IMPLEMENTATION OF THE ESI TRIAGE TOOL IN AN URGENT CARE SETTING TO LIMIT WAIT TIME FOR ACUTE PATIENTS

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ACKNOWLEDGEMENTS

- DNP Project Team
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  - Cynthia Pipkins, PhD, RN, HNB-BC (Team Member)
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INTRODUCTION

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- Urgent Care Clinics (UCC) are becoming more numerous with a 5% growth rate in 2017 alone (Gelburd, 2018).
  - Minimal staffing makes them more cost effective for stakeholders and patients alike.
- UCC's ability and resources are limited when compared to an emergency department.
- UCCs must be able to differentiate between acute and non-acute patients
- Incorporating the Emergency Severity Index (ESI) triage tool (Gilboy, Tanabe, Travers, & Rosenau, 2011) will enable UCC health care personnel the knowledge to triage patients, allowing patients with acute complications, beyond the expertise and resources of the UCC, timely redirection to an ED.

BACKGROUND AND SIGNIFICANCE

- UCCs lack the resources needed to care for acute patients.
- Without proper training of the licensed nurses, acute patients will sit in a waiting room until they are called back to see the advanced practice nurse (APN). This may be detrimental, wait times decrease quality of care and increase adverse events (Horwitz, Green, & Bradley, 2009).
- Increased patient volume, overcrowding and excessive wait times have forced emergency departments (ED) to provide more complex and prolonged care, causing conditions that place patients at risk by delaying access to care and reducing the ability of ED staff to provide quality care (Knapman & Bonner, 2010). The main reason patients in the ED left without being seen is prolonged wait times (Goodacre & Webster, 2005).

BACKGROUND AND SIGNIFICANCE CONT.

- UCCs are readily accessible and provide quality healthcare.
- Patients will look for alternative healthcare whether it be their primary care physician or a UCC. However, patients are sometimes unaware of the stature of their health conditions and will seek out a UCC.
- The licensed vocational nurse (LVN) in this facility has no prior triage training due to licensure restrictions in the state of Texas. The APNs have triage experience and have a basic triage tool in place.

NEEDS ASSESSMENT

- Patients leaving the emergency department without full evaluation are a significant problem in US emergency departments (Johnson, Myers, Wineholt, Pollack, & Kusmiesz, 2009) Emergency department overcrowding and long wait times cause patients to leave EDs (Johnson et al., 2009). These patients will look for care elsewhere.
- The use of an ESI triage tool is to categorize patient acuity in order from level one (most ill) to level five (least resource intensive) (Howard et al., 2014). This project will ensure patient acuity and wait times as the main priorities bringing the needs awareness of a universal triage tool in the UCC setting.
- The SWOT analysis shows the strengths, weaknesses, opportunities, and possible threats associated with the quality improvement project.

SWOT ANALYSIS

SWOT Analysis

Objective:	
Educating licensed nurses with the Emergency Severity Index to enable the LVNs and RNs the ability to triage and assign patient acuity for patient care requirements.	
Internal Factors	
Strengths (+)	**Weaknesses (-)**
1. The DNP student is familiar with the established urgent care facility having done 300 clinical hours there. 2. The staff is welcoming and accepting of learning the proposed training. 3. LVNs and RNs requirements to collaborate over triage patients making the task a group effort. 4. The owners are receptive to allowing the training class.	1. No present triage room for (HIPAA) privacy. 2. Small urgent care facility with minimal staffing (4 NPs, 2 LVNs, 2 MAs, and 2 Secretaries). 3. Lack of formal training of LVNs with triage.
External Factors	
Opportunities (+)	**Threats (-)**
1. Decrease wait time for critical patients by getting them to the desired point of care. 2. Increase LVNs and RNs knowledge and skill set for triage. 3. Increase the efficiency of patient care in the urgent care setting.	1. Hospital Emergency Department directly across the street. 2. Lack of knowledge of the general public on the ability of the urgent care, and the services they provide. 3. LVNs not willing to assume triage responsibilities due to stress and anxiety of the position.
Evaluation of Objective:	
With proper training the objective is viable. The stakeholders are comfortable with this opportunity to advance patient care in this urgent care setting.	

PROJECT PURPOSE

- The purpose of this quality improvement project is to implement and evaluate the ESI triage tool education to licensed nurses in order to quickly and accurately assess patient acuity and decrease wait times in the urgent care setting.

