

DEVELOPMENT OF A BUSINESS PLAN AND CARE MODEL TO IMPLEMENT A
FAST TRACK AREA IN A RURAL EMERGENCY DEPARTMENT

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As members of the DNP Project Committee, we certify that we have read the DNP Project prepared by Amy Johnson entitled “Development of a Business Plan and Care Model to Implement a Fast Track Area in a Rural Emergency Department” and recommend that it be accepted as fulfilling the DNP Project requirement for the Degree of Doctor of Nursing Practice.

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DEDICATION

To my husband, Brian, for his strength and support to enable me to reach my lifelong dream of becoming a Family Nurse Practitioner. To my family for their enduring support and encouragement throughout my lifetime. To Heather Wiggins, MSN, NP-C, 2012 cohort member and great friend, who encompasses caring and compassion second to none. To Norma Harris, MSN, RN, I would not have become a nurse without her example set many years ago and encouragement to follow my dreams.

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ABSTRACT

The purpose of this Doctor of Nursing Practice (DNP) final project is to develop a business plan and care model for implementing a fast track area (FTA) in a rural emergency department (ED). The short term goal for this project is to create a business plan and the long term goals are to create a new care model to decrease wait times and lengths of stay, as well as increasing patient satisfaction in a rural emergency department. This project will provide background knowledge pertaining to ED overcrowding, identification of key stakeholders and justification for a fast track area with definitions of pertinent terminology used throughout the project. This business plan will incorporate data collection and results from Platte County Memorial Hospital in Wheatland, Wyoming. Limitations to and proposals for future research will be addressed at the end of the project.

INTRODUCTION

Implementing a fast track in an ED, whether in a large, urban medical center or a rural hospital, is an effective way to manage patient loads to decrease length of stay (LOS) and patient wait times. In 2005, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) released a mandate requiring hospitals to create effective patient flow throughout their system, including the ED (Wiler et al., 2010). It is estimated from 1995 through 2005 the number of ED visits increased by nearly 20% (96.5 million to 115.3 million). According to the American Hospital Association 69% of urban and 33% of rural hospitals are running at or over capacity levels (Wiler et al., 2010). Press Ganey (2010) reported the ED was the main portal for admission for 50.2% of all non-obstetric admissions in 2006 (which was a 36% increase from 1996).

Background Knowledge

Definition of a Fast Track Area

A fast track area (FTA) is an area adjacent to or in the immediate vicinity of an emergency department (ED) that is designed to provide care to lower acuity patients. The theory behind a FTA is to provide care quicker to patients with minor injuries or illnesses that normally would have to wait long periods of time for treatment. The ultimate goal of a FTA is to streamline care and decrease ED overcrowding by having a separate area, staff, and medical provider evaluating and treating lower acuity patients in a more efficient and timely manner. (Quattrini & Swan, 2011)

Studies have shown a significant decrease in wait times for less ill or injured patients after implementation of a FTA. This is credited to a FTA's ability to increase patient flow and use resources more efficiently (Nash et al., 2007). Fast track areas are designed to place patients

who meet criteria to be placed immediately into the FTA and not placed into a waiting room, thus reducing overcrowding and increasing patient satisfaction. Fast track area criteria differ from organization to organization but the basic criteria are: lower acuity patients without major illness or injury, specified age restrictions (if applicable to the facility such as a pediatric hospital), care will include less than or equal to one resource, and/or be able to complete the visit within 90 minutes of arrival (Haller, 2011; Lutze, 2014; Nash, 2007; Quattrini, 2011).

Definition of Triage and Acuity Ratings

Triage is the process in which patients are sorted into categories based on the urgency of their medical condition. The time to efficient treatment is an important predictor for patient outcomes across a continuum of medical conditions including septicemia, stroke, myocardial infarction, pneumonia and trauma (Schuetz et al., 2013). Accurate ED triage not only needs to focus on initial treatment but should also focus on where the treatment should be delivered (i.e., in the main ED or a FTA) (Schuetz et al., 2013).

There are a multitude of triage systems available but this project will be discussing the Emergency Severity Index (ESI). The ESI is a five-level triage algorithm that incorporates both patient acuity and the resources that will be potentially needed to care for the patient (Agency for Healthcare Research and Quality [AHRQ], 2014). This triage program is intended to be used by nurses who are familiar with triage protocols and have been educated in the use of the program. The triage nurse estimates what resources will be needed based on past experiences with patients who have presented with similar signs and symptoms. Acuity Levels 1-5 are assigned by the nurse after assessing the severity of loss of life or limb and potential number of resources that will be potentially needed to provide the care required by the patient's injury or medical condition (AHRQ, 2014).

Patients assigned a Level-1 rating are the sickest patients who will die without lifesaving interventions. Level-1 patients are evaluated and treated immediately because any delay in care could adversely affect their morbidity and mortality (AHRQ, 2014). The patient's respiratory status and oxygen saturations are major deciding points in this grouping as airway management is of utmost concern. The patient's level of responsiveness is also a priority for assessment in this level as a deviation could signify a worsening of the medical condition. Patients assigned a Level-1 classification are rare, representing only 1-3% of all ED patients (AHRQ, 2014).

Patients assigned a Level-2 designation are not in imminent danger of death but should not be placed in a waiting room, either. The triage nurse needs to decide if the patient has a high risk situation (sudden onset of a severe headache, active chest pain, suicidal/homicidal), is confused or disoriented, or has severe pain or distress (AHRQ, 2014). If it is determined any of these factors exist the patient is designated a Level-2 and is immediately moved into the ED for care. Level-2 patients are less rare and represent 20-30% of ED patients nationally (AHRQ, 2014).

After the triage nurse determines that a patient is not an ESI Level-1 or Level-2, the number of potential resources needed to provide care determines whether a patient becomes a Level-3, 4 or 5. Resources include: specialty consults, labs (including blood and urine), x-rays, electrocardiograms, ultrasound or angiography, CT or MRI scans, intravenous fluids for hydration, intravenous or intramuscular medications, nebulized medications, simple procedures like Foley catheter placement or laceration repair, and complex procedures such as conscious sedation. Simple procedures are counted as one resource where complex procedures are counted as two resources. Level-3 patients will need two or more resources to complete their care (AHRQ, 2014). These patients require a more in-depth evaluation but are determined to be stable

by their vital signs and mental status. An example of this would be a 50-year-old male who presents with abdominal pain whose vital signs are stable and he is alert and oriented. Level-3 patients represent 30-40% of ED visits nationally (AHRQ, 2014).

