

Effective Utilization of HealthCare Resources: An Educational Intervention for Adult Patients

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Abstract

Over the last ten years, a dramatic increase in Emergency Department (ED) visits has been prominent. Non-emergent chief complaints, such as repeat chronic care needs, are causing increased ED visits. The underutilization of primary care resources has been correlated with the overutilization of emergency care resources. ED overutilization is having a negative rippling effect on the ability of the US healthcare system to care for patients. Emergency department personnel and other resources are strained, leading to overcrowding and decreased quality of care. Health insurance and provider accessibility has been linked to the high rates of ED usage by adults age 18 – 64, with the highest rates seen in those under public health coverage, such as Medicaid, compared to those who were uninsured. To encourage primary care visits and discourage non-emergent ED usage, the United States health system includes patient education on the appropriate ED use, higher-copayment as financial disincentives, and encouragement of provider-patient relationships with Primary care providers (PCP). The public health clinics, including Federally Qualified Health Centers, provide patient education on the appropriate use of PCP versus ED resources, and offer extended office hours during evenings and weekends; trimming the rate of non-emergent ED visits can significantly reduce health care costs.

Keywords: ED utilization, Fotonovela, patient education

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The ineffective use of the Emergency Department (ED) is escalating health care costs per individual, the cost of health insurance, while decreasing reimbursement rate, and the quality of healthcare services provided (Bruni, Mammi, & Ugolini, 2016). The cost of obtaining quality healthcare in the United States is at an all-time high, because some citizens neglect a proactive concern for their health condition, choosing to visit the ED when their schedules permit, or when their conditions escalate (Ondler, Hegde & Carlson, 2014). The public health insurance program known as Medicaid, offers access to healthcare with little or no financial responsibility to the patient. The National Health Statistics Report recently indicated that the highest frequencies of emergency visits were found in the population with Medicaid coverage; this population also has the highest rate of chronic medical disorders (Gindi, Black, & Cohen, 2016).

As a federal law, the Emergency Medical Treatment and Labor Act (EMTALA) compels emergency departments to screen and provide necessary stabilizing care to anyone who requests an exam, mandating emergency services to provide healthcare service to everyone who seeks treatment. This inadvertently escalates healthcare cost through open access to emergency medical care for low acuity illnesses and chronic disease (Dollinger, 2014). This has led to the increased delay in diagnosing critical medical problems in the ED, thus raising healthcare costs. As a result, overutilization of the ED and underutilization of primary health services are broadly regarded as contributing factors to the inadequacies of the healthcare system (Bruni, Mammi, & Ugolini, 2016). Due to inappropriate emergency service utilization, individuals in dire need of emergency care can suffer needlessly. The healthcare services provided in the primary care

setting can help reduce overutilization of ED, improve patient outcomes through more consistent care and reduce overall healthcare costs. Consequently, developing and implementing an effective educational program can drive primary care organizations to function at capacity, thus reducing non-emergent, unwarranted ED visits and associated costs.

Purpose and Rationale

PCPs play a pivotal role when it comes to increasing access to low acuity care based upon clinical research for effective solutions and policy implementation. It is important to explore the growing concern regarding unproductive utilization of healthcare resources and its ripple effect on society. The ineffective utilization includes allocating emergency/critical care resources for chronic care, low acuity care, and non-urgent healthcare needs that PCPs are qualified to address. This paper will discuss the background and significance of the growing concerns regarding the ineffective utilization of healthcare resources, the ripple effect on society, the healthcare system, review the current literature, and discuss the positive effects of implementing the fotonovela program. This is a proven educational tool to improve patient compliance, depicted in the synthesis table of the studies.

Background and Significance

Adult Emergency Department Patients

Over the last seven years, Americans spent approximately \$2.4 trillion on healthcare services, of which ED charges accounted for nearly \$240 billion of the total cost (Ondler, Hegde & Carlson, 2014). Inappropriate ED visits ranged between 20% and 80% of all non-emergent services (Bruni, Mammi, & Ugolini, 2016). As the ineffective utilization of healthcare resources continues to rise, the demand will continue to strain the national healthcare system (Shaw et al., 2013). From 2013 to 2014, 7.9 million adults acquired public health insurance coverage (Gindi,

Black, and Cohen, 2016). Gindi et al., further reported that the National Health Statistics indicated that adults ages 18 through 64 with Medicaid coverage had the highest rate of ED visits. The authors noted that the analyses performed by the National Survey on Medicaid population indicated deprived health status and associated it with increased medical needs and non-urgent ED visits among the age group. Uscher-Pines et al. (2013) described non-urgent ED visit as seeking medical care for an illness in which a delay of service for several hours would not result in an adverse outcome.

The unnecessary ED visits cause a wasteful allocation of national health resources, increase nationwide healthcare cost, and create a disruption in the continuity of healthcare, which leads to poor health outcomes (Bruni, Mammi, & Ugolini, 2016). The continuity of healthcare is the relationship between the primary care provider and the patient. This relationship facilitates vital health information and involves the plan of care development essential in the care of complex chronic illness. This ensures progression towards the intended outcome (Pourat, Davis, Chen, Vrungos, & Kominski, 2015). These researchers found that the people's decisions to choose the ED over PCP reflect the self-assessment of their healthcare needs, the accessibility, and the financial requirement, insured versus uninsured.

Fotonovela Pamphlet

As the healthcare system becomes increasingly complex, people are overrun with the compounded information that they can process, resulting in misinformation, adversely affecting health and well-being. The World Health Organization (WHO), suggests that people with sound health literacy are well-equipped to successfully use healthcare resources and enjoy healthy outcomes (WHO, 2013). Due to the difficulty reading and digesting written information such as handouts and package inserts, individuals with low health literacy increases non-compliance.

Koops van't Jagt and colleagues' systematic review (2018) examined the effectiveness of health-related documents. It showed that visual narrative educational strategies are effective method of delivering health information. Therefore, healthcare systems should not merely rely on words as a communication tools. A Fotonovela is a pamphlet that incorporates pictures and captions to reveal theatrical stories to capture the audience's interest with its semi-realistic characters in graphic pictures, coupled with simple phrases. Koops van't Jagt et al (2018) concluded Fotonovelas were narrative educational tools that assists people to facilitate information processing, increases motivation to attain the main idea, and contributes to the transformation in behaviors.

In California, a bilingual Fotonovela education on diabetes was used to assess 311 Hispanic adults with low literacy levels and showed a statistically significant knowledge gain after reading the pamphlet (Koops van't Jagt et al., 2018). The authors indicated the difficulties in reading and understanding health information based only on a written form was less beneficial than that of a booklet containing written information and graphic images.

Rate of Non-Emergency Department Visits

From January 1, 2013 to December 31, 2013 a sum of 163,951-people visited the ED, of which 1.3% were uninsured and 38,579 did not require hospital admission or require ED services (Erenler et. al, 2014). From the sum, 1,210-people revisited the ED within 24 hours and another 16,095-people revisited within a month. Therefore, a research project is essential to develop an effective intervention to generate significant healthcare cost savings (Honigman, Wiler, Rooks, & Ginde, 2013). Stakeholders such as the health systems, providers, and payers formulated various national healthcare initiatives to depress the non-emergent ED visits. This includes patient education and financial disincentives. The healthcare initiatives also consist of

interventions to increase the availability of PCP which was expected to meet the demands of people who might report themselves to the ED. This gave rise to the extension of PCP office hours into the evening, weekends, and Saturday clinic hours at the peak time. Xin, Kilgore, Sen, & Blackburn (2015) reported that some diseases addressed within the PCP office hours had a price tag of \$600 - \$900 more expensive per each ED encounter. The authors also indicated an estimated \$6 to \$9 million in cost savings for a 5% reduction of non-urgent ED visits and a \$29 to \$43 million for a 25% reduction. Similarly, Uscher-Pines et al. (2013) projected an annual savings of \$4.4 billion if the primary care visits were addressed in the providers' offices or in retail clinics.

