart issues’.”
Example: “Pt c/o abd pain for 2 days, non-radiating, rates 10/10. +N/V/D. Targeted history: none.”

“Targeted History” can be shortened to “TH” or “THx”.


APPENDIX E:

IN-SERVICE OVERVIEW
• Briefly review current QL process
  o Discuss what is included: vital signs, chief complaint, age, height-weight, allergies, etc
  o Point-out that PMH has been excluded from QL. Give reasoning: time limit, patient flow
• Briefly discuss importance of PMH in triage, support with evidence
  o Many studies show a significant/positive cardiac history in MI patients
    (Arslanian-Engoren, 2009; Atzema et al., 2009; Bansal et al., 2014; Ryan et al., 2014).
  o Not asking about PMH directly attributed to inaccurate ESI scoring (Wolf, 2010a)
  o Literature shows almost all healthcare professional feel PMH is an important part of triage (Arslanian-Engoren, 2009; Bansal et al., 2014; Castner, 2011; Ryan et al., 2015; Wolf, 2010b)
• Over- or under-triaging a patient leads to delayed care, increased risk of mortality, and waisted resources (ADHS, 2011)
• Explain the TH question
• The purpose of these changes:
  o improve patient placement between ED and FT, improve ESI scoring, assist the TRN with communication and decision-making
• Provide TRN with examples, offer to audit a triage interview
APPENDIX F:

IRB AND SITE APPROVAL LETTERS
Date: June 08, 2017

Principal Investigator: Kristyn C Huffman

Protocol Number: 1706498553

Protocol Title: INCREASE EFFECTIVE PATIENT-TRIAGE NURSE COMMUNICATION USING A TARGETED HISTORY QUESTION

Determination: Human Subjects Review not Required

The project listed above does not require oversight by the University of Arizona because the project does not meet the definition of 'research' and/or 'human subject'.

- **Not Research as defined by 45 CFR 46.102(d):** As presented, the activities described above do not meet the definition of research as cited in the regulations issued by the U.S. Department of Health and Human Services which state that "research means a systematic investigation, including research development, testing and evaluation, designed to contribute to generalizable knowledge".

- **Not Human Subjects Research as defined by 45 CFR 46.102(f):** As presented, the activities described above do not meet the definition of research involving human subjects as cited in the regulations issued by the U.S. Department of Health and Human Services which state that "human subject means a living individual about whom an investigator (whether professional or student) conducting research obtains data through intervention or interaction with the individual, or identifiable private information".

Note: Modifications to projects not requiring human subjects review that change the nature of the project should be submitted to the Human Subjects Protection Program (HSPP) for a new determination (e.g. addition of research with children, specimen collection, participant observation, prospective collection of data when the study was previously retrospective in nature, and broadening the scope or nature of the research question). Please contact the HSPP to consult on whether the proposed changes need further review.

The University of Arizona maintains a Federalwide Assurance with the Office for Human Research Protections (FWA #00004218).
July 24, 2017

Kristyn C Huffman
Banner University Medical Center Tucson
1501 N Cambell Ave
Tucson, AZ 85724

RE: NRDUC Project: 1706498553: INCREASE EFFECTIVE PATIENT-TRIAGE NURSE COMMUNICATION USING A TARGETED HISTORY QUESTION
New Project UA Determination of Human Research Application Version 2016-07; forwarded to Non-Research Data Use Committee on 6/8/2017
Non-Research Data Use Committee Evaluation: Approved on 7/21/2017

Dear Kristyn Huffman,

Thank you for your submission of the UA Determination of Human Research Form which outlined the above noted project. On 6/8/17 UA IRB concluded that this project was not research and subsequently forwarded it to the Banner Health Non-Research Data Use Committee (NRDUC) for oversight and review.

The project information you provided was reviewed and subsequently approved on July 21, 2017 by the BH NRDUC. Should you have any questions or concerns please feel free to reach out to the NRDUC chair at any time.

PLEASE NOTE
The NRDUC determination is based on the information you provided to the committee on your application version 2016-07 and supporting documents forwarded to the NRDUC on 6/8/2017. If the project is modified in any way, including re-analysis of data, the determination is no longer valid. You must resubmit the project to the NRDUC for review and approval. Please note: As part of continuing process improvement, random audits could be conducted to assess compliance and adherence with submitted/approved applications.

A copy of this letter will be placed in the NRDUC project file.

Sincerely,

Kristen Eversole, BS, RHIA, CHPC
Banner Health Privacy Program Director – University Medicine, NRDUC Chair
REFERENCES


Skar, P., Bruce, A., & Sheets, D. The organizational culture of emergency departments and the effect on care of older adults: a modified scoping study. *International Emergency Nursing, (0)*
doi:http://dx.doi.org.ezproxy2.library.arizona.edu/10.1016/j.i.enj.2014.11.002


