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**Improving Health Literacy Among Veterans Through an Educational Campaign on
Urgent and Emergent Care: A Quality Improvement Project**

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Date of Submission: August 8, 2022

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Abstract

Background: Inappropriate use of the VAMC UCC can translate to delays in care and costly transfers. A local VAMC UCC noted that many of their veterans presented for care at the UCC rather than choose to seek care at a local emergency department. This quality improvement project focused on the impact of educational handouts in improving understanding of the VAMC UCC capabilities to overall reduce inappropriate visits and delays in patient care. **Methods:** Veteran participants utilizing the UCC (n = 10) completed pre-intervention surveys regarding their current health literacy using the Brief Health Literacy screening tool (BRIEF), as well as current knowledge on the VAMC UCC. Participants also completed a quiz on which facilities they would use for certain conditions, such as chest pain or cold symptoms. Following the pre-intervention survey, participants were provided with an educational handout summarizing the appropriate uses of the UCC as well as frequently asked questions about the VAMC. **Results:** The post-intervention survey responses resulted in a 4% improvement in knowledge about use of UCC and emergency services, and 80% of the participants stating they would use this handout in the future when choosing health care services. **Conclusion:** Overall, this project shows potential at improving understanding of patients visiting the VAMC UCC, and in the future reducing inappropriate visits and delays in care.

Keywords: inappropriate use, health literacy, delay of care, educational handouts, urgent care, emergent care

Introduction

Problem Description

The VA Medical Center (VAMC) is a health care facility funded by the U.S. Department of Veterans Affairs. Their mission is to provide quality and timely medical care to military veterans. This location is the largest health care center for veterans in the state, with four smaller clinics located throughout. This macrosystem includes a community living center, primary care, mental health care, and specialty clinics, as well as the newly renovated Urgent Care Center (UCC). The UCC is the only urgent care center offered through the VAMC in the state, providing walk-in care for clients with non-life-threatening illness and injuries. The UCC is open from 8 am to 4:30 pm, seven days a week.

Since the state does not have an inpatient hospital through the Department of Veterans Affairs, this campus is the primary campus for medical needs. However, if seeking emergency services, veterans must use local community hospitals since this VAMC cannot support emergency care. Veterans must notify the VA within 72 hours of use of a non-VA emergency department (U.S. Department of Veterans Affairs, 2021). This happens often, as the nearest inpatient hospitals are at least an hour and a half away from the medical center. Since UCC staff are the highest level of emergency trained, they also respond to any medical emergencies in the building or on the premises.

The VAMC UCC often sees patients that require transport to local community hospitals for a higher level of care. From January to April of 2022, approximately 11% of patients required transport or referral to a specialty clinic. When exploring reasons for the necessary transfers, answers given included, *patients don't want to wait in the ER* or *I didn't think my symptoms were this severe* or *I thought the UCC was the same as the ER*. Upon further research, I was unable to

find clear information or educational handouts for patients making the decision to seek care from the VA UCC, besides some small font on their website underneath the UCC tab that only explains common illnesses and injuries seen here. The lack of education for patients on the difference between UCC and ER-appropriate presentations may lead to inappropriate use of the UCC. This inappropriate use of service may lead to delays in patient care.

Delayed diagnosis is defined as, “non-optimal interval of time between onset of symptoms, identification, and initiation of treatment,” (The Joint Commission, 2015, pg. 1). This delay in diagnosis and treatment can lead to adverse effects for the patient, such as a reduction in options (ex. tPA in stroke patients) as well as further harm and death. The Joint Commission (2015) found that out of 73 patient events that were caused by a delay of treatment, 48 led to the death of that patient. Educating patients on when to utilize different health care services may prevent delays in treatment and therefore provide improved patient outcomes.

UCCs have grown exponentially in the last twenty years. A study by the Center for Disease Control and Prevention found that over 30% of women and over 25% of men had at least one visit to a UCC in the previous year (Black & Adjaye-Gbewonyo, 2021). In addition, the COVID-19 pandemic saw a 58% increase of UCC visits due to the demand for fast testing, vaccinations, and symptom treatment (Experity, 2022). The reason for the increased utilization of UCCs has many underlying reasons, including increased convenience, speed, inability to see a primary care provider (PCP), and a deficiency in health literacy (Villasenor & Krouse, 2016). Regardless of the reason, UCCs play a large role in the current landscape of the health care system.

As previously mentioned, the VAMC includes a UCC, open to all veterans with VA benefits (U.S. Department of Veteran’s Affairs, 2021). The VAMC UCC’s purpose is to provide

walk-in care for veterans with non-life-threatening illnesses and injuries. However, the VAMC does not have its own emergency department (ED) since it is not an inpatient hospital, requiring veterans to seek higher levels of care outside the VA system. Despite the accessibility of two hospitals in the Manchester area that provide emergency services, many veterans still present to the VAMC UCC with emergency room-level illnesses and injuries. Seeking treatment for high-acuity illness that the UCC and VAMC cannot accommodate, such as a myocardial infarction or a stroke, results in the transfer of the patient to a local hospital, delaying their potentially life-saving treatment. This also leads to longer wait times in the UCC and delays treatment for other patients.