Internal Evidence

A local faith-based community health clinic in southern Arizona has been unable to combat the problem of overutilization of the ED and underutilization of primary health services. The clinical director reported that besides verbal education, there is no formal teaching tool used to reduce ED overuse. Approximately 24% of patients' report seeking non-urgent medical care in the ED (B. Berrera, personal communication, March 27, 2019). Patient educational methods need to change to effect in knowledge and attitudes necessary to maintain or improve health (AAFP, 2019). For integrated clinics to maintain their federal and state funding, alternative educational programs proven to increase patient compliance must be explored with the goal of reducing ineffective health resource utilization in adult patients aged 18 to 64 years old. This inquiry led to the clinically relevant PICOT question, "In a primary care clinic, how does the use of a Fotonovela booklet as an educational tool for 18 to 64-year-old adult patients affect the non-urgent ED visits over a six-weeks' timeframe?".

Problem Statement

In 2014, 18% of adults accounted for 20% of the total ED visits for non-emergent care (Gindi, Black, & Cohen, 2016). Such ineffective utilization of emergency resources continues to grow exponentially, creating tensions on ED resources, escalating health care costs and compromising healthcare of critically ill people.

Search Strategies

An exhaustive search was conducted using the following databases: Cumulative Index to Nursing and Allied Health (CINAHL), PubMed Central (National Library of Medicine), PubMed (National Institutes of Health), ScienceDirect, and MEDLINE (ProQuest) to assist in the primary search of literature relevant to the clinical problem. To yield pertinent studies that address each component of the research question, key terminologies used included:

P (Patient or Population)	Adult patients ages 18 to 64 years' old
I (intervention/indicator)	Fotonovela booklet
C (comparison)	verbal education
O (outcome of interest)	impact on non-emergent ED visits
T (Time)	Six-weeks' timeframe

Also, key terminologies used included: *“emergency room costs for non-emergencies, non-urgent emergency room cost, cost of non-emergent ER visit, non-urgent emergency room cases, non-urgent emergency visits, emergency room (and) primary care use, hospital emergency services, emergency room (and) non-emergent use, emergency room for non-emergencies, “effective utilization of primary care (OR) emergency room usage,” “non- emergency treatment in emergency department,” “non-urgent emergency visit (OR) non-emergent ER visit, “primary care (and) emergency department (and) non-urgent emergency visit.”* Inclusion criteria were articles written in the English language, including publications within the last 5 years.

The CINAHL database had the option to further filter results to case studies and age group limits while this filter yielded seven articles (Appendix A). PubMed searches found 62 initial items, which was further narrowed using Medical Subject Headings (MeSH) terms, leaving 21 articles of relevance (Appendix B). ScienceDirect initially found 97 articles, of which only one was applicable. This finding provided links to other recommended articles based upon the selected topic. However, similar articles were already selected from PubMed. For MEDLINE ProQuest, my first search result was zero, however after refining the search, it yielded 405 items. I then limited it to a five-year timeframe and ended with 25 articles (Appendix C). From all the databases searched, 10 articles were selected: two Systematic Reviews, one Randomized Controlled Trial, one quasi-experimental, two Retrospective Study, two Case Control Study, one Cross Sectional Study, and one Case Report were incorporated into this clinical inquiry.

Critical Appraisal and Evidence Synthesis

Rapid Critical Appraisal (RCA) was conducted for the literature reviews selected. The articles were selected based upon the level of evidence. After reviewing the ten studies, all the study designs met the scientific standards. The level of evidence ranges from systemic reviews, randomized trials being as higher levels of evidence and the observational studies as a lower level of evidence. All aspects of the study's design conducted and analyzed were transparent to the benefits and harms. According to the literature, a benefit of not using the ED for non-emergency concerns is developing continuity of care with a PCP who can facilitate care for chronic and subacute conditions. The harms of this practice include the inappropriate ED admission for non-emergency services.

The studies followed a valid research process and the instruments used for intervention resulted in improved access to primary care, which helped to reduce unnecessary ED utilization

and improved patient health outcomes. In the articles, the authors adhered to the concept that consistency in the methods of responding to the questionnaires/surveys, and the outcomes remain fairly the same using the t-test method. Some of the studies clearly defined the risk and outcome in the objective section while others covered the material in the validated methods section. To avoid biased results, the participants were selected from the same general population and underwent rigorous inclusion criteria, which are similar across the studies. Only three studies explicitly indicated their exclusion. The articles also include measures such as an ongoing discussion between the authors to verify the coding scheme, interpretation, and conclusion.

The datasets are homogeneous because they incorporate people/ individuals with similar demographics. To illustrate this, the sample populations were chosen because they have similar traits in age and location. For example, the data set is made up of adults 18 to 64 years old and the traits selection and location were meaningful to the study conducted. Also, there was no indication of male to female ratio. One of the systematic reviews studied the literature on interventions in various categories encompass the rest of the 9 articles and the overall outcomes were analogous in the proportion of the high user of ED resources.

Conceptual Framework

Koops van't Jagt and colleagues (2018) conducted a focus study to explore the effects of Fotonovela on patients diagnosed with depression. Researchers report a statistically significant knowledge gain in the fotonovela group. To guide this potential project, a theoretical model of the patient's decision-making process to visit the ED for a non-emergency medical condition, coupled with an (Appendix F) Entertainment Overcoming Resistance Model (EORM), an effective health communication tool such as a leaflet that can illustrate a theatrical story using photographs and captions can captivate the audience. The outcome is substantial to future studies

alike. Similarly, a four weeks' study using a literacy and culturally fit narrative communication as a tool for health behavior changes would be conducted parallel to the study stated above while raising cognitive process whereby readers can imagine himself or herself as a certain character.

Evidence-Based Practice Model

The ACE Star model of change (Appendix G) has been chosen to guide the proposed educational intervention (Schaffer, Sandau & Diedrick, 2013). The model offers a comprehensive outline that systematizes Evidence Based Practice (EBP) processes using five points of knowledge transformation; thus, transform knowledge generated from research into a report that provides relevant and valuable information to the patients in a literacy and culturally appropriate fotonovela pamphlet. This can be integrated into practice, and then evaluated for the impact of EBP and the effect of ED usage. Evaluating how appropriate variables were used in the studies can underline the contributions made the research studies. Incorporating the method to distinguish the proposed project's variables and to propose resolutions to the barriers may lead to a success in minimizing the ineffective utilization of healthcare resources.