Level-4 and Level-5 rated patients are lower acuity and either need no resources or one resource to complete their care. These patients represent 20-35% of ED volumes nationally, but the percentages are higher in communities with poor access to primary care (AHRQ, 2014). These patients have a high proportion of trauma related presenting complaints and can easily be cared for in FTAs (AHRQ, 2014).

Intended Improvement

Fast track areas have been implemented out of necessity into EDs across the world. According to Quattrini and Swan (2011), due to increased visits over the last 10 years, EDs are in a crisis. Over 62% of the EDs in the United States report functioning 'at' or 'over' capacity and FTAs have been identified as one solution to this ever-growing problem. Due to changes in reimbursement and the economic downturn of the U.S. economy hospital stays are shorter and there is an increase in the uninsured and underinsured populous (Quattrini & Swan, 2011). This is putting an ever-increasing strain on the healthcare system, especially the ED.

Fast tracks are a parallel system within an ED, but due to the prompt care of non-emergent patients the cost is less with decreased reimbursement. This decreased reimbursement rate is why FTAs need to be aligned within an ED but can have a designated space or area to increase patient throughput and flow (Quattrini & Swan, 2011). It has been well documented in the background section of this project that FTAs can decrease wait times and lengths of stay as well as increasing patient satisfaction.

Nurse Practitioners (NPs) are ideally suited to fill the ever increasing demand for medical care in the ED. Upwards of 50% of ED visits nationally are low level acuity and patients are able to be assessed, treated and discharged by a nurse practitioner (Wiler et al., 2010). In 2006, the Emergency Nurses Association (ENA) established a Nurse Practitioner Validation Work Team (NPVWT) to identify and create core behaviors, skills, and knowledge that would identify a NP as competent to practice in the ED (Emergency Nurses Association [ENA], 2008). The ENA identified there were competencies for other nurse practitioner tracts but not in emergency care. The NPVWT began work on developing an initial list of competencies and skills they felt were imperative to competent, quality care and created the Delphi study (ENA, 2008).

The Delphi study was conducted from September 2007 to May 2008 and consisted of three rounds of surveys (round 1 n=128, round 2 n=73, and round 3 n=52) (ENA, 2008). The surveys were distributed among nationally credentialed nurse practitioners in emergency care and spanned settings from rural to urban, community and for-profit hospitals, free standing clinics and even the prison system (ENA, 2008). The surveys were completed online and contained skill and competency statements that the respondents ranked in order of importance and frequency performed (ENA, 2008).

A consensus panel meeting was held in October 2008 to validate the Delphi survey findings and gain multidisciplinary stakeholder consensus (ENA, 2008). The stakeholders identified were nurse practitioners, emergency physicians, and emergency nurses; as well as individuals from education, certification, and regulatory agencies. The outcome of this meeting was a list of entry and advanced level skills and competencies that ED NPs should strive to attain and meet. The final competencies were not designed to replace the core competencies of all

nurse practitioners, but rather to augment them and serve as a guide for NPs who wish to practice in the emergency setting (ENA, 2008).

The American Nurses Credentialing Center (ANCC) also offers an Emergency Nurse Practitioner certification. This is a portfolio based certification and is eligible to candidates who meet the minimum criteria: 1) hold licensing as an RN or advanced practice registered nurse (APRN); 2) hold a master's, doctoral, or postgraduate degree in a nurse practitioner field; 3) have practiced the equivalent of two full-time out of the last three years; 4) have a minimum of 2,000 hours of practice in an emergency setting in the last three years; 5) have completed at least 30 hours of emergency medicine continuing education in the last three years; 6) have completed at least two presentations, publication or research projects, preceptor assignments or professional service requirements (American Nurses Credentialing Center [ANCC], 2014). This certification program provides another level of commitment and strength to NPs in the ED. It is valid for five years and is renewable as long as the renewal criteria are maintained and licensing and practice are upheld (ANCC, 2014).

Theoretical Foundation

The Unitary-Transformative (U-T) theory is the theoretical basis for this project. Margaret Newman, who set out to expand and clarify nursing knowledge, proposed this theory. Her conceptual system portrays humans as whole fields of energy and being, not fragments that become whole over time. Newman stressed that humans could not be reduced to any one phenomena (material/physical, mental/emotional, cultural/social, or mystical/spiritual) but rather these elements create a pattern and wholeness that is the entire person. The U-T perspective drives nursing toward addressing the 'we' in a relationship incorporating the whole person not just a disease process or body system (Cowling III, 2007).

The U-T theory combines both action and theory; science and senses. Cowling III (2007) identified it as melding aesthetics with empiric knowledge to provide care to the entire patient utilizing the patient story or symptomology and evidence base care and knowledge. Newman felt holography and holoarchy were consistent explanations of the wholeness needed for nursing knowledge completeness. Newman proposed breaking down the boundaries between science and art, practice and research and nursing theories in hopes to avoid alienation and the fracturing of the human experience in relation to nursing care (Cowling III, 2007).

METHODS

Ethical Issues

There are no ethical issues regarding this final project. There were no patient or staff privacy concerns, nor were there any participant's that needed protection. No conflicts of interest were identified in this project. This project was deemed not to need human subjects review by the University of Arizona Internal Review Board and did not need oversight from the University of Arizona.

Setting

Platte County Memorial Hospital (PCMH) in Wheatland, Wyoming is the setting for this proposed innovative change. It is a 25-bed critical access hospital in Southeastern Wyoming. The building is county owned but the facility operations are managed by Banner Health Corporation based out of Phoenix, Arizona. Wheatland, Wyoming has a population of 3,652 and Platte County has a population base of 8,765 (United States Census Bureau [USCB], 2015). PCMH is the only hospital for a 60 mile radius and there is only one medical clinic in Wheatland. The nearest urgent care facility is 70 miles away; making the ED at PCMH the only after-hours or weekend health care option for Platte County residents.

The current staffing model for the ED is one provider, one RN, and one ED technician 24 hours a day. The providers are scheduled for 24 hour shifts and are allowed to go home when there are not any ED patients. They are on call and have a 20 minute response time. The RN and ED tech are scheduled 12 hour shifts and work three shifts per week.

Key Stakeholders

The key stakeholders for this project are the: chief executive officer (CEO), chief financial officer (CFO), chief human resources office (CHRO), medical director, ED medical director, ED nursing staff including nurses and techs, operations and maintenance personnel, hospital district board, and members from the community. If these stakeholders do not see the value in the adoption of a FTA then a successful implementation is highly unlikely.