The goal of this literature review is to understand the impact of UCCs on the health care system, the specific needs of the veteran population, and the reasoning for why these patients prefer the UCC setting for their health care needs, even if they are not UCC-appropriate. Studies were found using EBSCOhost, limited to the last ten years. This literature review will help to examine deficits in health literacy and barriers to the health care system through the lens of veterans in the United States.

To begin, it is important to understand the unique needs and considerations of caring for veterans in New Hampshire (NH). According to a 2012 study, veterans made up 11% of the NH population, but only 25% of these veterans used VA health care (Fasoli, 2015). An article by Fasoli addresses the reasoning behind this gap in care, suggesting it may be related to NH being the only state in the country without a full-service hospital or military treatment center (Fasoli, 2015). In addition to this barrier, a large part of the state is rural, specifically northern NH, making access to health care in general a difficulty. If seeking VA health care, many must drive to Manchester's main campus in southern NH, which may take over two hours for some.

A commission was founded to address this lapse in care, specifically for veterans suffering from post-traumatic stress disorder (PTSD) and traumatic brain injuries (TBI), which are common disorders seen in veterans (Fasoli, 2015). Forming the Commission on PTSD and TBI (COPT), this organization of veterans, lawmakers, and healthcare providers has worked to address gaps to veteran's care, as well as create opportunities for expansion of care within the community (Fasoli, 2015). Members of COPT and 1,170 NH veterans were surveyed using open-ended questions regarding their perceived barriers to health care, current concerns, and recommendations for the future of the VA system in the state (Fasoli, 2015). The COPT is currently working on reducing the stigma associated with VA care, educating providers on veteran-specific needs and culture, and increasing awareness of VA services to veterans and their families (Fasoli, 2015). This article is important for my quality improvement project as it reflects the unique population of veterans and their needs, as well as the benefits and issues with the VA health care system. Veteran-based care is different than caring for the rest of the population, culturally, emotionally, and medically.

Available Knowledge

As mentioned previously, the number of UCCs in the country has grown in recent years, providing many benefits to patients receiving care, as well as reducing the burden on the health care system. A study by Allen et. al. aimed to understand the impact of UCCs on reducing total ED visits; those with addresses near a UCC saw a 17% drop in ED visits, and low-acuity visits to the ED falling 27% (2021). However, the researchers make the assumption that UCCs are acting as *emergency room replacements* during their hours of operation (Allen, Cummings & Hockenberry, 2021). This may be beneficial for patients and the health care system by reducing

the burden on EDs, but the replacement of ED visits in general can also be a large problem that is currently reflected in the VA health care system.

The emphasis being put on UCCs to offset ED wait times and costs may result in patients inappropriately using UCCs for higher acuity illnesses, leading to an increase in cost and a delay in appropriate care. This study also relates to the importance of health literacy in patients; knowing when to utilize the ED versus the UCC is an important piece that will prevent treatment delays and improve health care utilization.

Carlson et. al. also explored the effect of UCCs on decreasing ED utilization for low acuity patients (2020). A geospatial analysis of patients living within one mile of a UCC assessed the amount of ED visits over a two-year period; of patients within one mile of a UCC, there were over 25,000 total visits to an ED, and 5.8% were for low-acuity conditions (Carlson et. al., 2020). Unfortunately, the study found no significant relationship between proximity to UCC and ED visits, showing that health literacy and human behavior still impacts choices for health care, regardless of location to other health care facilities. At the VA, patients may drive upwards of two hours to be seen with critical conditions that are subsequently transferred out to a local hospital. The results of this study contradict that of Allen et. al. (2021) by showing that location does not necessarily impact the types of care that patients seek, and that human behavior and health literacy have an impact as well.

An article by O’Cathain et. al looks at the reasoning for human behavior and why people choose UCCs over primary care or emergency rooms, especially those whose visits are deemed *clinically unnecessary* (2020). Over 60 studies were systematically reviewed; six underlying mechanisms leading to UCC use were identified, including: previous negative experiences in healthcare, increased speed, low treatment burden based on an inability to cope or handle stress

related to medical symptoms, compliance related to recommendation from a provider or loved one, consumer satisfaction, and frustration due to lack of available appointments at their PCP (O’Cathain et. al., 2020). This information was determined through a *realist synthesis* of data to understand the interrelations of behaviors and choices of individuals (O’Cathain et. al., 2020).

The study found that although there are many factors of human behavior leading them to seek urgent services, interventions such as health literacy programs, educational pamphlets or posters, and other resources may be beneficial at changing behavior and reducing inappropriate visits to urgent care. This systematic review is beneficial as it outlines the gaps of knowledge and behavior in the population that can be applied to veterans to increase their understanding of health concerns and UCC capabilities.