Project Method

The Institutional Review Board at Arizona State University approved this project (Appendix H). Prior to project implementation, the clinical site also approved the project to be conducted at their clinic (Appendix I), after determining that the project was going to be beneficial. Ms. Beatriz Barrera, patient care coordinator, accessed the Care Empower database and extracted patients' ED visit histories with a high number of ED visits. Dr. Mark Schildt, Medical Director, granted access to the patient's chart record. The inclusion criteria included adult clients ages 18 to 64 who are able to consent, either English and/or Spanish speaking, with a minimum history of one non-emergent ED visit within the last six months. Exclusion criteria

include special populations and anything outside of the inclusion. Chart audits were conducted retrospectively and cross-referenced with the inclusion criteria (Appendix J). Participants were identified from the list generated from the Empower system, an Electronic Health Information (EHI) exchange database. A retrospective chart audit was conducted for those who met inclusion criteria and they were presented with recruitment letters and consent forms. Kang et al. (2013) reported the validity and reliability of patient selections based on medical record review for test-retest as 0.641 and 0.974. A demographic questionnaire as a baseline pre-test (Appendix I), and a 15 min Fotonovela educational session were conducted (Appendix J). Six weeks later, a post-test survey (Appendix I) was conducted on five participants who completed the survey, EHI and a chart audit were used to assess changes in ED use. Also, a pre and post-survey interview were to collect demographic and intervention assessment questionnaire answers from the subjects.

The outcome variable for this project is the rate of ED utilization. An indication of a successful outcome would be an effective utilization of healthcare resources, a 50% reduction in the rate of non-emergent ED visits in six weeks. Also, an ultimate decrease in healthcare costs. Using EORM's persuasive narrative methodologies to guide the interrelated concepts of using simple text to create a visual narrative story with photographs and captions to illustrate realistic characters to engage participants, can inspire participants to accept the key message and induce a behavior change. The ACE star model incorporates the established nursing process and the distinctive aspect of EBP Through the five points, the ACE star model is able to provide a methodical assimilation of Fotonovela evidence into clinical practice. The Fotonovela content can be acquired through the first three stages of ACE star model; knowledge discovery, evidence summary. In the last two stages, implementation can enable Fotonovela integration, which can

lead to improved quality of care and the evaluation of the strategy and outcome can provide vital information which can be improved before incorporating it into the current practice.

Outcomes/Project Results/Impact

The study sample consisted of seven adult patients, with only 5 completing the follow-up survey (N=5) in a primary care clinic. It was identified that 4 (80%) had taxpayer-funded health insurance and 1 (20%) was uninsured. All the participants' income range from \$0 to 25,999, all below the federal poverty level. The majority of sample with high school education 3 (60%) and the remainder with some college credit 2 (40%).

Table 1

		<i>preHealth Visits to ED</i>			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.0	1	20.0	20.0	20.0
	4.0	2	40.0	40.0	60.0
	6.0	1	20.0	20.0	80.0
	8.0	1	20.0	20.0	100.0
	Total	5	100.0	100.0	

Table 1

In this table, the scores in the first column are the number of visits by the participants.

Participants had taken between 2 and 8 visits prior to the intervention. The Frequency column shows how many participants visited the ED. One participant had 2 visits, two participants had 4 visits each, one participant had 6 visits and one participant had 8 visits. The frequencies were converted to percentages in the percent column. We can conclude the participants had an average of 4 ED visits (40%) or more. All participants visited the ED and the PCP. One visited the retail clinic and one visited the free clinic.

Table 2

<i>PostHealth Visits to ED6a</i>				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	5	100.0	100.0

Table 2

In this table, the scores in the first column are the number of visits by the participants. Therefore, no participant visited ED after the intervention. The frequency column shows number of participants; all five participants did not make any visit. We can conclude that all of the participants (100 %) did not visits the ED after intervention.

Before the intervention, participants indicated: 2 (40%) preferred walk-in, 2 (40%) indicated regular doctor is closed, and 1 (20%) indicated the problem could only be addressed in the ED. The complaints were evenly distributed across major systems (100%). The complaints were evenly distributed across major systems (100%). Within the six-week post-health visits intervention period, all the participants visited the PCP, no participants visited the ED and Free Clinic.

The majority of the participants were Caucasian 3 (60%) and the remainder were Hispanic 2 (40%). The sample consisted of 2 (40%) females and 3 (60%) male participants. The average age of the participants is 52 (SD=13.71) and the ages ranged from 22 to 61 years of age. The average rate of ED visits before intervention is 4.57 (SD= 2.94) and the ED visits ranged from 2 to 11. The average rate of ED visits after intervention is zero. All participants agreed that access to a primary care physician would be beneficial. According to the post-rating booklet, the participants had no reasons to visit the ED and reported that 1) the booklet kept their interest and attention; 2) information in the booklet was trustworthy; and 3) the teaching methods helped distribute meaningful knowledge on the effective use of the ED and PCP. The five participants

learn about effective utilization of PCP vs ED with the Fotonovela method. A pre and post-test of the measurement of the effectiveness of the tool was taken on a scale, where 1= Not at all effective to 5= very effective method. The result indicated that after measurement, it showed a decreased overuse of ED resources (average rank of 3 to 0).

The Fotonovela education reduced the rate of ED visits by an effect size of 1.5, a significant improvement between pre- and post-intervention. All participants agreed that access to primary care physicians, after-hour services, a one-on-one nurse care, and access to mental health services would be beneficial, however access to online appointment scheduling would not be beneficial. Two participants believed after-hour services are vital, four agreed that one-on-one nurse care would be beneficial while three think transportation to appointment could be helpful, four believe access to mental health services would be helpful, all participants does not believe that online appointment scheduling is beneficial, and four out of five participants think referral to specialist would be helpful in achieving their desired health level.

Reporting Outcome Variables

The SPSS 25.0 software bundle was used to analyze the data obtained. At the end of the study, the researcher grouped and evaluated the participants' complaints and reasons for the ED visits. The research conducted paired-test to evaluate average score of the pre- and post- Health Information National Trends Survey (HINTS), which was developed by National Cancer Institute (NCI) to fill the gap in health communication and health promotion on a population-wide basis (Nelson, 2004).

Table 3
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
preRateED	5	3.00	4.00	3.8000	.44721
postRateED	5	.00	.00	.0000	.00000
PreHINTS	5	14.00	29.00	21.8000	6.90652
postHINTS	5	7.00	16.00	13.2000	3.83406
totalScore					
Valid N (listwise)	5				

Table 3

Among the participants that took the Fotonovela education, (N=5), there was a statistically significant difference between the pre- and post ED visits, pre- ED visits ($M=3.80$, $SD = .45$) and post ED visits ($M=0$, $SD = .00$), $p \leq .05$.

Further, Cohen's effect size value ($d=1.5$) suggested a high practical significance. The results were worthwhile because they are relevant to the clinical practice because the effect size (ES): Cohen's d (ED visits) = $\frac{21.80 - 13.20}{5.58} = 1.539$

$Z = 1.539$ indicates there is large difference between the mean of pre-test and post-test. The difference between the two test is more than 1 standard deviation.

Table 4

		Ranks		
		N	Mean Rank	Sum of Ranks
postRateED – preRateED	Negative Ranks	5 ^d	3.00	15.00
	Positive Ranks	0 ^e	.00	.00
	Ties	0 ^f		
	Total	5		

- a) postRateED < preRateED
 b) postRateED > preRateED
 c) postRateED = preRateED

Table 4

Table 5

Test Statistics^a

	postRateED - preRateED
Z	-2.121 ^b
Asymp. Sig. (2-tailed)	.034

- a. Wilcoxon Signed Ranks Test
 b. Based on positive ranks.

Table 5

The Wilcoxon test will be run due to low number of participants and will be used to examine whether there was a difference in the ED rate before and after a 6 week Fotonovela educational program (i.e., dependent variable is the “ED rate”, and the two related groups are the values of ED rate before and after the intervention program). The output from table 4 and 5 is from the Wilcoxon test conducted in SPSS. The difference between the two means is an indication that Fotonovela intervention which had a large effect on increasing knowledge. The SPSS test output contained a z-value of -2.12 and a p-value of 0.034, which is less than 0.05. Hence, we can confirm that there is significant difference between the 2 tests.