Planning the Intervention

An extensive literature review was performed and addresses five different areas pertaining to implementing an ED fast track: the effectiveness of a fast track; the current percentages of patients seen within the recommended triage times; patient satisfaction with nurse practitioners in a fast track setting; ED design for improved patient flow; and trends in ED visits across the country. Searches were conducted in CINAHL and PubMed for the identifiers fast track and emergency department. The following search limitations were applied: within the last 10 years, English language, full free text and human studies. A total of 52 articles were found and all were reviewed; 24 articles were selected for this project.

Fast Track Effectiveness

Throughout the nine articles reviewed for this topic there was a consistently documented decrease in the level of service (LOS), wait time and left without being seen (LWBS) parameters after a fast track area was implemented in EDs when compared to data before the

implementation. For example, in the article by Ieraci, Digiusto, Sonntag, Dann, and Fox (2008) there was a documented decrease in wait time from 55 to 32 minutes and the number of LWBS decreased by 50% (from 6.2 to 3.1%) after the implementation of a FTA in the study ED. Before the FTA implementation, all of the ED patients were triaged into a single patient stream and were seen based on acuity level and time of arrival. After remodeling the ED to include the FTA, patients were split into two streams and were seen based on acuity level with the lower acuity patients being funneled to the FTA. This redesign led to the significant decrease in wait times and LWBS rates.

These statistics were reiterated by the study reported by Oredsson et al. (2011). In an observational study of 71,000 fast track patients there was a reported 50% decrease in wait time and a 10% shorter length of stay with the fast track group when compared to an equally numbered control group of ED patients. Nurse practitioners and physician assistants (PAs) staffed the fast track area in this study (Oredsson et al., 2011).

Devkaran, Parsons, Van Dyke, Drennan, and Rajah (2009) reported similar results of their non-randomized, pre- and post-intervention study in a 500 bed urban tertiary care hospital. There was a 50% improvement in wait times and a 30-40% reduction in the length of stay. The results were determined to be significant and clinically important although no statistical data was provided. They were also able to report an 85% decrease in their LWBS rate. Mortality was unchanged implying the quality of care did not suffer from opening the FTA (Devkaran et al., 2009).

In the article by Nash, Zachariah, Nitschmann, and Psenick (2007) a fast track in a large Southwestern University-affiliated hospital was evaluated after the administration identified the wait times were greater than five hours and up to 7% of patients left without being seen. This

particular ED's fast track was staffed with NPs and provided care from 8:00 am to midnight seven days a week. There were 5995 charts reviewed and covered fast track visits from September 1, 2004 to February 28, 2005. The number of patients who left without being seen dropped dramatically (from 6.7% to 3.9%; with a $p < .001$) after the fast track was implemented. This study was not able to demonstrate decreased length of stay times, however. The authors felt this may have been due to the increased amount of patients being seen in the ED coupled with the fact three of the four NPs had never had ED experience before and needed to learn their roles before becoming efficient.

In 2014, Aksel et al. performed a cross-sectional study at a university-affiliated hospital to evaluate the impact a FTA could have on ED overcrowding. Their study opened a FTA for a week and then closed it for a week and compared wait times and patient satisfaction between the two weeks. Satisfaction levels were higher with the FTA being opened, waiting times decreased from 20 minutes to 10 minutes and length of stay decreased from 80 minutes to 42 minutes during the week the FTA was opened. They denied any changes to morbidity or mortality rates between the two weeks. They were able to surmise that overcrowding was lessened and that effectiveness was improved (Askel et al., 2014).

Patients Seen Within Triage Time Recommendations

According to Horwitz and Bradley (2009), the Institute of Medicine (IOM) describes the wait times and the state of American EDs as a growing international crisis. As already mentioned above, wait times have increased as EDs have become increasingly busier. Press Ganey (2010) reported the average patient in 2009 spent four hours and seven minutes waiting in an ED from the time they entered to the time in which they left; which is an increase of four minutes from 2008. Patients who spend more than two hours in the ED report less satisfaction with their visit

when compared to those discharged within two hours (Press Ganey, 2010). Increased wait times are associated with decreased patient satisfaction, increases the number of LWBS, and can have clinical significance for patients with cardiac, pulmonary or abdominal diseases (Horwitz & Bradley, 2009).

Horwitz and Bradley (2009) reported patient wait times are based on the triage scores assigned when the patient arrives in the ED. The expectation is that emergent patients are seen within 0-14 minutes, urgent patients are seen in 15-60 minutes, semi-urgent patients are to be evaluated in 61 minutes to two hours and non-urgent patients can be seen in greater than two up to 24 hours. The frightening statistic in this study was only 56.6% of emergent patients were being seen in the recommended timeframe but 100% of non-urgent patients were being seen. The odds for being seen within the recommended time frame were 87% lower for the emergent versus the non-urgent patients (Horwitz & Bradley, 2009).

Finally, Horwitz and Bradley (2009) presented increasing wait times are linked to several factors but the main two cited in this article are the per capita increase of ED visits, especially among the lower acuity patients, and the decrease in primary health care providers for the increasing population base. Implementing a fast track within an ED would help to alleviate some of this burden as the lower acuity patients would be assigned to a different area for treatment, leaving the main ED bays available for more acutely ill patients improving patient flow and decreasing wait times (Cantlupe, 2012; Horwitz, 2009)

Patient and Staff Satisfaction with Nurse Practitioners in the ED

Nurse practitioners in the ED have survey results that are positive and overall patient satisfaction is as high as or higher than with standard ED providers (Dinh, 2012; Ducharme, 2009; Hart, 2009; Jennings, 2013; Lutze, 2014). The study by Lutze et al. (2014) further detailed

that most patients were happy with a fast track model of care but that patient satisfaction was highest among the ones who were seen by a nurse practitioner. The median scores from the NP group were statistically higher than the doctor group with a score of 4 vs 3 ($p < .01$). The NPs were also more likely to be rated 'excellent' when compared to their doctor counterparts (81/141 with a 95%CI) (Lutze et al., 2014).

Quattrini and Swan (2011) compared the effectiveness of NPs with resident doctors in a fast track area and showed that experienced, well-trained NPs were as accurate as resident doctors in caring for patients with minor injuries or illnesses. NPs were reported as being more courteous when compared to their resident doctor counterparts and were more accurate in obtaining a medical history. Their study also reported that research supports NPs working in fast tracks improves patient flow, increases flexibility with staffing, and provides cost effective, high-quality care (Quattrini & Swan, 2011).