A systematic review on the relationship between UCCs and PCPs was performed to assess if the convenience of UCCs undermines continuity of care in individuals (Villasenor & Krouse, 2016). Twelve articles from 2004-2014 were reviewed; through research, common themes including perceived barriers to primary care, benefits of UCC services, and insufficient knowledge regarding the healthcare system and what is appropriate for certain facilities were noted (Villasenor & Krouse, 2016). Many studies reviewed by this article found that people used UCCs because they felt that their condition was appropriate for this setting. In addition, many expressed frustrations with obtaining an appointment at their PCP, leading them to use urgent care services, which we often see in regard to optometry concerns at the VAMC UCC specifically. The results from this study are pertinent to increase patient knowledge and health literacy regarding UCC appropriate conditions and presentations.

Finally, an article by Zitek et. al (2017) aims to determine the frequency of necessary and unnecessary transfers from UCCs to EDs. A blind retrospective chart review was performed by

research assistants to determine if the transfer from UCC to ED was clinically necessary, meaning advanced imaging or procedures were performed, a specialist was consulted, or the patient was subsequently admitted or transferred to another appropriate facility (Zitek et. al., 2017). Out of the 3,232 patients that were reviewed over a one-year period, 64% of patients were found to be appropriate for transfer (Zitek et. al., 2017). Applying this data to the VAMC UCC that transfers many patients to local emergency rooms for further care or admission, this high percentage of patients did not report to the ED instead of the UCC for many different reasons – education on UCC capabilities, lack of awareness on the severity of their condition, or overall convenience.

Many individuals seek medical care through UCCs as they provide quick, unscheduled visits during extended hours of operation. There are many benefits to UCCs, such as reducing ED visits and improving patient satisfaction. However, understanding the capabilities of UCCs and being able to understand the severity of your symptoms is crucial for maintaining the success of UCCs. The veteran population in New Hampshire can utilize the UCC at the VAMC but may underestimate the severity of their symptoms. Veterans also may overestimate the capabilities of the UCC, or simply lack health literacy, leading to the need to transfer them to a different hospital. This results in delaying their care and the care of others waiting to be seen. This literature review sheds light on the reasoning behind the increased utilization of UCCs, specifically the deficiency in health literacy, that may be addressed through informational posters, handouts, and pamphlets at the VAMC UCC to reduce high acuity visits and improve public knowledge.

Rationale

Through completion of a quality improvement project, patients would demonstrate an increased understanding of the purpose of the UCC as well as its overall capabilities. This project was guided through the DMAIC Framework for Quality Improvement (American Society for Quality, 2022). To define the problem, many patients present to the UCC for high-acuity illnesses, leading to a delay in treatment for patients who need higher levels of care, and increasing wait times for UCC-appropriate visits. To measure the problem, data collected on the current state of the process found that 11% of patients from January to April 2022 were transferred to a more appropriate facility, and approximately 70% of the patients that presented as a level two during triage were subsequently transferred. On average, 38% of the patients that were transferred to a more appropriate facility spent over 150 minutes at the UCC, which is longer than the national benchmark for visit time, delaying care for themselves as well as for other patients. To analyze the problem, this quality improvement project intended to focus on providing education to patients to better understand the purpose of the UCC. Finally, the impact was measured through comprehension of the educational campaign, and possibly a reduction in high-acuity UC visits.

Specific Aims

The global aim of this quality improvement project was to improve the health literacy of veterans utilizing the VAMC Urgent Care. This process began with high-acuity patients presenting to the UCC for emergency room-level illnesses and injuries and ended with transport to a local emergency department. By working on the process, we hoped to increase patient education regarding UCC-appropriate visits to reduce inappropriate presentation to the VAMC UCC. It was important to work on this now as it may improve patient health literacy, reduce

inappropriate urgent care visits, and reduce delays in patient care in the future. The specific aim of this quality improvement project was to improve the knowledge of patients on the appropriate use of the VAMC UCC from baseline by 25% by July 1, 2022. The reduction of high-acuity visits at the UCC will overall improve patient outcomes by reducing delays in treatment (The Joint Commission, 2015).

Methods

Context

The aim of this quality improvement project was to improve the health literacy of veterans utilizing the VAMC UCC as it relates to healthcare decision-making. The Centers for Disease Control and Prevention (CDC, 2022) defines personal health literacy as individuals being able to find, interpret, and utilize information to make healthcare decisions. Many patients present to the UCC with emergent or primary care needs, unaware of the difference in services between the VAMC UCC and an emergency department, or unaware that their condition is too serious to be treated at the UCC. Patients with high acuity illness are subsequently transferred to a local ER, causing the VA to incur ambulance transfer costs which total between \$350 and \$1800 per patient, costing over \$55,000 total from January to March 2022 (M. Escher, personal communication, April 29, 2022). In addition, these high acuity patients often require additional testing and procedures performed, which increases the expense of their treatment. Educating veterans on proper use of available health care services can reduce these costs and prevent delays in patient care.