Five participants learn about effective utilization of PCP vs ED with the Fotonovela method. A pre and post-test of the measurement of the effectiveness of the tool was taken on a scale, where 1= Not at all effective to 5= very effective method. The result indicated that after measurement, it showed a decreased overuse of ED resources (average rank of 3 to 0).

Table 6

null: null

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between postRateED and preRateED equals 0.	Related-Samples Wilcoxon Signed Rank Test	.034	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Table 6

The Wilcoxon signed ranked test showed that the observed difference between both the pre- and post-ED visits is significant; therefore, we can reject the null hypothesis, which states that there will be no difference after the Fotonovela intervention. We can assume that the teaching method is effective, thus resulted in a significant decrease in the rate of ED visits.

The null hypothesis states that there will be no difference in the participants ED visits rate post intervention. The alternate hypothesis states that the intervention has an effect on the participants and the no. of visits will be lesser than the current visits.

Discussion

The purpose this project was to study the effect of Fotonovela to educate adult patients with high ED visits to gain decision-making knowledge to seek health care appropriately over 6

weeks at SEHC and reduce overutilization of ED resources. The researcher found that the mean ED visits over six weeks post-Fotonovela intervention in primary care setting declined significantly among ED overuse. These results indicated that, over a short period, Fotonovela may be an effective intervention tool in playing a small role in preventing primary care related ED use. This finding may be associated with cost savings because program implementation costs are lesser than ED visits costs. This project, however, did not include the cost of participants' ED visits. A longitudinal study of ED visits and costs pre/post intervention may be warranted for further investigation.

Conclusion

Fotonovela entertaining educational tool can positively affect primary care related ED overuse. The evidence indicated that through the narrative structure of EORM, educational messages can overcome reactance by diminishing the viewer's perception that the messages is intended to persuade. A commonality in barriers noted for this project includes low health literacy and low socioeconomic factors. A change in ED visit rate was observed after the project, which directly correlated to a decrease in non-urgent ED visits. This means reduced missed appointments (no-show and late cancellation), which can help stimulate the practice site's revenue. This can also enable the patients to establish a more effective provider-patient relationship with their PCP and improves patients' ability to participate in shared-decision making about their health. Reduction in ED use can divert patients to PCP thereby significantly decreasing health care expenditures, thus health care costs.

Fotonovela tools are feasible and economically worthwhile. The fiscal costs include copyright, printing costs, and staff associated costs. The total amount of cost is yet to be

determined. Clinical factors included incorporating Fotonovela education into the current routine and effectively managing resistance to routine change.

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Appendix A

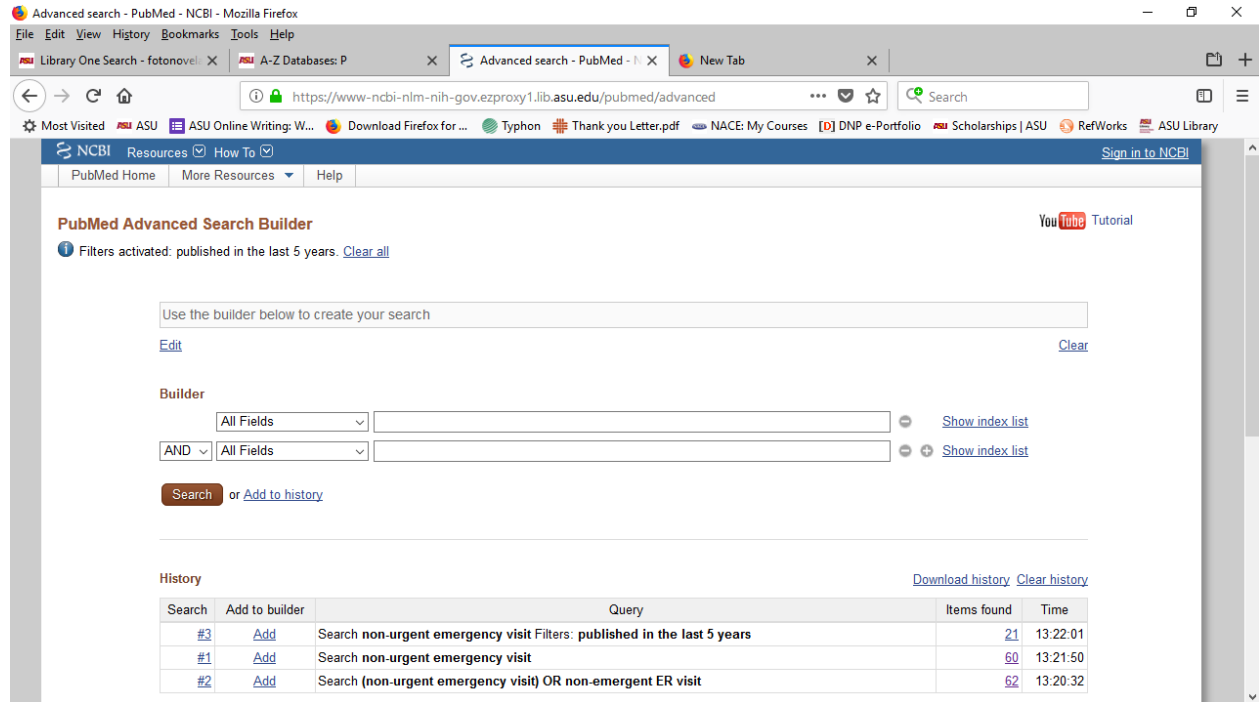
Figure 2 Cumulative Index to Nursing and Allied Health Plus

The screenshot shows the EBSCOhost search interface in a Mozilla Firefox browser. The search history table is as follows:

Search ID#	Search Terms	Search Options	Actions
S5	non-emergency treatment in emergency department	Search modes - Boolean/Phrase	View Results (1) View Details Edit
S4	effective utilization of emergency department	Search modes - Boolean/Phrase	View Results (7) View Details Edit
S3	emergency room usage	Search modes - Boolean/Phrase	View Results (14) View Details Edit
S2	effective utilization of primary OR emergency room usage	Search modes - Boolean/Phrase	View Results (30) View Details Edit
S1	effective utilization of primary AND emergency room usage	Search modes - Boolean/Phrase	View Results (0) View Details Edit

Appendix B

Figure 1 PubMed



Appendix C

Figure 3 MEDLINE (ProQuest)

The screenshot shows the ProQuest MEDLINE search interface. At the top, there is a search bar and navigation links. Below the search bar, there is a section for 'Recent Searches' with a search input field and a 'Search' button. Below this, there is a table of search sets. The table has columns for 'Set', 'Search', 'Databases', 'Results', and 'Actions'. The search sets listed are S11, S10, S9, S7, and S4, all using MEDLINE as the database. The result counts are 25, 28, 405, 59, and 0 respectively. Each row has an 'Actions' link.