PROBLEM STATEMENT

- **Without** a proper triage tool in place:
  - UCCs are often treated like EDs by the population they serve.
  - Patients are taken on a first come first serve basis.
- **With** a proper triage tool in place:
  - Treatment priority is based on the severity of the disease and the anticipated resource needs (Christ, Grossmann, Winter, Bingisser, & Platz, 2010).
  - appropriate patient assessment and assignment of triage acuity score can shorten wait times and time to treatment and reduce patient morbidity (Garbez, Carrieri-Kohlman, Stotts, Chan, & Neighbor, 2011).
- **With the lack of a universal triage protocol or process, UCCs are limited during emergencies involving patients that need to be redirected to EDs.**

CLINICAL QUESTION

What is the difference in **(P)** nurse aptitude scores **(C)** before and after an **(I)** ESI triage tool educational intervention to decrease **(O)** patient wait times in an urgent care setting?

CONGRUENCE WITH ORGANIZATIONAL STRATEGIC PLAN

- Mission Statement, “Our Customers Come First. It is our mission to improve the health of those we serve with a commitment to excellence in all that we do” (Jasper County Urgent Cares, 2017).
- ESI Triage tool is an established algorithm to assist ED nurses, physicians, and administrators in the implementation of a comprehensive ESI educational program (Gilboy et al., 2011).

SYNTHESIS OF EVIDENCE

- Urgent Care Clinics have become more prevalent across the country. Why?
  - Accessibility, affordability, and quality of care (Hansen-Turton, Ryan, Miller, Counts, & Nash, 2007).
  - Rerouting non-urgent patients to UCCs, reduce ED overcrowding (Sharma & Inder, 2010).
  - UCCs are able to triage patients, diagnose and prescribe medications (Hansen-Turton et al., 2007).
  - Lack of training to assess patients properly (Zitek, Tanone, Ramos, Fama, & Ali, 2018).
  - Hospital innovative by establishing UCCs due to the potential benefits (Kaissi, Shay, & Roscoe, 2016).

SYNTHESIS OF EVIDENCE

- Why are patient wait times an issue?
  - Overcrowding of Eds
  - Non-urgent patients are likely to leave Eds without being seen by a physician (Goodacre, 2005; Knapman, 2010).
  - Wait times start at the moment of arrival significantly increasing wait times to triage and treatment (Betz, Stempien, Trivedi, & Bryce 2017; Horwitz, 2010)
  - Wait times decrease patient satisfaction affecting financial remuneration and patient compliance (Soremekun, Takayesu, & Bohan 2011)

SYNTHESIS OF EVIDENCE CONT.

- Why incorporate a 5-level ESI triage tool?
  - Five-level triage instruments are the gold standard worldwide (Christ et al., 2010).
  - ESI is the most commonly used triage system in the US (McHugh, Tanabe, McClelland, & Khare, 2011).
  - ESI is simple to use, reduces subjectivity, and is helpful to unexperienced nurses (Singer, Infante, Oppenheimer, West, & Siegel, 2012).
  - Experience is not a contributing factor to accurate ESI score assignments (Martin, Davidson, Panik, Buckenmyer, Depais, & Ortiz, 2014).

SYNTHESIS OF EVIDENCE CONT.

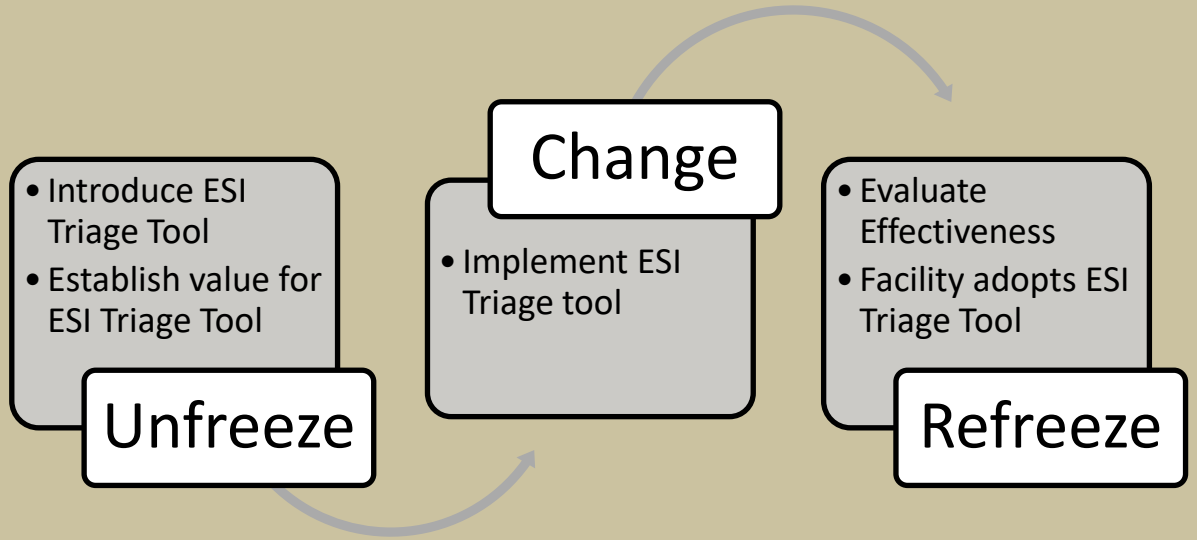
- Gap in Research
  - One research article depicted the use of the ESI triage tool successfully in a UCC (Burgess, 2017).
  - All other studies were based on the ESI tool in an ED setting
  - Currently there is no universal triage protocol associated with UCCs