A systematic review by Eichler et. al. (2009) found that up to 10% of overall health care spending in the United States can be attributed to low health literacy. Additional health care expenses for patients with low health literacy added up to an extra \$7,000 total per year

compared to people with more advanced health literacy (Eichler et. al., 2009). This cost can be related to inappropriate use of health care services and lack of preventative care use. In addition, a systematic review by Berkman et. al. (2011) reviewed a cost-benefit analysis of health literacy interventions and outcomes. The study found that decreased health literacy is related to poorer health outcomes. The systematic review also incorporated the outcomes of health literacy interventions, such as simple-to-read handouts, videos, and booklets (Berkman et. al., 2011). The studies showed that these interventions may reduce negative health outcomes related to health literacy, however, the studies also demonstrated the need for further studies on these interventions (Berkman et. al., 2011).

Health literacy is an important pillar of health care in the United States that contributes to the equity and equality of medical care amongst the population. The cost of creating an educational campaign within the UCC will save money for the organization with little cost, as well as benefit veterans and the VAMC in the short and long term by improving health literacy. This project also had implications for use in a broader aspect of other veterans and health care services within the VA health care system, as well as within the general population.

Interventions

The proposed intervention to this problem focused on the education of patients within the VA health system that present to the UCC on the difference between urgent and emergent care. Paper handouts were created using the Clear Communication Index Score Sheet to ensure they are appropriate based on reliable and valid research measures (CDC, 2014). These infographics also contained frequently asked questions regarding potential barriers for patients seeking emergency care, such as cost and insurance coverage. Once the handouts were approved by the

Veterans Health Education and Information Committee (VHEIC), the intervention was implemented until July 1, 2022.

The infographics were available for patients in the waiting room of the UCC and upon discharge, as well as given to specific patients who express confusion or concern over the difference in available health resources for them. The team, including, myself as the project lead, the assistant nursing manager, the nursing manager, the Chief of UCC, and the rest of the nursing staff had planned to be included in promoting this initiative at the VA. The administrator on duty (AOD) in the front office and waiting room also planned to be included in the initiative by offering the handouts when patients enter or exit the UCC. Finally, patients were an important part of this implementation by participating in reading the handouts. In addition to the infographic, patients were randomly and anonymously surveyed before and after receiving the handout on their understanding of the educational materials, and if this educational infographic will help them make decisions about their care in the future.

Study of the Intervention

To assess the impact of the intervention, pre-intervention data regarding the number of patients transferred to either an emergency room, another VA hospital, or otherwise referred to a more appropriate health care setting from January 2022 – April 2022 was planned to be compared to the same data post-intervention. Data collected via self-report surveys pre- and post-intervention also planned to include the specific disorders that patients present with resulting in their transfer, and if they were at the UCC for over 150 minutes, which is the national benchmark for UCC visit time. Qualitative surveys were also conducted based on patient understanding of UCC services before and after reading the informative handout.

Measures

For this project, it was important to assess the participants' ability to discriminate between the capabilities of care at the UCC compared to the ED. Health literacy for patients visiting the UCC is operationally defined as being able to discriminate between the capabilities of care at the UCC compared to the ED. Health literacy was measured using the BRIEF Health Literacy screening tool that utilized a Likert scale. The instrument asks four questions to assess how the participant finds and uses information to support health literacy. Questions include: *how often do you have someone help you read hospital materials, how often do you have problems learning about your medical condition because of difficulty understanding written information, how often do you have a problem understanding what is told to you about your medical condition, and how confident are you filling out medical forms by yourself* (Haun et. al., 2012). Created by Haun et. al. (2012), this instrument was tested on adults aged 18-64 years and was comparable to other HL instruments. The operational definition for HL was defined as the ability to gather and understand basic health data and access services that are required to make appropriate health choices (Nielsen-Bohlman et. al., 2004). The instrument was found to be reliable with a Cronbach's alpha of 0.77 (Haun et. al., 2012).

The remaining VAMC-specific surveys were created based on appropriate questions for this specific setting, so no psychometric testing was performed on this scale. This data was assessed together to observe improvements in patient understanding in the short term, since time to observe significant changes in high acuity patient visits was limited.

Analysis

The data from patients who agreed to fill out the survey regarding the intervention was analyzed qualitatively to determine if the educational campaign was effective in the short term.

The BRIEF score is created by the sum of the items which range from 4-20. A score of 4-12 indicates inadequate HL, 13-16 indicates marginal HL and 17-20 represents adequate HL (Haun et al, 2012). The BRIEF Health Literacy participant scores will be analyzed for aggregate mean, standard deviation, and range. These scores were totaled to create a composite score per participant for comparison.

Data from post-intervention VA-specific surveys will be compared to pre-intervention surveys regarding the understanding of UCC-appropriate illness and injury. Patients demonstrating improved understanding from the handout may translate to an improvement in health literacy and may contribute to a decrease in inappropriate UCC visits. When analyzing quantitative methods, a decrease in visits that end up with a patient transfer to the ED may mean that there is an improvement in health literacy related to the educational campaign and therefore resulting in more appropriate use of health services. Categorical data was analyzed for demographics, how many times participants had visited the UCC and transfers by frequency and percentage.