Set	Search	Databases	Results	Actions
S11	Emergency department (ED) visits AND utilization of primary care ✓ Limits applied	MEDLINE	25*	Actions
S10	Emergency department (ED) visits AND utilization of primary care ✓ Limits applied	MEDLINE	28*	Actions
S9	Emergency department (ED) visits AND utilization of primary care ✓ Limits applied	MEDLINE	405*	Actions
S7	emergency room usage ✓ Limits applied	MEDLINE	59*	Actions
S4	emergency room cost for non-emergencies ✓ Limits applied	MEDLINE	0*	Actions

Appendix D

Table 1
Evaluation Table

Citation	Conceptual Framework	Design/ Method/ Sampling	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Findings/ Themes	Level Evidence
Gingold, D. B., (2017). Impact of the affordable care act Medicaid expansion on emergency department high utilizers with ambulatory care sensitive conditions Country: US Funding: No outside funding Bias: None	HSM	Design: CSS Method: Differences-in-differences approach using logistic regression to investigate differences between high and low utilizer cohorts changed from before and after expansion	Sample: Yr. 1: <i>n</i> =17,795 Yr. 2: <i>n</i> =16,456 Setting: ED at PGHC, a public safety-net hospital in Cheverly, Maryland, a suburb of Washington D.C.	DV– ED utilizers: high & Low IV – # of ED visit	Picis ED PulseCheck	SAS University Edition Studio version 3.4 two tailed Student's t-test Pearson χ^2 test logistic regression	After Medicaid expansion, there was an overall increase in ED utilization	Level IV

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Citation	Conceptual Framework	Design/ Method/ Sampling	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Findings/ Themes	Level Evidence
<p>Gindi, R. M. (2016). Reasons for emergency room use among US adults aged 18-64</p> <p>Country: US</p> <p>Funding: Not disclosed</p> <p>Bias: None</p>	HBM	<p>Design: Case Report</p> <p>Method: Multipurpose health survey conducted continuously. Data are collected in person</p>	<p>Sample: Adult aged: 18-64 years</p> <p>Yr. 1: $n = 26,825$</p> <p>Yr. 2: $n = 28,053$</p>	<p>IV: % adult who visited ED, Reasons for most recent visit</p> <p>DV: Seriousness of medical problem, doctor's office or clinic was not open, and lack of access provider</p>	SUDAAN software version 11.0.0, a software package designed to account for the complex sampling design of National Health Interview Survey (NHIS).	Regression models	Few changes in ER use were noted between 2013 and 2014.	Level II

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<p>Koops van't Jagt, R. (2018). Sweet Temptations: How does reading a fotonovela about diabetes affect dutch adults with different levels of literacy</p> <p>Country: US</p> <p>Funding: No outside funding</p> <p>Bias: None</p>	EORM	<p>Design: RCT</p> <p>Method: Participants from both groups were randomly assigned to one of three conditions: fotonovela condition, traditional brochure condition, and a control condition. All participants filled out</p>	<p>Sample: 202 (age 16 - 65) LL-group (N = 89)</p> <p>HL-group (N = 113)</p> <p>Setting Participants in low LG were recruited from literacy courses/literacy meetings</p> <p>HL- participants group were recruited from family</p>	<p>DV-1: Literacy (low and high)</p> <p>IV-1: DM knowledge, behavioral intentions</p> <p>IV-EORM: variables measuring entertainment features-transportation, identification, and perceived</p>	<p>Fotonovela booklet</p> <p>Traditional brochure</p>	Univariate analysis of variance	The outcomes of this study suggest that a fotonovela may be a valuable health education format for adults with varying levels of literacy.	Level I

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		questionnaire	members /acquaintances of PHC students	similarity, entertainment features variables: counterarguing and perceived vulnerability				
Morgan, S. (2013). Non-emergency department interventions to reduce ED utilization Country: US Funding: Not disclosed	CMED-crowding	Design: SR Method: Systematical reviewed the literature on the effectiveness of non-ED interventions	Sample: 39 studies, 34 OBS & 5 RCT Setting: literature review on interventions IC: Patient education on medical conditions and	DV: Patient education; Additional non-ED capacity; Managed care; Prehospital diversion, and Patient financial incentives.	Grading of Recommendations Assessment, Development, and Evaluation (GRADE) guideline.	Studies were observational	Interventions with the greatest number of studies showing reductions in ED use include patient financial incentives and	Level I

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Bias: None			appropriate medical care use for low-acuity conditions; Creation of additional capacity in non-ED settings; PCP Managed care; Prehospital diversion, and Patient financial incentives EC: Telephone triage and case Management	IV: ED visit			managed care, while the greatest magnitude of reductions was found in pt education	

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<p>Ondler, C. (2014). Resource utilization and health care charges associated with the most frequent ED users</p> <p>Country: US</p> <p>Funding: Not disclosed</p> <p>Bias: None</p>	HBM, HUM	<p>Design: Descriptive statistics</p> <p>Method: RS (Retrospective Study)</p>	<p>Sample: n= 216 108 Frequent and 108 non-frequent users</p> <p>Setting: ED at our urban, teaching hospital</p>	<p>IV: ED visits: frequent and non-frequent</p> <p>DV: Demographic characteristic, distance lived from hospital, medical and psychiatric hx, substance abuse hx, diagnostic testing, disposition, and cost for visit.</p>	Standardized statistical collection tool with standard definitions of the predetermined variables.	χ^2 for proportions and t test, Wilcoxon rank sum based on normality of the data	Frequent users have unique medical and social characteristics; however, disposition and visit charges did not differ from nonfrequent users.	Level IV

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<p>Sabik, L. (2017). Changes in emergency department utilization after early Medicaid expansion in California Country: US</p> <p>Funding: Robert Wood Johnson Foundation</p> <p>Bias: None</p>	Quasi-experimental framework	<p>Design: LRM</p> <p>Method: QE</p>	<p>Sample: Adults ages 18–64</p> <p>IC: short-term, nonfederal, MSH EDs in CA, NV, AZ</p> <p>EC: 13 hospitals without full 16 quarters of data over study period</p> <p>CG: CA expansion counties</p>	<p>IV: # of visits by pt. with Medicaid, commercial insurance, and uninsured</p> <p>DV: total and NE ED</p>	Survey, ED algorithm	linear regression	Similar trends across both sets of counties over time and an increase in total ED visits across both groups	Level III

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			IG: NV and AZ counties Setting: short-term, nonfederal, GMSH EDs in CA, NV, AZ					
Shaw, E. K. (2013). Decision-making processes of patients who use the emergency department for primary care needs	BHM Grounded theory	GT Design: Qualitative Study Method: CCS: (Case Control Study) Audio-	Sample: <i>n</i> =30 patients who sought treatment in ED Setting: Urban Level I adult ED TC and a tertiary care center for multiple	IV: Patients' DMP DV: ED non-urgent visit	Atlas.ti (Atlas.ti Scientific Software Development GmbH, Berlin, Germany), a qualitative software program that facilitates	Qualitative analytic approach	Findings highlight that future endeavors to improve health care service delivery cannot overlook the power of	Level V

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<p>Funding: Not disclosed</p> <p>Bias: None</p>		recorded interviews transcribed into Atlas Cycles of immersion/crystallization to analyze transcripts	<p>specialties</p> <p>IC: age 21 or older, able to speak English or Spanish, local resident, triaged in ED's non-urgent area</p> <p>EC: no exception</p>		analysis.		patient perceptions that shape their decisions to use the ED vs. other health care facilities for non- urgent needs.	
Uscher-Pines, L. (2013). Deciding to visit the emergency department for non-urgent	HUM MIB	Design: conducted a systematic review of the peer-reviewed and grey	<p>Sample: 63 articles</p> <p>Setting:</p> <p>IC: Full text from 26 articles</p>	<p>DV: Visit ED for non-urgent condition</p> <p>IV: younger age, ED for</p>	Standardized data form to collect information from included articles.	All the studies were observational in nature and the	Age, convenience of the ED compared to alternatives, referral to the ED by a	Level V