PROJECT OBJECTIVES

- This quality improvement project aims to:
  - Understand that wait times should be consistent with patient acuity levels within one week of required education as measured by before and after test scores.
  - Demonstrate consistency and accuracy in assessing patients using the ESI triage tool in the urgent care setting within one week of required education.
  - Implement the ESI triage tool in the urgent care setting within one week of required education.

THEORETICAL FRAMEWORK

Lewin's Theory of Planned Change (LTPC)



- ❖ LTPC is dependent on the need for a change to occur.
- ❖ LTPC identified three phases of change:
  1. Unfreezing
  2. Change
  3. Refreezing (Gilboy et al., 2011).

METHODOLOGY

PROJECT DESIGN

- **Project Design**: Quality Improvement project utilized a one-group before and after test to evaluate the effectiveness of the education regarding the use of the ESI triage tool.
- **Setting**: Jasper County Urgent Care (JCUC) is a stand-alone urgent care clinic located in the city of Jasper, Texas.
- **Population**: convenience sample of nurses (n = 5)
  - Additionally, a convenience sample of chart reviews before the ESI education (n = 125) and after the ESI education (n = 533)

DATA COLLECTION TOOLS

Phase 2 and 3: ESI Triage Tool Education of the Nurses

- Recruitment Letter
- Informed Consent
- Demographics
- ESI Triage Tool
- ESI Education
- ESI Education Test

Phase 1 and 4: Patient Acuity and Wait Times Before/After ESI Education of Nurses

- UCC Basic Triage Scale
- Wait Times, Patient Demographics, Acuity Level Sheet
- Patient Triage Information Sheet

PROJECT PLAN: PHASE 1

- Data Collection:
  - Chart Review:
    - Patient demographics- age, gender, ethnicity, and chief complaint
    - Wait times
    - Acuity level
  - Collected one week prior to the ESI Triage tool educational intervention.
  - Data collected reflected the current wait times and triage acuity level at the UCC facility.

UCC BASIC TRIAGE SCALE

Date _____

Time _____

1 No Distress

2

3

4 Unbearable Distress

Chief Complaint _____

Time NP Initiates Care _____

Age _____

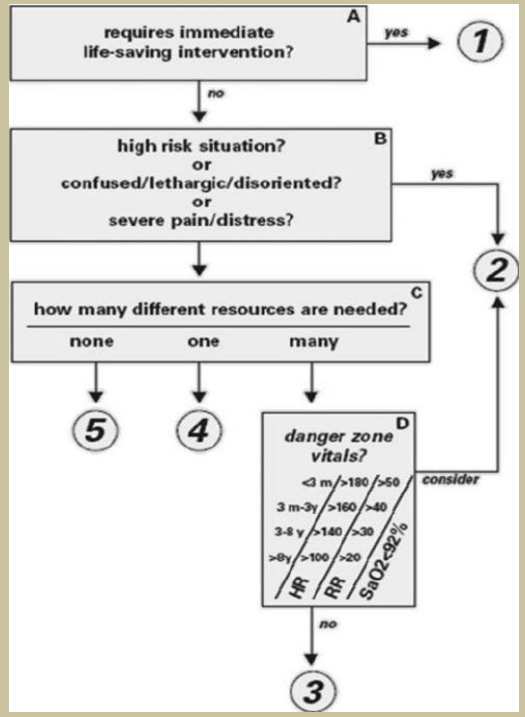
Gender _____

Ethnicity _____

PROJECT PLAN: PHASE 2

- Nurse Participants:
  - Recruited from the UCC
  - ESI education packet consisting of two sections.
    - Section 1 contained the informed consent, demographics form, and the before education test.
    - Section 2 contained the ESI educational material. The participant kept this section for personal use and review of the education.