Not every veteran that uses the UCC while this intervention was being implemented was exposed to the educational campaign over the course of a month, so this intervention will take some time to reach the entire VA population. This may account for some variation in the data. In addition, an increase or decrease in visits to UCC that result in ED transfers may be related to an increase or decrease in the nature of the injuries or illnesses that would result, that is not under our control. Because of these independent facts, variation of data is expected.

Ethical Considerations

In terms of ethical considerations, using an electronic approach was decided against due to the majority of patients without strong access to electronics or knowledge of how to properly

use them; in fact, less than 40% of patients have utilized the VA's electronic health record system myHealthEVet in the last year (L. Ruiz, personal communication, April 22, 2022). A handout given out at the VA was selected to be more accessible. Some ethical considerations also include patient's emotional and social state; many patients believe that their problems are very serious and worthy of attention, and it is important that we are still sensitive to their feelings despite the education that may suggest otherwise. However, providing an objective survey meant to determine their understanding of the UCC vs ED regardless of what they are currently being seen for can help to mitigate this ethical consideration. Finally, the Health Insurance Portability and Accountability Act (HIPAA) and protected health information have been considered and no identifying patient data has been included in this quality improvement project; all surveys will be voluntary and anonymous. This final project will be reviewed by the UNH Department of Nursing Quality Review Committee for congruence with a quality improvement initiative that is exempt from IRB review.

Results

Results

This intervention consisted of creating an educational handout based on the results of the pre-intervention survey and administering a post-intervention survey to determine the effectiveness of the handout at assisting patients in making healthcare decisions. The educational handout was submitted to the Veterans Health Education and Information Committee (VHEIC). Once approved, the handouts were ordered, but were delayed due to a problem with printing. Because of this delay, an online version of the survey and handout was also created to implement this project in a different format. Posters with QR codes linked to the survey were hung up

around the VA's lobby and handed out to patients to encourage them to take the survey. Also due to this delay, the project was implemented later, and data on transfers was not collected.

Data was also collected in person, with 10 voluntary participants. Consistent with the demographics for veterans nationally, 90% of participants were male. In addition, 90% of participants identified as white. There was observed variation in age ranges of the participants as well. The demographics of these volunteers can be seen in Table 1.

Table 1

Demographic data

Total Sample (N = 10), n (%)

Gender	
Male	9 (90%)
Female	1 (10%)
Age	
18 – 30	2 (20%)
31 – 40	1 (10%)
41 – 50	0 (0%)
51 – 60	1 (10%)
61 – 70	3 (30%)
71 – 80	2 (20%)
80 or older	1 (10%)
Race	
White/Caucasian	9 (90%)
Other (non-white/Caucasian)	1 (10%)

A Likert scale was used to assess the participants' perceptions on frequency of needed assistance in reading, understanding, and form completion about a medical condition. This data was analyzed manually through an Excel spreadsheet. The frequency and percentage of responses of the BRIEF survey is reported below in Table 2. For the question about reading assistance for hospital materials, 40% selected occasionally, while 60% chose never. When asked about problems with understanding written information about their medical conditions,

50% selected never, and the other 50% selected occasionally. 70% of participants reported occasionally having difficulty understanding what is told to them about their condition, while the other 30% reported never having a problem. Finally, 60% of participants reported being extremely confident filling out medical forms, while 40% stated they were quite confident.

Table 2*BRIEF Health Literacy Scale**Total Sample (N = 10), n (%)*

	Always (1)	Often (2)	Sometimes (3)	Occasionally (4)	Never (5)
How often do you have someone help you read hospital materials?	0 (0%)	0 (0%)	0 (0%)	4 (40%)	6 (60%)
How often do you have problems learning about your medical condition because of difficulty understanding written information?	0 (0%)	0 (0%)	0 (0%)	5 (50%)	5 (50%)
How often do you have a problem understanding what is told to you about your medical condition?	0 (0%)	0 (0%)	0 (0%)	7 (70%)	3 (30%)
	Not at all (1 point)	A little bit (2 points)	Somewhat (3 points)	Quite a bit (4 points)	Extremely (5 points)

How confident are you filling out medical forms by yourself?	0 (0%)	0 (0%)	0 (0%)	4 (4%)	6 (6%)
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Table 3 highlights the composite scores of the BRIEF Health Literacy scale, where the range of scores was 4 – 20. All participants but one scored above 16, which indicates adequate health literacy. One participant scored 16, indicating marginal health literacy and suggesting this participant may struggle with patient education materials.

Table 3

BRIEF Health Literacy Scale Composite Scores

Range = 4 - 20

Participant Number	Composite Score
1	18
2	18
3	18
4	17
5	19
6	20
7	16
8	17
9	17
10	19

The same pre-intervention survey questions regarding VA-specific knowledge, as well as a quiz to understand when participants would utilize each service, was administered to participants. Of interest is that 5 participants prior to the intervention (50%) agree or strongly agree that they know the difference between the ER and VA UCC and what symptoms require a ER or UCC visit, whereas 4 (40%) disagree or strongly disagree, and 1 (10%) neither agreed nor disagreed. Six (60%) of participants felt they knew which symptoms specifically required a visit to the ED or to the UCC, and the other 4 (40%) was not as confident. Only 1 (10%) report receiving education from the VAMC on the topic, while 8 (80%) either disagreed or strongly disagreed that they received education from the VA. One participant neither agreed nor disagreed, stating that, *it was not the VA's responsibility to provide this education*. Table 4 highlights this categorical data; frequency and percentage are noted.

