Decrease Door-to-Provider Time in Urgent Care

Brittani Scott DNP

Touro University Nevada

ABSTRACT

Urgent care clinics offer more convenience to direct care than do primary care offices; as a result, more patients visit urgent care, causing congestion and overwhelmingly long wait times. The delays in patient assessments lengthen door-to-provider time, causing complications, more patients leaving without been seen, and even deaths. This quality development project entailed the application of a triage algorithm protocol to improve health care services for patients with high acuity, reduce door-to-provider time related to current run-through as determined by the chart checks, and improve workforces by prioritizing skills and knowledge. Creating this project entailed using evidence-based clinical research and theoretical methods to design the protocol best fitting the urgent care setting. The triage algorithm positively impacted the acute care setting by reducing door-to-provider time.

INTRODUCTION

Triage protocol is a procedure applied by the health care staff to identify which professional should see a patient and in what order based on the patient's chief complaint, vital signs, and relevant symptoms (Christ, Grossman, Winter, Bingisser, & Platz, 2010). With the urgent care setting's application of a triage prioritizing tool, patients presenting with vital signs outside the normal range receive faster management than those presenting with serious symptoms but normal vital signs. The triage prioritizing tool system of care allows the provision of resources to serious cases for appropriate evaluation and treatment processes. Layton, Tovar, Wiggins, Rayens, and Salt (2016) confirmed that triaging increases patient flow, causing low door-to-care provider times and advanced levels of acuity. Hammad et al. (2017) deemed the triaging procedure essential in urgent care centers. This procedure helps in recognizing the care level as essential, therefore minimizing wait times and long hospital stays for patients (Christ et al., 2010).

PROBLEM STATEMENT

The procedure currently used in urgent care facilities is first-come, first serve. Such an arrangement doesn't allow prioritizing based on patients acuity. Therefore, if patients with critical complaints arrive after another patient, they are likely to receive delayed care, causing health care interruptions and adverse wait room actions that hover patients' safety. The best way to avoid long waiting times jeopardizing patients' safety, decrease door-to-provider time, and improve care results is implementing a triage prioritizing tool.

PROJECT OBJECTIVES

1. Implement the HF symptom monitoring tool at the project site for early identification and intervention of HF exacerbation. Assessment of tool will be through nurse notes and chart review. The goal is to have at least 90% of nurses in adherence with the tool.
2. During in-service meetings, provide nurse staff education and training for the HF tool before implementation of the DNP project. The use of pre- and post-tests will enable evaluation of staff education and understanding. The goal is 90% or greater nurse attendance for in-service education and training in use of the HF tool.
3. Conduct a chart review to determine if a reduction in HF-related hospital readmissions is apparent after implementing the HF symptom monitoring tool. The goal is an overall reduction in the rate of HF-related readmissions within 30 days.

Project Design

The Doctor of Nursing Practice project utilized a quality improvement design. The design is to ensure use of evidence-based triage procedures in urgent care settings to minimize door-to-provider wait time, enhancing patient prioritizing and assessment depending on patient vital signs. Accurate and efficient triaging has shown to ease wait times, improving care value (Hammad et al., 2017; Reinhardt, 2017).

Setting

The project setting was a community urgent care clinic in Los Angeles County, which has four examination rooms and a procedural room. The urgent care center helps 40 to 115 patients each day with one care provider on duty.

Measurements

The project lead assessed the charts of patients seen in the urgent care 4 weeks pre-implementation to measure use of the new procedure over the 4 subsequent implementation weeks. Chart reviews showed if the health care providers followed the triage procedure, and if the procedure was effective in decreasing door-to-provider time for patients having high-acuity symptoms and abnormal vital signs. Successful triage protocol application was to minimize the incidence of adverse effects, possibly reducing the number of transfers to higher-care levels, such as emergency departments. Determining health care providers' levels of understanding entailed reviewing the pre- and posttest scores on triage protocol knowledge. IBM SPSS software facilitated analysis of the pre- and postimplementation statistical data.

Analysis

The project was analyzed in four samples. Analyzing the staff's skills and knowledge of the use of a triage procedure tool before and after education using Wilcoxon signed-rank test. The change in door-to-provider time and transfers pre- and postimplementation determined was analyzed using Mann-Whitney test. Change in door-to-provider time for patients with abnormal vital signs and high perception grievances was analyzed using *t* tests, with analysis of the change in adverse events by a one-way ANOVA.