ESI Triage Tool Algorithm



PROJECT PLAN: ESI EDUCATION

- Section 1 Participant Packet
  - Required Class Participation. Not required to complete forms. All forms were coded for confidentiality.
- Section 2 ESI Education
  - Scenario-based Role Play
  - PowerPoint Presentation
  - Poster: ESI Triage Tool
  - Handout (Flyer): ESI Triage Tool Algorithm

PROJECT PLAN: PHASE 3

- Nurse Participants
  - 1-week to practice implementation of the ESI Triage Tool with guidance from the DNP student.
  - Following the practice week, a one-week after test was administered to evaluate the retention of the ESI education. Additionally, these scores were logged in the nurse aptitude test score sheet.

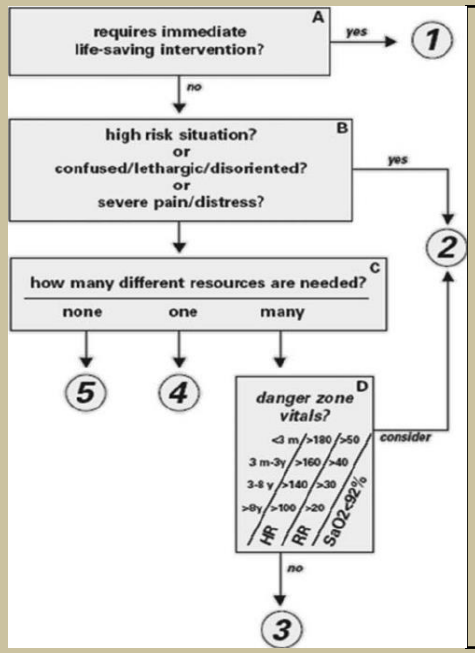
Nurse Aptitude Test Score Sheet

Nurse	Before Test	1-Week After Test	1-Month After Test
1			
2			
3			
4			
5			
6			
Average			

PROJECT PLAN: PHASE 4

- Data Collection:
  - Chart Review:
    - Patient demographics- age, gender, ethnicity, and chief complaint
    - Wait times
    - Acuity level
  - Collected over a 1-month period after the ESI Triage tool educational intervention.
  - Data collected reflected the use of the ESI Triage Tool wait times and triage acuity level at the UCC facility.

Patient Triage Information Sheet



GENDER:

ETHNICITY:

AGE:

Cc:

VITAL SIGNSB/P:

HR:
TEMP:
02:
RESP:
TIME NP INITIATES CARE:

DATA ANALYSIS

- IBM SPSS V25
- Descriptive statistics
  - Participant demographics
  - ESI education aptitude scores
  - Compared patient population triaged before and after the ESI Education

ETHICAL ISSUES

- Bradley University IRB Approval
- JUCC Facility Approval
- Data Collection
  - Participant: no names or identifying markers
  - All data collection forms were coded
  - Education was mandatory by the facility. Participation in the project components was voluntary.
  - Participant could withdraw from the project component without penalty at any time.

ORGANIZATIONAL ASSESSMENT AND COST EFFECTIVENESS

BRADLEY University

ORGANIZATIONAL ASSESSMENT

- UCC Basic Visual Acuity Scale
- Lack of education to accurately complete current protocol

COST FACTORS

- Budgetary needs included –
  - Poster board ($2.97)
  - Pens ($5.69)
  - Markers ($6.99)
  - Copy paper ($3.72)
  - Printer ink ($39.89)
  - Fuel for each 168 miles round trip ($275)

❖ All incurred expenses were afforded by the DNP student to include a meal of pizza ($35).

RESULTS

NURSE PARTICIPANT DEMOGRAPHICS

Table 2

Participant Demographics (n = 5)

Gender		N (%)
	Females	3 (60%)
	Males	2 (40%)
Age in Years		
	35-44	2 (40%)
	45-54	3 (60%)
Ethnicity		
	Caucasian	5 (100%)
Education Level		
	LVN	1 (20%)
	RN	4 (80%)

Note. (n) = number of participants; (N) = number of participants; (%) = percentage; LVN = licensed vocational nurse; and RN = registered nurse.