Table 4*Pre-intervention VA-specific questions**Total Sample (N = 10), n (%)*

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I know the difference between the ER and the VA Urgent Care	1 (10%)	3 (30%)	1 (10%)	2 (20%)	3 (30%)
I know what symptoms require a visit to the ER	1 (10%)	2 (20%)	1 (10%)	3 (30%)	3 (30%)
I know what symptoms require a visit to the VA UC	1 (10%)	1 (10%)	2 (20%)	3 (30%)	3 (30%)
The VA has provided me with education on the difference between the ER and the VA UC	5 (50%)	3 (30%)	1 (10%)	1 (10%)	0 (0%)

Tables 5 and 6 display participant data regarding the frequency of visits to the VAMC UCC in the past year, as well as the frequency of transfers to an ER per participant. None of the participants had been transferred from the VAMC UCC to an ER before this survey. Some

subjective data collected also helped to understand barriers as to why certain patients do not utilize the UCC correctly, such as generational ideals (*someone else is worse off than I am and I don't want to take up space in the ER*) and economic hardships (*fear that the VA will not pay for their non-VA hospital visit*).

Table 5

Pre-intervention VAMC UCC visit frequency

Total Sample (N = 10), n (%)

	0 – 2 times	3 – 5 times	More than 5 times
In the last year, how many times have you visited the VAMC UCC?	6 (60%)	3 (30%)	1 (10%)

Table 6

Pre-intervention VAMC UCC transfer frequency

Total Sample (N = 10), n (%)

	Yes	No
Has a visit to the VA UC ever resulted in a transfer to a local ER? If yes, why did you visit the UC?	0 (0%)	10 (100%)

After the pre-intervention surveys were provided, the educational handout was administered to participants to review and ask questions regarding the information. The participants were then asked to provide feedback on the handouts, and if they would utilize this handout in the future to make decisions about their healthcare. 8 (80%) of participants felt that this handout was useful and that it increased their understanding on VAMC UCC capabilities, as well as when to utilize the ER over the UCC. The same eight participants also stated that they would utilize this handout in the future when making healthcare decisions. Two participants (20%) stated that they may or may not use this handout in the future; reasoning for this included

that they *already understood the difference* and that *there was no need for them to utilize it in the first place*. The other participant stated, *I would lose the handout before I could even use it*. Table 7 displays responses regarding the usefulness of the handout.

Table 7

Post-intervention questions

Total Sample (N=10), n (%)

	Yes	Maybe	No
Does this informational handout help you better understand the purpose of the UCC and the difference between this facility and the ER?	8 (80%)	2 (20%)	0 (0%)
Will this informational handout assist you in making decisions about your health care in the future?	8 (80%)	2 (20%)	0 (0%)

Participants were asked to complete the quiz again following the intervention to determine if this handout helped them understand why some conditions require an ER versus the UCC. Despite a split in knowledge on the difference between the UCC and ER as reported above, many participants chose appropriate facilities when asked about specific symptoms. However, 3 (30%) of participants did choose the UCC for chest pain, and 4 (40%) chose the UCC for shortness of breath. 5 (50%) of participants said they would utilize the UC for mental health concerns or suicidal thoughts over the ER, which may be related to the veteran-specific mental health care that is provided through the VA. Following the intervention, there was no change in answer for mental health concerns. It was determined that since many veterans feel more comfortable utilizing the VAMC for mental health concerns due to their program, that either facility would be appropriate. Because of the uniqueness of the veteran population and their mental health care, mental health concerns were not included in this report.

While 7 participants (70%) thought that the ED was appropriate for chest pain and 3 (30%) thought the UCC was appropriate prior to the intervention, 9 (90%) agreed that the ED

was the more appropriate facility following the intervention. As seen below, a 10% change also occurred in shortness of breath, uncontrolled bleeding, fall with loss of consciousness, and broken bones. The remainder of the conditions did not have any improvement between pre- and post-intervention, as many of these conditions were answered correctly prior to the intervention. For example, 10 (100%) participants reported they would go to the ER for stroke symptoms.

Table 8 represents the pre- and post-intervention averages of correct answers of the quiz questions, as well as the percent change. Figure 1 below displays the pre- and post-intervention percent changes for the symptoms specifically requiring an ER visit, including chest pain, shortness of breath, uncontrolled bleeding, fall with loss of consciousness, and broken bones.