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conditions: A systematic review of the literature Funding: CHCF Bias: None		literature to identify factors associated with non-urgent ED Method: SR	EC: lack of quantitative data and non-U.S. patients	convenience, referral to ED, negative perception about PCP		majority did not use multivariate statistics.	physician, and negative perceptions about alternatives all play a role in driving nonurgent ED use.	
Weisz, D. (2015). Emergency department use: A reflection of poor primary care access? Funding: New York	HCM	Design: Survey research design Method: CCS (case-control study)	Sample: 11,546 patients Setting: Survey data from three different: ACSCs, New York SPARCS, BHIP	IV: Age, gender, race/ethnicity, and primary payer. DV: ED visits	Population-based administrative data set	Logistic regression analysis	Survey and insurance encounter data suggest many Medicaid pts chose ED because healthcare system	Level V

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State Health Care Efficiency and Affordability Law grant Bias: Yes (Grant is goal specific)							failed to provide easily accessible, culturally competent, timely, quality PCP.	
Xin, H. (2015). Can nonurgent emergency department care costs be reduced? Empirical evidence from a US nationally representative sample	SPO	Design: MEPS Method: Retrospective cohort designs	Sample: n= 1287 Ages (18-34), (35-64), (65 and older) Setting: In person ED	IV: SPO Model (Usual source of care, perceived convenience needed medical care, and pts care quality	Survey procedures in STATA (version 12; StataCorp LP, College Station, TX) Prevention quality	Multivariate analysis	Improvement in ambulatory care quality as potential target area to effectively reduce nonurgent ED care	Level IV

Note: **ACSCs**-Ambulatory Care-Sensitive Conditions, **AZ**-Arizona, **BHIP**-Brooklyn Health Care Improvement Project, **CA**-California, **CHCF**-California Healthcare Foundation, **CV**- Control Variable, **CMED**-Conceptual Model of Emergency Department, **GT**-Grounded theory, **DV**-Dependent variable, **DM**-Diabetes Mellitus, **DMP**- Decision Making Process, **EMR**-Electronic Medical Records, **ED**- Emergency Department, **EORM**-Entertainment Overcoming Resistance Model, **EC**-Exclusion Criteria, **GMDH**-General Medical Surgical Hospital, **HBM**-Health Belief Model, **HL**-High Literacy, **HUM**-Healthcare Utilization Model, **HSM**-Health System Model, **BHM**-Behavioral Model of Health Services, **IC**-Inclusion Criteria, **IV**- Independent Variable, **LG**- Literacy Group, **LL**-Low Literacy, **LRM**-Linear Regression Models, **MEPS**-Medical Expenditure Panel Survey **MIB**- Model of Illness Behavior, **NE**-Nonemergent, **NV**-Nevada, **n**- Sample Population, **OBS**- observational, %-Percent, Pts- Patients, **PCP**- Primary Care Provider, **PHC**-Persuasive Health Communication, **PGHC**-Prince George's Hospital Center, **RCT**- Randomized Control Trial, **RCS**-Retrospective Cross-Sectional Study, **SPO**-Structure Process Outcomes, **SSI**-Semi-Structured Interviews, **SM**-System model, **SPARCS**-Statewide Planning and Research Cooperative System, **SR**-Systematic review, **TC**-Trauma Center, US-United States, **Yr. 1**-2013, **Yr. 2**-2014

Table 1
Evaluation Table

Citation	Conceptual Framework	Design/ Method/ Sampling	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Findings/ Themes	Level Evidence
Funding: Not disclosed Bias: None				evaluation). DV: Urgent vs. nonurgent ED care cost CV: age, gender, race/ethnicity, rural/urban location, insurance status	indicators (PQIs).		costs.	

Note: **ACSCs**-Ambulatory Care–Sensitive Conditions, **AZ**-Arizona, **BHIP**-Brooklyn Health Care Improvement Project, **CA**-California, **CHCF**-California Healthcare Foundation, **CV**- Control Variable, **CMED**-Conceptual Model of Emergency Department, **GT**-Grounded theory, **DV**-Dependent variable, **DM**-Diabetes Mellitus, **DMP**- Decision Making Process, **EMR**-Electronic Medical Records, **ED**- Emergency Department, **EORM**-Entertainment Overcoming Resistance Model, **EC**-Exclusion Criteria, **GMDH**-General Medical Surgical Hospital, **HBM**-Health Belief Model, **HL**-High Literacy, **HUM**-Healthcare Utilization Model, **HSM**-Health System Model, **BHM**-Behavioral Model of Health Services, **IC**-Inclusion Criteria, **IV**- Independent Variable, **LG**- Literacy Group, **LL**-Low Literacy, **LRM**-Linear Regression Models, **MEPS**-Medical Expenditure Panel Survey **MIB**- Model of Illness Behavior, **NE**-Nonemergent, **NV**-Nevada, **n**- Sample Population, **OBS**- observational, %-Percent, Pts- Patients, **PCP**- Primary Care Provider, **PHC**-Persuasive Health Communication, **PGHC**-Prince George's Hospital Center, **RCT**- Randomized Control Trial, **RCS**-Retrospective Cross-Sectional Study, **SPO**-Structure Process Outcomes, **SSI**-Semi-Structured Interviews, **SM**-System model, **SPARCS**-Statewide Planning and Research Cooperative System, **SR**-Systematic review, **TC**-Trauma Center, **US**-United States, **Yr. 1**-2013, **Yr. 2**-2014

Appendix E

Table 2
Synthesis Table

Author	Gingold	Gindi	Koops	Morgan	Ondler	Sabik	Shaw	Uscher-Pines	Weisz	Xin
Year	2017	2016	2018	2013	2014	2017	2013	2013	2015	2015
LOE	IV	II	I	I	IV	III	V	V	V	IV
IV										
ED Low Users	X				X					
ED High Users	X				X					
ED Non-urgent visit		X		X		X	X	X	X	X
ED Urgent visit		X		X					X	X
LG			X							
DV										
Additional non-ED capacity				↓						
Age		ns						ns		
Behavioral intentions			ns							

Note: ACSCs-Ambulatory Care-Sensitive Conditions, AZ-Arizona, BHIP-Brooklyn Health Care Improvement Project, CA-California, CHCF-California Healthcare Foundation, CV- Control Variable, CMED-Conceptual Model of Emergency Department, GT-Grounded theory, DV-Dependent variable, DM-Diabetes Mellitus, DMP- Decision Making Process, EMR-Electronic Medical Records, ED- Emergency Department, EORM-Entertainment Overcoming Resistance Model, EC-Exclusion Criteria, GMDH-General Medical Surgical Hospital, HBM-Health Belief Model, HL-High Literacy, HUM-Healthcare Utilization Model, HSM-Health System Model, BHM-Behavioral Model of Health Services, IC-Inclusion Criteria, IV- Independent Variable, LG- Literacy Group, LL-Low Literacy, LOE-Level Of Evidence, LRM-Linear Regression Models, MIB- Model of Illness Behavior, NE-Nonemergent, NV-Nevada, n- Sample Population, ns-Not significant, OBS- observational, %-Percent, PCP- Primary Care Provider, PHC-Persuasive Health Communication, PGHC-Prince George's Hospital Center, RCT- Randomized Control Trial, RCS-Retrospective Cross-Sectional Study, SPO-Structure Process Outcomes, SS-Statistically Significant, SSI-Semi-Structured Interviews, SM-System model, SPARCS-Statewide Planning and Research Cooperative System, SR-Systematic review, TC-Trauma Center, US-United States, Yr-Year, Yr. 1-2013, Yr. 2-2014, ↓ - Reduced, ↑ - Increased