EDUCATIONAL INTERVENTION

Table 3

*Pre- and Post-Test Educational Intervention Aptitude Scores**

Participant	Pre-Test Score	1-Week Post-Test Score	1- Month Post-Test Score
1	7	18	18
2	11	21	18
3	8	21	11
4	11	21	22
5	12	17	20

Note. Pre = before the intervention, Post = after the intervention: (*) = test scores range from 0 – 22 points, the higher the score the greater the knowledge.

PATIENT DEMOGRAPHICS

For Before (CG) and After (IG) Comparison

Table 4

Demographics of the Patient Participants(N = 658)

Demographic		CG (n = 125) N (%)	IG (n = 533) N (%)
Gender			
	Female	84 (67.2)	336 (63)
	Male	41 (32.8)	197 (37)
Ethnicity			
	Caucasian	19 (87.2)	479 (89.9)
	Other	16 (12.8)	54 (10.1)

Note. CG = control group, IG = intervention group; (n) = number of participants; (N) = frequency of participants, (%) = percentage.

PATIENT ACUITY LEVELS

Table 5

Acuity Level

Control Group	Frequency	Percent	Intervention Group	Frequency	Percent
No Distress	118	94.4	0 Resources	47	8.8
NI of Acuity levels	6	4.8	1 Resource	379	71.1
NI of Acuity levels	1	0.8	Multiple Resources	107	20.1
Totals	125	100		533	100

Note. NI = nurse interpretation

PATIENT WAIT TIMES

Table 6

Patient Wait Times for Both Groups

Wait Times*	CG (n = 125) N (%)	IG (n = 533) N (%)
0-5	2 (1.6)	2 (0.4)
6-10	9 (7.2)	24 (4.5)
11-15	18 (14.4)	63 (11.8)
16-20	19 (15.2)	76 (14.3)
21-25	21 (16.8)	97 (18.2)
26-30	18 (14.4)	86 (16.1)
31-35	13 (10.4)	67 (12.6)
36-40	16 (12.8)	33 (6.2)
41-45	5 (4)	31 (5.8)
46-50	2 (1.6)	22 (4.1)
51-55	2 (1.6)	11 (2.1)
56-60		7 (1.3)
61-65		7 (1.3)
66-70		3 (0.6)
71-75		3 (0.6)
76-80		1 (0.2)

Note. CG = control group, IG = intervention group; (n) = number of participants; (*) = number of minutes; (N) = frequency of participants, (%) = percentage.

FURTHER ANALYSIS OF PROJECT OUTCOMES

- Upon reviewing the data collected, PI discovered:
  - No higher-level acuity patient ratings were documented pre- and post- the educational intervention.
  - The PI decided to investigate this problem.
    - Between October 21, 2019 and October 27, 2019, one hundred and seventy-seven patients were seen in the UCC setting.
      - Of the 177 patients seen, 125 were triaged using the UCCs basic triage tool and 52 patients were not triaged at all.
    - Between November 4, 2019 and December 1, 2019, eight hundred and sixteen patients were seen in the UCC setting.
      - Of the 816 patients seen, there were 533 triaged using the ESI Triage Tool. There were 283 not triaged at all.

DISCUSSION

SUMMARY OF FINDINGS

- What is the difference in **(P)** nurse aptitude scores **(C)** before and after an **(I)** ESI triage tool educational intervention to decrease **(O)** patient wait times in an urgent care setting?
  - Aptitude Scores before and after an ESI Education
  - Patient Wait Times

LIMITATIONS AND IMPLICATIONS

Limitations

- Small Convenience Sample
- Lack of Participant Diversity (gender, ethnicity)
- Completion of ESI Triage Tool on all patients
- Full scale hospital directly across the street

Implications for Practice

- This DNP project supports:
  - Education effectiveness
  - Use of the ESI Triage Tool
  - Generalizability limited to this facility

CONCLUSION

VALUE AND IMPACT

- Health care and Practice
  - Small and Large Scale UCCs
  - Effectiveness to the ESI Triage Tool
  - Ease of UCC implementation
  - Decrease wait times
  - Increase patient outcomes

EVALUATION AND SUSTAINABILITY PLAN

- Expected evaluation
  - Increase in nurses' aptitude scores
  - Decrease in patient wait times
- Sustainability measures
  - Poster boards used for education
  - Handout for ESI Triage Tool Algorithm
  - Use of ESI Triage Tool

DNP ESSENTIALS

- DNP Essentials II: Employed leadership and communications skills enhancing the project to be successful.
- DNP Essentials III: Incorporated scenario-based training according to evidence-based practice in order to enhance learning.
- DNP Essentials V: Advocated for the implementation of the ESI triage tool in this UCC setting.

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