Table 8

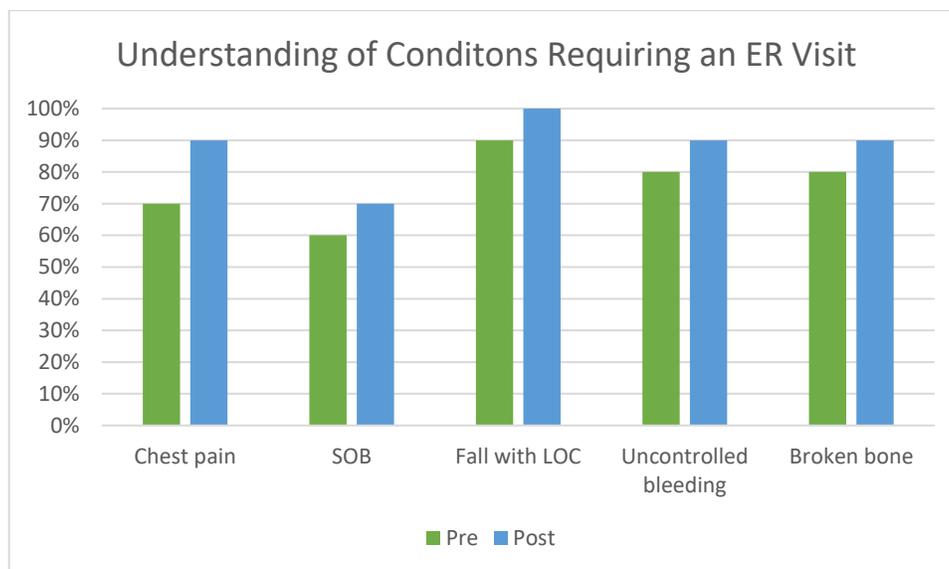
Changes between pre- and post-intervention quizzes.

Total Sample (N=10), n(%)

Condition	Pre-intervention average	Post-intervention average	% change
Chest pain	70 (70%)	9 (90%)	20%
Shortness of breath	6 (60%)	7 (70%)	10%
Cold symptoms	9 (90%)	9 (90%)	0%
Abdominal pain	3 (30%)	3 (30%)	0%
Fall with loss of consciousness	9 (90%)	10 (100%)	10%
Stroke	10 (100%)	10 (100%)	0%
Uncontrolled bleeding	8 (80%)	9 (90%)	10%
Severe vomiting	7 (70%)	7 (70%)	0%
Rash	8 (80%)	8 (80%)	0%
Ear or dental pain	8 (80%)	8 (80%)	0%
Muscle sprain or strain	8 (80%)	8 (80%)	0%
Broken bone	8 (80%)	9 (90%)	10%

Figure 1

Understanding of Conditions Requiring an ER Visit, Pre- and Post- Intervention



The informational handout was well received among participants. 80% of participants stated that this would be beneficial and would be utilized by them to make health decisions in the future. Education was provided to patients after giving them the handout as well, including the rationale to go to the ER for chest pain and difficulty breathing instead of the UC.

Some unintended consequences associated with this implementation included the unexpected cost of printing as well as the delay in printing due to the incorrect color font. This led to an overall problem with the original plan for implementation since the project was not ready in time to be displayed for the entire month of June 2022. Despite creating an online version of the survey and handout, that version of the survey was not completed by any participants. This may be related to the digital divide in older patients who may not be as likely to utilize newer technology, such as QR codes and mobile surveys.

Discussion

Summary

As mentioned previously in the rationale of this quality improvement project, the problem was defined as veterans presenting to the UCC for high-acuity illnesses, which leads to a delay in treatment and an increase in wait times. Prior to this implementation, participants were interviewed and some stated that they were unaware that there was a difference between the UCC and ER, while others stated that they did not understand what symptoms or conditions required a visit to either facility over the other. The global aim of this project was to improve the health literacy (HL) of veterans utilizing the VAMC in their decision-making process for the selection of urgent and emergent care, therefore reducing the number of high-acuity patients as well as reducing the wait time for the UCC. All participants scored above a 16 on the BRIEF HL scale, indicating adequate general health literacy at the start of this project. Hence, health literacy was not a factor in the decision-making process.

The specific aims of this project were to improve the knowledge of patients on the appropriate use of the VAMC UCC from baseline by 25% by July 1, 2022. When comparing the pre- and post-intervention quiz data, there was an average of 4% improvement combined for participants choosing the most appropriate facility. However, of utmost importance is that chest pain had a 20% improvement, which is one of the most common reasons for transfer to another facility. Shortness of breath, fall with loss of consciousness, and broken bones all had a 10% improvement change. No conditions had a decreased percentage change following the educational handout.

Key findings of this quality improvement project include the collective that patients agree an educational handout would be helpful to them when deciding on the use of health care

services. In addition, 80% of participants mentioned that they felt the VA did not provide them with this knowledge or education. Another important finding in this improvement project was that 60% of veterans that were interviewed would choose to utilize the VA UCC for mental health crises and suicidal thoughts. Each veteran who participated in this project was asked to complete the BRIEF Health Literacy Survey. All veterans scored in the “adequate” health literacy range, which is the highest measured. However, this score did not translate to their overall understanding of the VA UCC, or when to go to the UCC versus the ER.