ED Design for Improved Patient Flow

Haller and Hogue (2011) discuss the actual implementation of a fast track area in the Wellstar Paulding Hospital in Dallas, Georgia. This was a three stage process that began in 2009 with the implementation of a multidisciplinary team to decrease their ever growing wait times (Haller & Hogue, 2011). During this phase, the team also identified four steps critical to the success of their fast track service line: 1) to create a separate area with separate staff in order to segregate fast track patients from ED patients; 2) identify what criteria would be needed to designate a patient for the fast track area including appropriate triage; 3) be committed to consistent hours of operation and staffing; and 4) encourage the patients to stay in a vertical position by sitting in chairs instead of letting them lay down in a bed (Haller & Hogue, 2011).

Phase two of the project identified patient and staff concerns regarding privacy due to the curtain separators around the patient care chairs. They also identified that there were limited accommodations for family members in the treatment area so they would have to wait in the waiting room. These deficiencies led to the planning for a remodel of the area with a consulting firm to create four cubicle treatment areas that had a chair for the patient as well as a bench for family and a supply station for staff (Haller & Hogue, 2011).

The final stage was to provide clouded glass tops to the cubicle to provide standing height privacy for the patients and staff. This has led to an increase in patient and staff satisfaction as well as aiding the fast track area to meet its goal to have patients evaluated and discharged within 90 minutes (Haller & Hogue, 2011).

Emergency department design is a relatively new topic but has grown out of necessity to aid in the input, throughput and outflow of patients in the ED. When EDs couple their processes with good design, they are able to optimize their functioning (Welch, 2012). Four ED design models were created so facilities can best match their patient care needs with the model that will help them attain their goals: 1) Triage, 2) Fast-Track, 3) Walking-Acute and 4) Illness-Based Approach (Marmor, Golany, Israelit, & Mandel-Baum, 2011). Hospitals that cater to an aging population are best served by a fast-track operation as it is a mixture of a clinical and operation-based approach which is ideal for decreasing length of stay and saving lives (Marmor et al., 2011).

Trends in ED Visits

As has been reiterated many times, EDs are becoming busier. ED visit rates increased from 352.8 to 390.5 per 1000 persons (rate difference of 37.7 with a $p < .001$) from 1997 to 2007 (Tang, Stein, Hsia, Maselli, & Gonzales, 2010). What was unique to this study was the addition

of the Medicaid patient statistics. Emergency department visit rates for Medicaid patients increased from 66.4 in 1993 to 83.9 in 2007 (difference of 17.5 with a p of $<.007$) (Tang et al., 2010). These statistics indicate ED visits are increasing at an alarming rate, especially for adults with Medicaid, and are the safety net for the medically underserved (Tang et al., 2010).

The increasing ED visit rates are leading to increased wait times and length of stay. Increasing wait times reduce the quality of care patients receive and increase adverse events for critically ill patients (Horwitz, Green, & Bradley, 2009). An example of this is when patients who have a non-ST-elevated myocardial infarction (MI) with an ED stay of greater than eight hours have an increased likelihood of a recurrent in-hospital MI when compared to an average ED stay (Horwitz & Bradley, 2009).

Increased wait times are also associated with an increased risk, within seven subsequent days, of admission to the hospital or death in patients who were otherwise healthy enough to leave the ED (Guttman, Schull, Vermeulen, & Stukel, 2011). This statement was based on a large population based study exploring adverse events on patients who go home after their ED visit. Interestingly, though, patients who leave without being seen did not have an increased risk of adverse events. This was linked to the facts they had better follow-up care with their primary care provider or had a return visit to the ED; meaning their adverse event rates were possibly mitigated (Guttman et al., 2011).

Rates of patients who leave without being seen vary greatly across the U.S. Two characteristics that appear constant, though, are low-income and poorly insured patients have a disproportionately increased risk of leaving without being seen (Hsia et al., 2011; Pham, Ho, Hill, McCarthy, & Pronovost, 2009). Hospital characteristics also play a part in left without being seen rates: trauma center designation, county ownership and teaching program affiliation all have

a positive association with increased probability of patients who leave without being seen (Hsia et al., 2011; Pham et al., 2009).

Planning the Study of the Intervention

Overview

The fast track area in the ED at PCMH will be created on the premise to provide high-quality, efficient care to the residents of Platte County, Wyoming. The FTA will be managed by Banner Health with the same oversight as the ED at PCMH. The FTA will utilize the ancillary services of the hospital, such as x-ray and lab while providing care to lower acuity patients to decrease wait times and increase patient satisfaction.

There will be challenges to the FTA, such as justifying the cost of two sets of staff when there are days with very few patient visits to the ED area. Another challenge will be having access to the Pyxis medication dispensing machine available. Currently the medical providers are not permitted to have access to the Pyxis, but it will be imperative the NP is able to access the medications in a timely manner. The FTA staff will also need dedicated equipment such as glucometers, thermometers, and vital sign machines to provide efficient care.

Area of Focus

The fast track area will be a service-oriented business that focuses on providing care four days a week initially from 10 am to 10 pm; excluding major holidays. The services provided by the NP will be guided by the individual's training and comfort level of skills acquired. The list of services will encompass all age groups and will include: management of sprains, strains and simple fractures with splinting, x-ray and simple laboratory diagnostics, EKG testing and analysis, laceration repair and primary wound care, removal of minor lesions including ingrown toenails, and treatment for minor viral and bacterial illnesses. Laboratory testing will include a

complete blood count, basic and complete comprehensive metabolic panel, rapid strep and influenza testing, urinalysis, pregnancy and HgbA1C testing.

The NP will also be able to assist the ED staff in times of mass casualty, trauma or when the main ED provider is not in the facility. The NP will not be the main care provider for patients designated as Level 1, 2 or 3 but will be able to assist in their care when needed. Expansion of the NP role to include more technical skills such as lumbar punctures and chest tube insertion will be at the discretion of the ED medical director and the NP.

Implementing a FTA would be a relatively easy adoption as the proposed room is currently being utilized for patient care. It is a large three-bed room that is equipped with call lights, privacy curtains, and oxygen at the head of every bed. It is at the end of the hallway of the ED and is quickly accessible to the main ED should a patient's condition deteriorate unexpectedly. Patients will still present to the ED the way they do now and will be triaged by the ED nurse and will be escorted to the FTA if they meet the Level-4 or Level-5 triage criteria.

Primary Customers

The primary customers will be the residents of and visitors to Platte County. There will not be any age restrictions as Family Nurse Practitioners will be providing the care. There are three main payer sources for Platte County: Medicaid, Medicare and private insurance. During the summer months there are an increase of ED visits from tourism, including the four lakes in the county, two state parks, and Interstate 25 going through the middle of the county.

