

Research Proposal

Progress

I found this Educational Technology class very interesting. I am learning so much just by reading different articles related to my topic. Past 4 weeks had been a very busy week for me. I had been reading different articles related to my topic from google scholars and online library. In the first week, I discovered my project topic. My mentor accepted my project topic early which helped me choose the project track and plan ahead of time what I need to do for my project. By the end of the second week, I started doing a literature review. By now I have completed assignment 1,2,3 and personal questions and gained the necessary knowledge that needed for my final project by adhering all the assignment instructions. Meanwhile, I have been getting tremendous feedback from my mentor and peers. I was also able to gather so many information from the class discussion in the piazza. Having been able to receive support from my mentor and classmate I am now able to present my research proposal.

1) Introductions

The research topic I have chosen for educational technology is focused on the recurring readmission within 30 days of discharge in acute care facilities, what is causing re-admission, how can it be prevented. The research question I wish to answer is: Recurring readmission in acute care facilities is a problem not only in our community or country but everywhere. As a member of the community, I feel that it is important to address this problem. How can I address this problem and assist to solve it? Can telecommunication with mobile app be a good option to help reduce readmission? In past weeks I did some literature review on this topic. Recent data shows that 80th percentile of unplanned readmissions rate in acute care centers in the United States is 20%[1]. This unplanned hospital readmission rate increases health care cost and decreases the quality of services and patient satisfaction. So many strategies have been implemented to reduce this hospital readmission rates but has not fully solved yet. I wanted to further investigate what healthcare facilities are doing to reduce avoidable hospital readmissions? What are the outcome? And, what needs to be done more? I feel as a community, I have a

responsibility to take an active role in this problem and contribute what I can to resolve this problem.

2) Background

From research I have found that medication nonadherence is one of the main factor causing hospital readmission. One news article written by Nicholas Hamm states that up to 26% of Hospital Readmissions are Preventable and Medication-Based and the most common reasons given were nonadherence due to patient choice (23.8%). New technology like mobile medication app including reward system will encourage patient to adhere their medication regimen. In my research, I have decided to make a prototype of an app as part of telecommunication which will be an innovative approach to solve this problem. In this app, patient will be able to see their medication list, they can do a video chat, text message and can get medication reminder. A patient will get rewards point each time they take medicine and win the prize. This approach will motivate the patient to take their medication in a regular basis. For my research topic, I intend to use SIGCHI (Special Interest Group on Computer-Human Interaction) format.

3) Research Questions and Working Hypothesis

Research Topic: Recurring readmission in acute care facilities is a problem not only in our community or country but everywhere. As a member of the community, how can I address this problem and assist to solve it? Can telecommunication with mobile app be a good option to help reduce readmission by adhering medication regimen?

Working Hypothesis: This recurring readmission problem is occurring not only in our community but, all over the country, even internationally. This problem must be addressed effectively to decrease healthcare cost and increase the quality of service and patient satisfaction. It is clear that risk for readmission can be reduced with improved quality of care(Dharmarajan,

2017). In parallel, emerging technologies could also be a huge asset in further lowering readmissions (and associated penalties), all by improving existing practices (Evan, 2016).

4) Research Strategy:

What do I need to discover in my research?

My Assumptions: Recurring readmissions within 30 days of discharge is still an ongoing problem in acute care facilities in the United States. This is happening in our community hospitals as well. In the mid-1980s, hospital 30-day readmission rates were >20% and similar rates continue today[4]. Several strategies implemented by healthcare facilities have not given much impact on reducing avoidable hospital readmissions.

Research Questions:

Why patients get readmitted within 30 days from discharge? Is an existing method to reduce hospital readmission is adequate? What method could be more effective? What kind of technology can help solve this problem? What are the acute care facilities method of approach? What is the success of their method? What are not?

My Assumptions:

The circumstances surrounding hospital readmissions are not fully known; poor care coordination after discharge, poor medication management, and poor follow-up care are considered main factors [4]. Different method and strategies are still necessary to solve the problem. Use of smart technology (medical related app) in care coordination after discharge and follow up care will be more effective. After reading several research articles I found that the most common categories of interventions were patient education, discharge planning, follow-up telephone call, patient-centered discharge instructions, and discharge coaches or nurses who interacted with the patient before and after discharge(Anctil et al. 2014).

Research Questions

What has been done to improve medication adherence?

My Assumptions:

Among patients, forgetting is the most frequently reported reason for nonadherence[8]. Strategies such as providing education via video call, a reminder through the app will improve medication adherence. There are few apps available to help patients remember to take their prescribed medications. However, in order for the patient to adhere their medication regimen, it is important to educate patients about risk associated with non adherence of medication. Frequent education can be provided by video call on the app.

b) My plan

I will do a research using qualitative and quantitative survey method to deeply understand what is causing them not to adhere the medication regimen. I will ask if people are using any strategies to adhere to the medication regimen. I will discover if medication reminder app is sufficient enough to improve adherence. At the same time, I will evaluate my prototype of an app(app includes: video chat, text, alerts, rewards system) by recruiting the same group of people who were participated in the survey. My survey participants will be mostly adults and seniors. The survey may take two weeks to complete. I will make the survey questionnaire as short as possible. The questions will be mostly multiple choices and there will be no more than 8 questionnaires in the survey. The data will be conducted after that and statistical analysis will be performed to identify further needs to improve medication adherence. The suggestions and feedback I receive from the surveyors will help me discover the effective method for the patient to adhere medication regimen during their transitioning phase(from hospital to home).

c) Where can I find the answers?

I have received great advice from my mentor where to look for the resources. As per his advice, I am looking at google scholar using the Ga Tech VPN. I have found some related source on bing search engines too. I am using some other online libraries. I have been to my community

hospitals to look for some data and helpful advice for my project. I might order few books which have been recently published for my reference.

References:

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8.<<https://www.pharmacytimes.com/contributor/christina-tarantola/2017/12/the-top-medication-reminder-apps-for-patient>>