Some strengths of this project include the collection of subjective data from patients who utilize the VAMC UCC. Hearing in their own words their understanding of the facilities and health care provided to them was important in gathering data to create an educational campaign. While some patients felt that they truly did not know the difference between the UCC and ER, others believed that they fully did, but still showed inappropriate usage of the UCC (for example, a third of patients interviewed reporting utilizing the UCC for crushing chest pain).

Interpretation

The participants of this quality improvement project all had adequate health literacy as assessed with the BRIEF instrument. However, there were some knowledge deficits highlighted by the survey responses, including utilizing the UCC for chest pain. However, most participants thought that the intervention would be useful in determining appropriate health care services. Many participants also felt that the VA did not provide them with information regarding the purpose of the UCC, leading to misuse. The previously mentioned study by O’Cathain et. al. found many factors of human behavior that led to patients seeking urgent care services versus emergency or primary care services, such as a need for quick service or previous negative experience at an ER (2020). It also noted that interventions to improve education and health

literacy may be beneficial at changing the behaviors that lead to misuse of healthcare facilities, which was observed in this improvement project (O’Cathain et. al., 2020).

Although a similar publication to this quality improvement project was not found, a study by Melton et. al. focused on the effectiveness of a physical activity educational campaign in an outpatient setting (2016). Women at a gynecological office were separated into two groups where once received the educational campaign related to physical activity, and the other was the control group. The campaign was successful, with patients exposed to the campaign being significantly more likely to remember the information about physical activity presented to them, had increased knowledge on the information, and overall were more likely to meet the requirements outlined for physical activity than the control group (Melton et. al., 2016). This study showed similar results to this quality improvement project and represents the success of an educational campaign at changing human behaviors.

Veterans can utilize this educational handout when making decisions for their healthcare needs. This in turn may prevent delays in care, and ultimately better patient outcomes. This project impacts not only the patients of the VA healthcare system, but also the staff and healthcare providers. With more patients utilizing the UCC appropriately, there may be a decreased burden on staff and better patient satisfaction. This project also found that the educational campaign facilitated a discussion between nurses or providers and the patient. Patients were able to ask questions and understand why certain conditions are more appropriate for the ER versus the UCC.

One difference in observed and anticipated outcomes is related to the BRIEF Health Literacy scale. As mentioned previously, all participants scored highly on the scale, which indicated adequate health literacy. Based on pre-intervention surveys regarding UCC-specific

knowledge, it was expected that the health literacy scores would be more varied among participants, and specifically reflect their knowledge on the UCC. However, the ability to find and use information is a different concept contrasted with actual knowledge. One reason for this difference may be the nature of the health literacy scale questions. These questions reflect subjective data consistent with other patient report instruments, while an objective assessment may be necessary. Another possibility for this difference is that there is just a misconception between the services provided and the similarity in the words *urgent* and *emergent* that has little to do with actual health literacy.

As mentioned previously in the cost-benefit analysis, there was some associated cost related to printing the educational handouts, which led to a delay in administration. However, the cost of the organization to print these handouts to educate veterans throughout the VAMC would outweigh the extra costs incurred from patient transfers to emergency rooms.

Limitations

This quality improvement project was designed for veterans utilizing the VAMC UCC and was only studied in this specific microsystem. The educational handout that was created answered questions specifically for the VAMC UCC. Although the eventual goal of this improvement project was to expand this knowledge and education to other departments to reach more veterans, different populations have not been tested, so generalizability is limited. There are also marked differences between the veteran population and their health care choices compared to the general population's use of urgent and emergent medicine. Future quality improvement projects would have to be conducted to focus on these different populations to ensure success beyond this microsystem.

As mentioned previously, veterans and the VAMC have many differences compared to the general population's health care options. This was demonstrated by the responses related to mental health care in the post-intervention surveys. This improvement project and associated surveys were designed specifically for the veteran population and the VAMC, so some questions may not apply to other facilities. All participants had adequate health literacy as assessed by the BRIEF instrument and yet still make decisions regarding where to seek care that are not in their best interests. Unfortunately, due to problems related to printing and administering the surveys and handouts, this project was delayed. Because of this, participants did not receive the handouts over the course of the month, so changes in transfers were not recorded.

Conclusions

The usefulness of this work is evident in the participant's responses to potential use. As this is a low-cost intervention, this educational handout can be provided to veterans utilizing the VAMC in every capacity to potentially lower the number of inappropriate UCC visits and decrease delays in healthcare, providing better patient outcomes. As mentioned previously, this measure was completed specifically within the veteran and VAMC population. Future studies outside of this microsystem are recommended to assess efficacy outside of the VAMC.

The educational handouts utilized in this study were on paper, however, this information could easily be translated to postcards, the VAMC website, or to the MyHealthEVet app on phones to make it as accessible as possible. Overall, providing this education to patients and giving them a physical handout may decrease inappropriate UCC use by improving knowledge on healthcare facilities within the VAMC.

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