Industry and Competitor Analysis

Definition of the market. The FTA will be operated out of the ED at PCMH and will offer services to the residents of and visitors to Platte County who require low-acuity health care. Care will be provided on a walk-in, no appointment basis for acute injuries and illnesses. The

FTA initially will be open four days a week (Friday-Monday) from 10 am to 10 pm to cover non-business hours and weekends. The eventual goal would be to have it open seven days a week and employ two full-time and one per-diem NPs and two full-time and one per-diem EDs tech to staff it.

Wheatland, Wyoming is the largest town in Platte County and the nearest hospitals are 60 miles to the North, 70 miles to the South, 80 miles to the West, and 60 miles to the East (Google Maps, 2015). There is only one medical clinic in Wheatland with four MDs and seven NPs to provide health care to the entire county. The medical clinic is not open after 5 pm or on weekends or major holidays. Currently, there is no after-hours care or weekend care except the ED at PCMH in Platte County.

Industry outlook. With the expansion of healthcare coverage provided to Americans by the Affordable Care Act (ACA) and the decreasing access to primary care EDs are becoming overrun with lower acuity patients who are waiting longer and longer to be cared for (Yee, Lechner, & Boukus, 2013). It has been estimated that by 2023, an additional 13 million Americans will have healthcare coverage through national programs such as Medicaid and 24 million will gain coverage from exchange-based plans (Abraham, 2014). As if these statistics are not worrisome enough, Yee et al. (2013) report there are a shortage of persons entering primary care and there will be a 52,000 primary care practitioner shortage by 2025. This will increase the number of persons presenting to EDs for care, which are already operating at or above capacity.

There has been an increase in urgent care centers across the nation to aid in meeting the after-hours and weekend demands for minor ill or injured patients. Urgent care centers and retail clinics have experienced significant growth in the last ten years. It was reported in 2014, by the American Academy of Urgent Care Medicine [AAUCM], that there were 9,300 stand-alone

urgent care centers across the U.S. and 50-100 new centers open every year. These clinics are able to provide care to lower acuity patients very similarly to FTAs. The downside to opening an urgent care clinic in Wheatland, Wyoming would be the initial startup costs and the time needed to start it. A new building would need to be constructed or purchased and renovated, which can take months to years and would be expensive. Retail space in Platte County ranges from \$750.00 to \$1100.00 a square foot for a currently existing building that would need significant renovation to become a medical care facility (Commercial Search, 2015).

Major competitors. The healthcare market in Wheatland, Wyoming is under-saturated. There are no major competitors to PCMH in Platte County as it is the only healthcare facility for many miles in any direction. According to healthgrades.com (2015) the nearest urgent care center is 70 miles to the South in Cheyenne Wyoming and, as mentioned, there is only one medical clinic in the county.

Opportunities and threats. As there is a dearth of healthcare options in Platte County there is a great opportunity for a FTA to be successful in providing timely and efficient care to lower acuity patients, as well as being a successful business venture for Banner Health and PCMH. Unfamiliarity to a FTA and what it can provide to the community could be a threat to its success. This can be avoided by patient education delivered by the staff and advertising it prior to its opening and continued education and advertising after its opening.

Another threat to the implementation of the FTA is the failure of Medicaid expansion in Wyoming. Wyoming originally decided not to expand Medicaid coverage when the ACA was enacted in 2014 due to fear that government subsidies would stop and the state would not be able to cover the additional costs. As the year continued, the Wyoming Department of Health continued to work on Medicaid expansion and in November, 2014 released its proposal called

“Wyoming’s Strategy for Health, Access, Responsibility, and Employment” (SHARE) plan (Wyoming Department of Health [WDH], 2014). The plan was directed at expanding Medicaid coverage to low income adults whose incomes are below the poverty line but are not eligible for federal subsidies to purchase private insurance. The plan offered two key new programs: 1) persons who fall between 101-138% of the federal poverty level would be eligible for a demonstration project and would pay a small monthly premium in order to get an alternative benefits package; and 2) persons with less than 100% of the poverty level would receive the alternative benefit package without the monthly premium. (WDH, 2014)

The expansion would provide 17,000+ Wyoming residents with health coverage and would benefit the state’s economy. The state would receive \$100-120 million in federal funds and approximately 800 new jobs would be created (WDH, 2014). The expansion would also benefit the state by aiding to make up the \$200 million absorbed by hospitals for uncompensated care. The proposed plan included a provision that if federal funding levels dropped below 90% the expansion coverage would end, creating a fail-safe from the prior concerns of the state not being able to afford expansion (WDH, 2014).

On January 30, 2015 the Wyoming Senate voted to not expand Medicaid coverage to low income adults. Many Senators had campaigned that they would not expand Medicaid services in Wyoming and felt they should honor their word (Prevost, 2015). The Senators also feared adding to the national debt by accepting the federal funding. The fear of complications that would arise from its implementation, such as what to do if the federal funding stopped, continued to plague the proposed Medicaid expansion (Prevost, 2015).

Mission Statement

As Banner Health will manage the FTA, the mission statement will be the same: “*We exist to make a difference in people’s lives through excellent patient care*” (Banner Health, 2015).

Core Values

As with the mission statement, the core values of the FTA will be the same as Banner Health’s:

People Above All by treating those we serve with compassion, dignity and respect.

Excellence by acting with integrity and striving for the highest quality care and service.

Results by exceeding the expectations of those we serve and those we set for ourselves (Banner Health, 2015).

Management Plan

The management plan will be similar in structure as the ED at PCMH. The ED manager will oversee the day-to-day operations of the FTA; including budgeting, ordering supplies, procuring necessary medical equipment and staff scheduling. The ED Medical Director will provide guidance and leadership to the NP and the ED tech (as the ED techs are currently under the Medical Director’s supervision).

Billing for services will fall under the Patient Financial Services (PFS) department and charges will be managed by the billing department for PCMH. There will not need to be a separate billing area for the FTA as charges will continue to be marked and managed within the FirstNet electronic medical record as is currently done in the ED. The FTA will utilize this

charting system as well for continuity of care and to decrease costs associated with implementing a different charting system.

Member Strengths

The lead NP for this project has worked in the ED for 18 years and is currently certified in ACLS, PALS, Trauma Nursing Core Course (TNCC), Advanced Burn Life Support (ABLS), and Emergency Nursing Pediatric Course (ENPC). She has audited Advanced Trauma Life Support (ATLS) and would be able and willing to certify in this as well. She is also a Certified Emergency Nurse. Her doctoral preparation has been family practice so she is able to evaluate and treat persons across the entire lifespan.

