A Human-centered Design of a Dental Discharge Summary (DDS) for Patients

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Abstract
Patients are often provided with sub-optimal information regarding their clinic visits. Patients sometimes forget post-discharge instructions provided verbally, and infrequently follow preventative advice to improve health. In this research we propose to develop and evaluate a dental discharge summary (DDS) for patients through a human-centered design process. Our long term goals are to automatically generate a personalized discharge summary after each clinic encounter to educate and motivate patients to maintain excellent oral health.

Introduction
Enhancing patients’ knowledge of their clinic visit and providing suitable written after-care instructions may improve oral health adherence.[1] Written information must also be presented optimally.[2] Fifty percent of American adults have difficulty understanding and using health information.[3] In order for a patient discharge summary to be successful it must be designed by determining the information needs of patients, and presented in an optimal format.

Methods
1. Developing information requirements
We will first use semi-structured interviews to gather information from patients. This approach is useful as it will allow patients the time and scope to talk about their experiences and opinions of using a dental discharge summary.

Three practicing general dentists and three dental hygienists will also be interviewed. The goal of the interview process will be for dentists/hygienists to identify key information to help patients care for themselves after a dental visit.

2. Developing a DDS Prototype
Once the information requirements phase has been conducted we will produce a unified overview of the information desired in a discharge summary. In order to generate the prototype we will use representational analysis as the process for identifying the appropriate information display format based on the expected and reported tasks of patients. An iterative user-centered design process will be used to generate and refine the prototype.[4]

3. Evaluation of the DDS on a sample of patients
The feasibility of the DDS prototype will be evaluated on a sample of 10 dental patients. Patients will be asked to respond to questions relating to oral health knowledge, self efficacy, perceived satisfaction and suggestions for improvement after interacting with the DDS. We will also measure the health literacy of patients in order to inform how a DDS can be adapted to support varying abilities.

Conclusion
Opportunities exist to enhance the delivery of oral health information through the use of patient discharge summaries. Our research will be conducted by first determining the information requirements of a discharge summary by surveying patients, dentists and hygienists. We will use this information to generate a paper-based discharge summary prototype. The prototype will subsequently evaluated by a sample of patients. The results of this study will help inform how a DDS can be automatically generated from the electronic patient health record after each clinic visit.

References