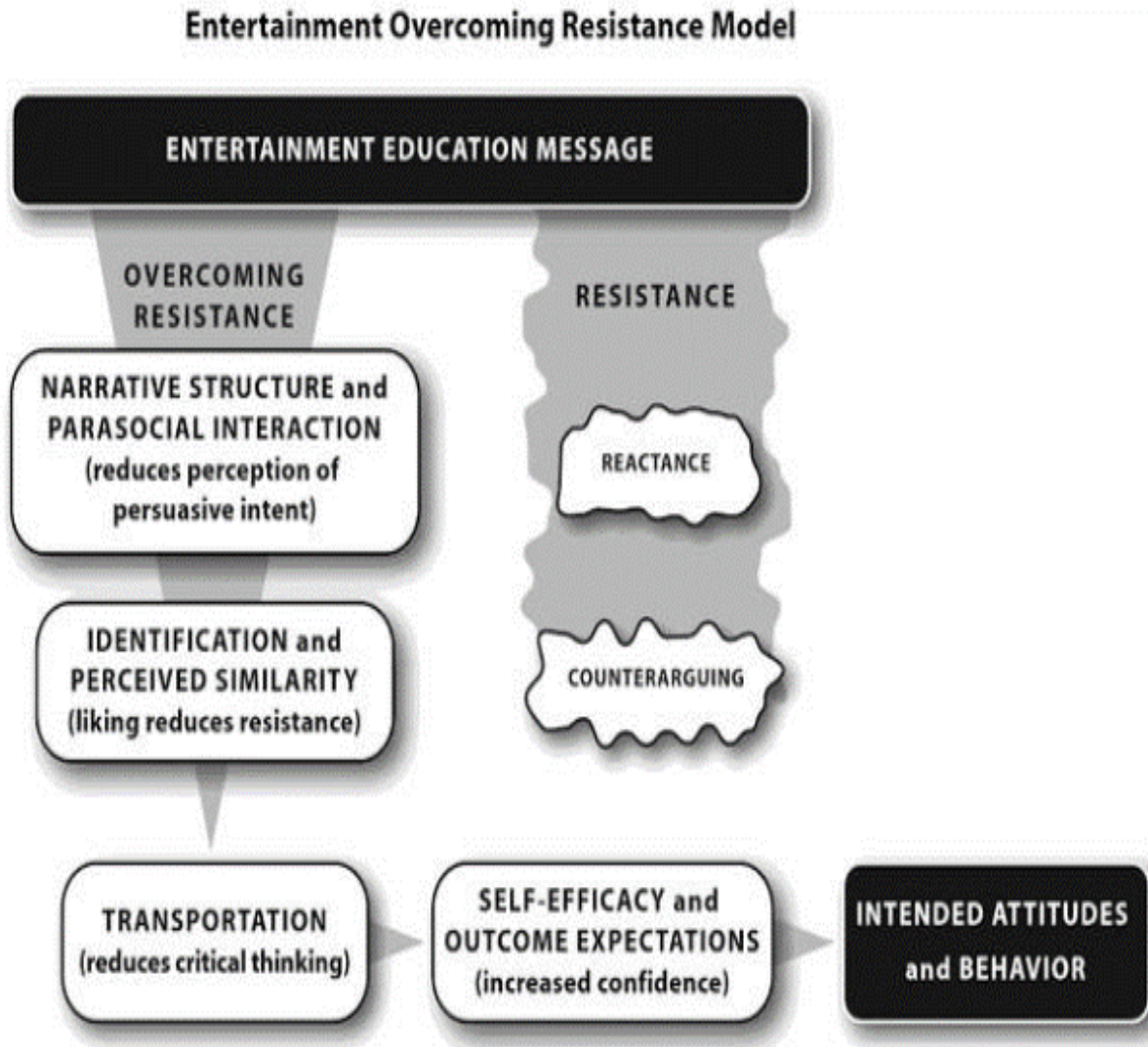
Table 2
 Synthesis Table

Clinic closed		ns							
DM knowledge			ns						
Convenience							↑		
Referral							↑		
ED Visits	↑	ns			↓		SS↓		↓
Ethnicity		ns							
Financial Incentive				↓					
Gender		ns							
Insurance		SS↑							
Level of care		ns							
Negative Perception							↓		
No provider		ns							
Managed care				↓					
Medicaid		↑				↑			
Patient education			↑	↓					
Prehospital diversion				↓					
Uninsured						↓			

Note: ACSCs-Ambulatory Care–Sensitive Conditions, AZ-Arizona, BHIP-Brooklyn Health Care Improvement Project, CA-California, CHCF-California Healthcare Foundation, CV- Control Variable, CMED-Conceptual Model of Emergency Department, GT-Grounded theory, DV-Dependent variable, DM-Diabetes Mellitus, DMP- Decision Making Process, EMR-Electronic Medical Records, ED- Emergency Department, EORM-Entertainment Overcoming Resistance Model, EC-Exclusion Criteria, GMDH-General Medical Surgical Hospital, HBM-Health Belief Model, HL-High Literacy, HUM-Healthcare Utilization Model, HSM-Health System Model, BHM-Behavioral Model of Health Services, IC-Inclusion Criteria, IV- Independent Variable, LG- Literacy Group, LL-Low Literacy, LOE-Level Of Evidence, LRM-Linear Regression Models, MIB- Model of Illness Behavior, NE-Nonemergent, NV-Nevada, n- Sample Population, ns-Not significant, OBS- observational, %-Percent, PCP- Primary Care Provider, PHC-Persuasive Health Communication, PGHC-Prince George's Hospital Center, RCT- Randomized Control Trial, RCS-Retrospective Cross-Sectional Study, SPO-Structure Process Outcomes, SS-Statistically Significant, SSI-Semi-Structured Interviews, SM-System model, SPARCS-Statewide Planning and Research Cooperative System, SR-Systematic review, TC-Trauma Center, US-United States, Yr-Year, Yr. 1-2013, Yr. 2-2014, ↓ - Reduced, ↑ - Increased

Appendix F

Figure 4



(Littlejohn, Foss & Oetzel 2016)

Appendix G

Figure 5



(Schaffer, Sandau & Diedrick, 2013)

Appendix H

Figure 6



APPROVAL: MODIFICATION

CONHI: DNP
 602/496-0730
 Judith.Ochieng@asu.edu

Dear Judith Ochieng:

On 1/18/2019 the ASU IRB reviewed the following protocol:

Type of Review:	Modification
Title:	Effective Utilization of Healthcare Resources: A Fotonovela Educational Intervention for Adult Primary Care Patients.
Investigator:	Judith Ochieng
IRB ID:	STUDY00008799
Funding:	None
Grant Title:	None
Grant ID:	None

Appendix I

Figure 7



St. Elizabeth's
+ HEALTH CENTER +

December 5, 2018

To Arizona State University Institutional Review Board:

It is my pleasure to write this letter of support for DNP candidate Toyin Marcus and her Doctor of Nursing Practice (DNP) graduate project proposal entitled "Effective Utilization of Healthcare Resources: A Fotonovela Educational Intervention for Adult Primary Care Patients."