The ED techs are trained as Emergency Medical Technicians (EMTs) as well being Certified Nursing Assistants (CNAs). They have also received extensive training through the Banner Health ED Tech Academy in documentation, skills (including phlebotomy and IV starts), wound treatment and splint application. They are also trained to admit patients into the MedSeries 4 computer admission program for after-hour and weekend admissions as the PFS personnel are not available at these times.

Member Weaknesses

This will be the first employment opportunity for this NP in an ED. As an MD will be available at all times for consultation, assistance, and higher acuity patients this will not be a major obstacle but is a weakness. The other weakness is there are no guidelines for this type of implementation so staff will be learning to manage in the new area as well as providing care for patients.

Personnel Needs

Administrative staffing. The FTA at PCMH will not require any additional administrative staff, other than what is currently in place. Admissions will be completed by the PFS department during standard business hours Monday through Friday 8:00 am to 5:00 pm. After-hours and weekend admissions will be done by the ED tech, the hospital Health Unit Secretary, or the ED registered nurse. Billing and coding will be performed by the current employees at PCMH who already perform these functions.

Certified staffing. Initially, there will be one full-time and one part-time ED tech hired for the FTA. Their job duties will include (but are not limited to): escorting the patient to the FTA, obtaining initial vital signs, phlebotomy, peripheral IV starts, and point-of-care testing. As this is not a role change for the ED tech a pay increase will not be necessary and will continue on the present pay scale. Radiology services will remain as they are with a fully staffed x-ray department during normal business hours and a tech on call after 5:00 pm. Laboratory services will remain unchanged, with a fully staffed lab from 6:00 am to 11:00 pm and then a tech on call.

Professional staffing. One full-time FNP and one part-time FNP will be the necessary professional staffing for the FTA. The compensation package for the NPs will include 100% coverage for credentialing and malpractice and liability insurance. It will also include \$2,500.00 toward continuing education yearly and optional medical, pharmaceutical, vision, dental and long term disability insurance. There will also be paid time off based on years of service and Banner Health's accrual policies.

Provider Visits and Workflow

The FTA will be equipped to evaluate and treat three patients at a time. The ED tech will retrieve the patient from the waiting room and escort them to the FTA after the ER nurse has

triaged the patient as acuity Level 4 or 5. The tech will then obtain vital signs and document them in FirstNet. The ED tech will alert the NP to the patient's admission and chief complaint where the NP will take a history and perform a focused physical exam. Treatment and procedures will be provided by the NP and the ED tech and discharge instructions will be provided by the NP.

Services

The services provided by the NP will be guided by the individual's training and comfort level of skills acquired. The list of services will encompass all age groups and will include: management of sprains, strains and simple fractures with splinting, x-ray and simple laboratory diagnostics, EKG testing and analysis, laceration repair and primary wound care, removal of minor lesions including ingrown toenails, and treatment for minor viral and bacterial illnesses. Laboratory testing will include a complete blood count, basic and complete comprehensive metabolic panel, rapid strep and influenza testing, urinalysis, pregnancy and HgbA1C testing.

The NP will also be able to assist the ED staff in times of mass casualty, trauma or when the main ED provider is not in the facility. The NP will not be the main care provider for patients designated as Level 1, 2 or 3 but will be able to assist in their care when needed. Expansion of the NP role to include more technical skills such as lumbar punctures and chest tube insertion will be at the discretion of the ED medical director and the NP.

Marketing

Marketing for the FTA will be done via several venues: newspaper and radio advertisements, use of the Banner Health intranet and internet pages to introduce the FTA, brochures and fliers in the medical clinic, and word of mouth from staff and community members. Promotion will begin approximately one month before opening and will include open

house tours of the area. There will be short biographies written about the providers that will be circulated in the local newspapers and on pamphlets available during the open house tours.

Methods of Evaluation

The conceptual model for this project will follow the Roger's Diffusion of Innovations model and its key concepts. There are five main points in this model: Relative Advantage, Compatibility, Complexity, Trialability, and Observability (Glanz, Rimer, & Viswanath, 2008). Relative advantage asks the question is the proposed change an improvement on what already exists? Adoption of an innovation can only occur if the intended audience perceives the change as an improvement to the status quo. Advantages come in many forms: utilitarian, social and/or economic (Glanz et al, 2008). Adopting a FTA at PCMH would be a social, as well as an economic advantage over the status quo currently provided by one provider, one RN and one ED tech.

Compatibility addresses how well the proposed innovation fits with the intended audience. Identifying key stakeholders is crucial in this step as a successful implementation is grounded in the intended audience's norms, beliefs, values and perceived needs (Glanz et al, 2008).

Complexity pertains to the difficulty involved with the adoption and implementation of the proposed changes. Innovations that are easy to implement have improved likelihood of full adoption when compared to complex and highly involved ones (Glanz, 2008). Implementing a FTA would be a relatively easy adoption as the proposed room is currently being utilized for patient care. It is a large three-bed room that is equipped with call lights, privacy curtains, and oxygen at the head of every bed. It is at the end of the hallway of the ED and is quickly accessible to the main ED should a patient's condition deteriorate unexpectedly.

In keeping with the idea of increased patient flow, the beds could be changed out for recliners, as suggested by Haller and Hogue (2011). Keeping the patients vertical enabled the caregivers to encourage movement through the FTA and also expedited care in the space. By changing the design to three recliners would accomplish this goal, but one bed would need to be accessible for a thorough and proper assessment of patients with abdominal or back pain (Haller & Hogue, 2011).

Trialability is the next identified component of Roger's Diffusion of Innovations model and addresses whether the proposed change is able to be 'tried out' before full implementation. Innovations that are able to be used on a limited basis are proved to be assimilated and adopted easier than perceived permanent changes. The proposed change of implementing a FTA at PCMH is trialable. It would include the addition of adding a NP to the staffing mix and could be operated on a smaller scale of four days a week instead of seven, adding to the trialability. This will be discussed in more detail later in the evaluation section of the project. Observability is the final component of successful innovation integration and questions if the benefits of the change are easily identifiable and visible to those involved (Glanz et al., 2008). By monitoring and discussing with the key stakeholders the patient satisfaction scores, wait times and lengths of stay the benefits of implementing a FTA will be visible for all.

Analysis

Pivot tables were created from the Excel spreadsheets provided from the facility Clinical Informatics Coordinator. Included in the spreadsheets were the number of patients seen daily, their assigned acuity level and their length of stay. No patient identifying data was provided as it does not pertain to this proposed project. In 2012, there were 3,532 visits to the ED with 52% of those visits rated an acuity rating of 4 or 5 (Platte County Memorial Hospital [PCMH], 2012). In

2013, there were 3,468 visits to the ED and 56% of those had an acuity rating of 4 or 5 (Platte County Memorial Hospital [PCMH], 2013). In 2014, there was a 17.7% increase in the number of ED visits at 3,729 and 53% of those were acuity levels of 4 or 5 (Platte County Memorial Hospital [PCMH], 2014).