Findings and Significance

The outcome of the analysis indicated that the application of triage procedure tools and training resulted in increased care provider knowledge of triage procedure, reduced door-to-provider time, and fewer opposing actions. Class enhancement projects in the nursing field had a positive effect on future and current specialized nursing practice, therefore making improvement a vital element of the educational procedure (Moule, Aveyard, & Goodman, 2016). Through this project, the DNP-prepared nurse can interpret the research to the exercise. A decrease in door-to-provider time will lowering rates of death due to improve patient care efficacy and minimizing opposing events (Anderson, 2019; Christensen et al., 2016; Jesionowski, Riordan, & Quatrara, 2019; Spencer et al., 2019). Additionally, use of the triage protocol tool minimized overcrowding in urgent care, lowered the number of hospital readmissions, improved the quality of care, and reduced the cost of health care. These positive outcomes encouraged the nurses to continue improving patient care by identifying problems and using evidence-based practices to address them.

RESULTS

Provider Comprehension

The Wilcoxon rank test was used to calculate the pre and postexam data on staff's skills and knowledge before and after triage procedure training (see Figures 1 and 2 for the pre- and posttest scores. The pretest scores ranged between 85% and 100%; the posttest scores were above 95%, which was the project target; therefore, the goal was met.

Figure 1. Pretest scores.

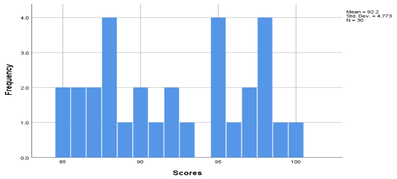
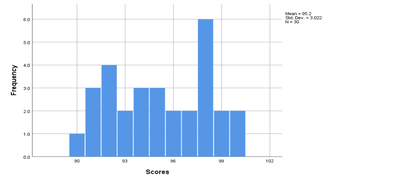


Figure 2. Posttest scores.

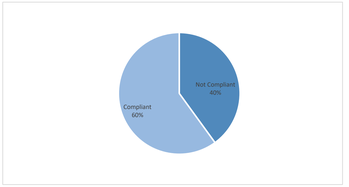


RESULTS CONTINUED

Provider Compliance

Provider compliance was calculated using ratio tests. The proportion of compliant health care providers to noncompliant provision health care providers was 3:2. The outcomes indicated that the majority of service health care providers were compliant in the use of the triage procedure (see Figure 3); however, only 60% of participating service health care providers remained compliant.

Figure 3. Provider compliance posttest scores.



Door to Provider Time

A *t* test was used to determine if there was a significant change between the door-to-provider time before and after implementation. The average door-to-provider time preimplementation was 59.817 minutes, which lowered to 53.06467 minutes after implementation. The 11% reduction which indicated that the system's application had a significant influence in minimizing wait time (see Figure 4).

Figure 4. Graph of box plots of the distribution of door-to-provider time pre- and posttest.

Adverse Events

One-way ANOVA was used to examine the difference in adverse events before and after triage protocol implementation and determine the significance of the difference (see Table 1; Mrkvicka et al., 2016). The average number of transfers per hour was five before implementation and three after implementation. The possible value of the *F* statistic for the investigation of variance was less than 5% of the selected significance level; thus, the findings show that the triage protocol reduces adverse events.

RESULTS (CONTINUED)

Table 1. *One-Way ANOVA for the Number of Hourly Transfers Pre- and Posttest Recorded for 6 Hours*

ANOVA: Single Factor						
SUMMARY						
Groups	Count	Sum	Average	Variance		
Pretest transfer	6	33	5.5	2.7		
Post-test transfer	6	18	3	1.6		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	18.75	1	18.75	8.72093	0.01445	4.96460
Within Groups	21.5	10	2.15		7	3
Total	40.25	11				

CONCLUSION

The project findings indicated that implementation of a triage protocol tool to help prioritize patient acuity and care providers' training on the protocol has the potential to address the prevalent problems of high door-to-provider time, adverse events, and poor quality of care. Implementation resulted in increased care provider knowledge on the triage procedure, reduced door-to-provider time, improved care quality, and fewer opposing events in the health care setting. The project is vital to nursing professionals, as reducing adverse events decreases nurse stressors. The triage protocol tool is sustainable because, in addition to being cost-efficient, it addresses the most significant needs in health care today. The triage protocol tool should, therefore, be integrated into both organizational and national policies to promote its application.

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