I have reviewed her project proposal, and am in support of her conducting her research at our Health Center.

Respectfully,

A handwritten signature in black ink, appearing to read 'Mark Schildt'.

Mark Schildt, MD

Chief Medical

Officer

marks@saintehec.or

g (520)628-7871

Appendix J

Figure 8

**Fotonovela Education
Patient Follow up
Chart Audit**

ID # + Last 4 of pt. Phone#	AGE/ YEARS	GENDER 1 Male 2 Female	DX	Insured 0= No insurance 1= AHCCCS 2= Medicare 3= private	Active <u>date</u> ED (rate of ED visit)	Description (reason for ED visit) HCAP H/P
100						
101						
102						
103						
104						
105						
106						
107						
108						
109						
110						

Appendix K

Figure 9

Survey Questionnaire
Pre-Intervention

Study ID:

1. How old are you?

- a. 18 to 25 years
- b. 26 to 49 years
- c. 50 to 64 years

2. What was your total household income last year?

- a. \$0 to 25,999
- b. \$26, 000 to 51,999
- c. \$52,000 to 74,999
- d. \$75,000 or more

3. What is your race/ethnicity?

- a. American Indian / Native American
- b. White / Caucasian
- c. Black / African American
- d. Hispanic / Latino
- e. Asian or Pacific Islander
- f. Other _____

4. Education: What is the highest degree or level of school you have completed? If currently enrolled, mark the previous grade or highest degree received.

- a. No schooling completed
- b. Nursery school to 8th grade
- c. 9th, 10th or 11th grade
- d. 12th grade, no diploma
- e. High school graduate - high school diploma or the equivalent (for example: GED)
- f. Some college credit, but less than 1 year
- g. 1 or more years of college, no degree
- h. Associate degree (for example: AA, AS)
- i. Bachelor's degree (for example: BA, AB, BS)
- j. Master's degree (for example: MA, MS, MEng, MEd, MSW, MBA)
- k. Professional degree (for example: MD, DDS, DVM, LLB, JD)
- l. Doctorate degree (for example: PhD, EdD)

5. Which was the primary reason you decide to use the emergency department?

- a. My regular doctor is closed right now
- b. My regular doctor told me to come to the emergency department
- c. The emergency department costs me less money than my usual source of care to resolve my health issue

- d. The emergency department takes less time than my usual source of care to resolve my health issue
- e. The wait time in the ED is shorter than the wait time at my usual source of care
- f. I prefer not to schedule an appointment (I prefer to walk-in and be seen without an appointment)
- g. The ED is more convenient than my usual source of care
- h. My problem can only be addressed in a hospital/ emergency department (emergent issue)
- i. I had nowhere else to go
- j. Not Answered

6. During the past year, how many times have you visited the following places to receive medical care?

Location	Frequency in past 12 months	Not Answered
a. An Emergency Department		
b. Doctor's Office		
c. Retail Clinic (such as CVS Minute Clinic or Beuhler's Quick Clinic)		
d. Free Clinic (such as Open M)		
e. Other (specify)		

7. Would the following help you achieve the level of health you want?	No	Yes	NA
a. Access to a primary care physician			
b. After-hours options for minor health issues besides the emergency department			
c. A nurse to work with one-on-one to help manage health care needs			
d. Transportation to get to medical appointments on-time			
e. Access to mental or behavioral health services			
f. Online appointment scheduling			
g. Referral to a specialist (such as pain management)			
h. Other (write in)			

9. Do you currently have health insurance? Yes No Not Answered

10. If yes, what kind of health insurance do you have?

- a. Private insurer (insurance through your (or family member's) employer, or private insurance which you have purchased such as Anthem, Medical Mutual of Ohio (MMO), Aetna, or COBRA)
- b. Medicaid
- c. Medicare, including Medicare advantage plans
- d. Other _____ (write-in)
- e. Not Answered

Appendix L

Figure 10



(HolaDoctor, 2015)

Appendix M

Figure 9

Survey Questionnaire
Post- Intervention

Study ID:

2. How old are you?

- d. 18 to 25 years
- e. 26 to 49 years
- f. 50 to 64 years

2. What was your total household income last year?

- e. \$0 to 25,999
- f. \$26, 000 to 51,999
- g. \$52,000 to 74,999
- h. \$75,000 or more

4. What is your race/ethnicity?

- g. American Indian / Native American
- h. White / Caucasian
- i. Black / African American
- j. Hispanic / Latino
- k. Asian or Pacific Islander
- l. Other _____

4. Education: What is the highest degree or level of school you have completed? If currently enrolled, mark the previous grade or highest degree received.

- m. No schooling completed
- n. Nursery school to 8th grade
- o. 9th, 10th or 11th grade
- p. 12th grade, no diploma
- q. High school graduate - high school diploma or the equivalent (for example: GED)
- r. Some college credit, but less than 1 year
- s. 1 or more years of college, no degree
- t. Associate degree (for example: AA, AS)
- u. Bachelor's degree (for example: BA, AB, BS)
- v. Master's degree (for example: MA, MS, MEng, MEd, MSW, MBA)
- w. Professional degree (for example: MD, DDS, DVM, LLB, JD)
- x. Doctorate degree (for example: PhD, EdD)

5. Which was the primary reason you decide to use the emergency department?

- a. My regular doctor is closed right now
- b. My regular doctor told me to come to the emergency department
- c. The emergency department costs me less money than my usual source of care to resolve my health issue

- d. The emergency department takes less time than my usual source of care to resolve my health issue
- e. The wait time in the ED is shorter than the wait time at my usual source of care
- f. I prefer not to schedule an appointment (I prefer to walk-in and be seen without an appointment)
- g. The ED is more convenient than my usual source of care
- h. My problem can only be addressed in a hospital/ emergency department (emergent issue)
- i. I had nowhere else to go
- j. Not Answered

6. During the past year, how many times have you visited the following places to receive medical care?

Location	Frequency in past 12 months	Not Answered
a. An Emergency Department		
b. Doctor's Office		
c. Retail Clinic (such as CVS Minute Clinic or Beuhler's Quick Clinic)		
d. Free Clinic (such as Open M)		
e. Other (specify)		

	No	Yes	NA
8. Would the following help you achieve the level of health you want?			
a. Access to a primary care physician			
b. After-hours options for minor health issues besides the emergency department			
c. A nurse to work with one-on-one to help manage health care needs			
d. Transportation to get to medical appointments on-time			
e. Access to mental or behavioral health services			
f. Online appointment scheduling			
g. Referral to a specialist (such as pain management)			
h. Other (write in)			

8. Do you currently have health insurance? Yes No Not Answered

9. If yes, what kind of health insurance do you have?

- a. Private insurer (insurance through your (or family member's) employer, or private insurance which you have purchased such as Anthem, Medical Mutual of Ohio (MMO), Aetna, or COBRA)
- b. Medicaid
- c. Medicare, including Medicare advantage plans
- d. Other _____ (write-in)
- e. Not Answered

For the next questions, tell me how you much agree or disagree with the with the following statements:	Very	Mostly	Somewhat	Slightly	Not at all	N/A
10. How easy was the booklet to read?						
11. How easy was it to understand the information in the booklet?						
12. How much did the booklet keep your interest and attention?						
13. How much did you feel you could trust the information?						
14. How good of a method was the teaching booklet for delivering this intervention?						
15. What was the most helpful part of the booklet?						
16. What was the least helpful part of the booklet?						