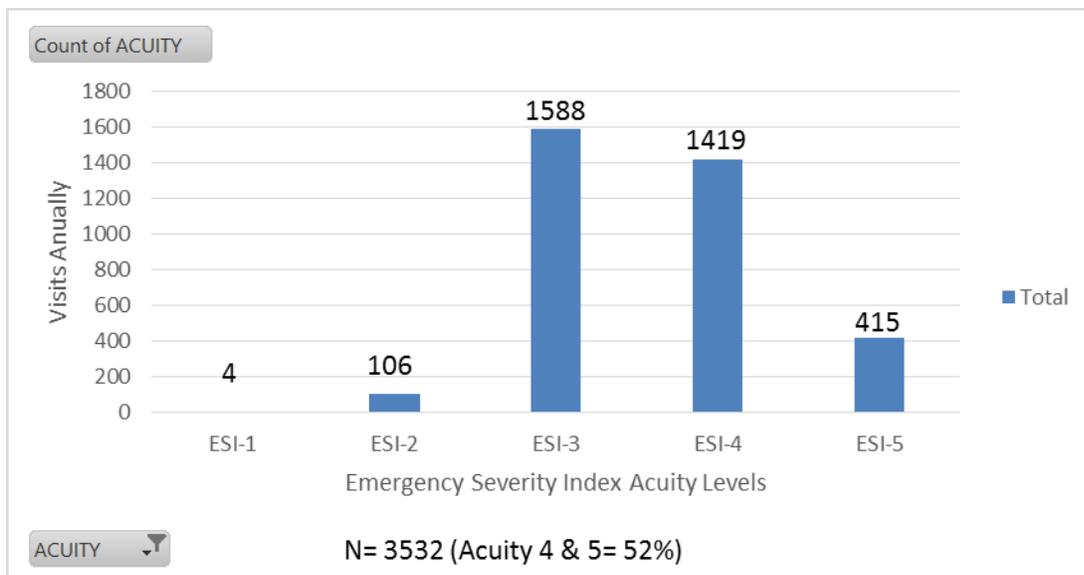


FIGURE 1. ED Patient Acuity for 2012.

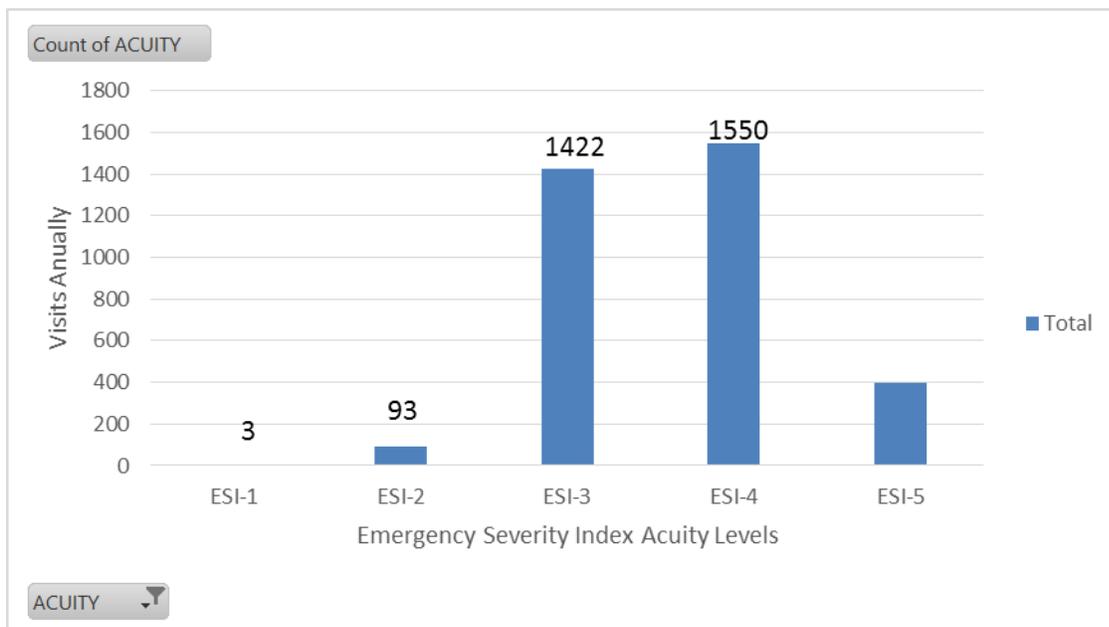


FIGURE 2. ED Patient Acuity for 2013. N= 3468 (ESI-5= 400; Acuity 4 & 5= 56%)

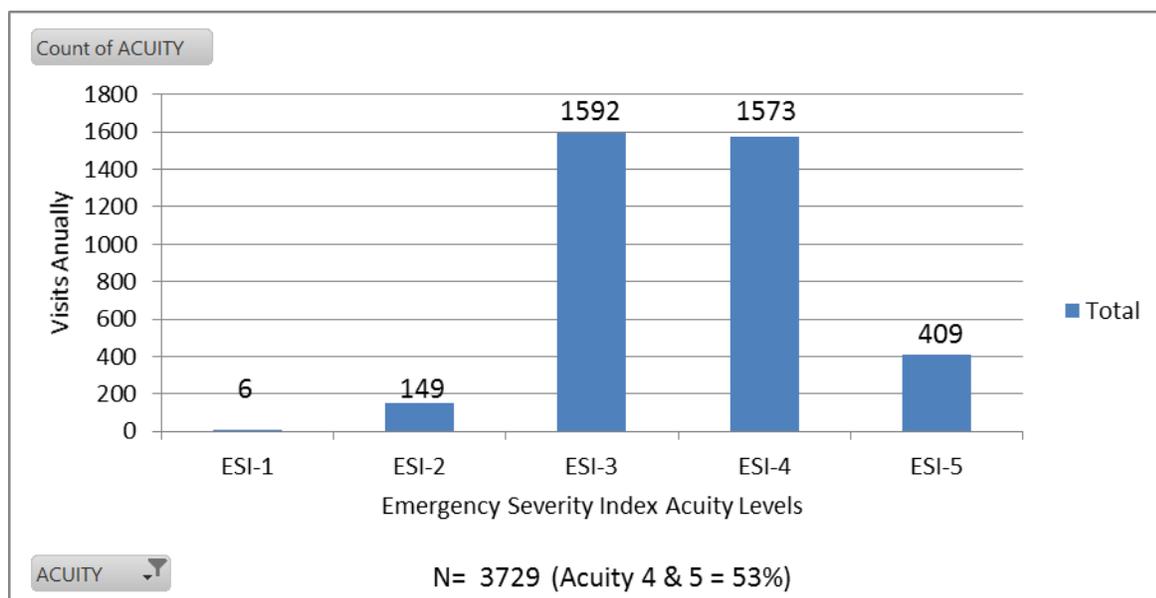


FIGURE 3. ED Patient Acuity for 2014.

RESULTS

Outcomes

The short term goal for this project is to create a business plan to implement a FTA in a rural ED, primarily at Platte County Memorial Hospital. The data collected clearly demonstrates there are enough patients designated as Level 4 or 5 to justify a FTA with a nurse practitioner as the primary care provider for this area. More than 50% of the patients seen in the ED that would meet the criteria identified earlier to be evaluated and treated in a FTA.

Integrating a full-time NP into the ED at PCMH can be done incrementally as well as on a trial basis. The triage process would not change as the patients would still present to the ED to be triaged by the ED staff. Change would occur by directing the lower acuity patients back to the fast track area instead of sitting in the waiting room. The only additional staff needed would be the NP and a dedicated ED tech to perform the initial check-in process. Having another ED tech

instead of an RN would be a cost saving measure as ED techs could be trained to administer IM injections in addition to their current IV therapy skills.

The NP would be scheduled for 12 hour shifts from 10:00 am to 10:00 pm four days a week initially (Friday through Monday). The main ED providers could still maintain their 24 hour shifts and be home on call when there were no patients. The NP would need to be trained in Advanced Cardiac Life Support (ACLS), Pediatric Advanced Life Support (PALS), and neonatal resuscitation (NRP) to be able to support the ED provider in times of mass casualty. The NP could be further trained in Advanced Trauma Life Support (ATLS) to again support the ED staff in times of mass trauma or aid until the main ED provider could come in from home.

The long term goals would include evaluation of the FTA implementation following the Donabedian Structure, Process, Outcome model. Structure, in this model, pertains to the setting for the nurse practitioner service (Gardner, Gardner, & O'Connell, 2013). The Structure in this instance is changing the current over-flow room into the FTA by the steps already outlined. The Process will be the clinical services provided by the NP in the FTA. Finally, the Outcomes are the influence of the NP service on the patients (Gardner et al., 2013).

The outcomes for the FTA will be the continued measurement of length of stay for patients as well as the patient satisfaction scores for the ED care. The average length of stay in 2014 was 1.52 hours for all ED patients. Length of stay is calculated from the time the patient is registered into the computer system until they are placed into 'checkout' after they have been discharged from the facility. A goal after for the FTA would be to decrease the LOS for Level 4 and 5 acuity patients to 90 minutes or less; with a stretch goal of 60 minutes or less.

Currently, patients receive a survey in the mail from NRC Picker (an outside evaluation agency) and are asked about their recent ED visit. The two main categories that are tracked by

Banner Health are: the overall rating of the ED stay and how likely the patient is to recommend the facility to a friend or family member (Banner Health, 2015). The facility overall rating has a target goal of 68.3% with a stretch goal of 69.3%. PCMH ended 2014 with a rating of 90.3% (n=72). The results for the willingness to recommend the facility had a target goal of 71.5% and a stretch goal of 72.5%; PCMH ended 2014 with an 85.5% rating (n=69). This facility consistently rates highly on these questions but there is room for improvement. The hope is that with the addition of a FTA patients will be evaluated, treated and discharged in a timelier manner and will perceive the FTA as an advancement in their care and progression of the healthcare continuum in Wheatland, Wyoming.

DISCUSSION

Summary

The sustainability of a FTA in a rural ED is an area of concern as there has not been a magnitude of quantitative or qualitative studies performed to date. By following Roger's Diffusion of Innovations model the chances for sustainability are increased. All five dimensions (Relative Advantage, Compatibility, Complexity, Trialability, Observability) can be achieved in this project, as discussed earlier.

The ultimate hope for this project is that it is a success in its trial stage with coverage four days a week and can grow to full implementation at seven days a week, 12 hours a day, year round (including major holidays). It is unlikely, given the current facility statistics, that it will ever need to be 24 hours a day; although this could become an eventual stretch goal in the future.

Limitations and Future Study

To date, there are very few studies regarding fast track implementation in rural EDs. The majority of studies are performed at university based institutions in urban areas. The research

available is very suggestive that FTAs are able to decrease wait times and increase patient satisfaction but there is not a consistent number of patients needing to be seen to offset the cost of a FTA. If PCMH does implement a FTA this would be an ideal location for a rural pre and post study. Banner Health has several rural facilities across the western United States and could use this design and results as a reference for future rural ED workflows.

The lack of consistency of hours of operation or staffing guidelines is another limitation to this project. Some facilities choose to staff FTAs 24 hours a day while others only operate it during peak ED times. Some FTAs are staffed with medical doctors (MDs) while others are staffed with NPs and physician assistants (PAs). Nurse practitioners are a relatively new concept to providing care in FTAs but the study results are consistent that NPs are rated higher in patient satisfaction when compared to their medical colleagues. Studies also suggest NPs provide the same quality and effectiveness of care in FTAs when compared to their colleagues as well. Future research is needed in comparing the care NPs provide compared to other providers; especially in the areas of quality, patient satisfaction and core measures.

The final identified limitation to this study is the lack of design and maintenance of a FTA in the literature. The staff will need to not only implement the FTA but will need to have diligence in managing and refining the operations for it. This will be a challenge in the beginning as the staff will need to not only learn their duties and roles but will need to plan for future improvements and expansion ideas. Support from the management team and key stakeholders will be crucial in the first few months of operation. This limitation will be able to provide flexibility to the project as there are no current guidelines so adaptations can happen quickly. This will also present opportunities for research in designing a template to implement FTAs in other Banner Health rural facilities.

Conclusion

The purpose of this project is to provide the definitions for what a fast track are is and how it operates. Triage and the Emergency Severity Index are also defined and their importance to determining the proper patient placement into a FTA. There was extensive background knowledge presented as to the importance of FTAs and their usefulness in providing high-quality care to lower acuity patients. Doctoral prepared NPs are the ideal provider group for a FTA as they are not only trained to diagnose and treat patients but do so under the nursing care model to provide unitary-transformative care. Finally, an in-depth business plan was designed in hopes of a speedy implementation and integration of a FTA in a rural ED.

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