

Problem Description in Stakeholder's Words

We asked our stakeholders how they would characterize the problem of taking narrative notes and charting in a home care environment. Our stakeholders described the task of writing the narrative notes as “tedious, but not difficult” and “waste of time”. One of our stakeholders is a nurse, so we asked her to give us a bit more information about how she currently handled the charting and note taking. She told us that every nurse would write down their own personal notes during their shifts and they had their own ways doing it. In particular, she had a grid that she often used for her personal notes. The grid was divided in three categories, namely medication, what she did, and additional notes. She also had a row for every hour of her shift to write down additional information. Then the nurses had to use these notes and summarize all information in the narrative notes for every 4 hours of her shift in terms of body system categories. It usually took her 30 to 45 minutes to finish up the narrative notes, which didn't include the time that she spent on writing down her own personal notes during the shift. The narrative notes needed to be checked with the charting to see if they are consistent, this is especially important for the insurance company. In addition, they had to sign their initials on all the medication that they gave to the patients.

While both our stakeholders agreed that the charting and narrative notes were important since the nurse could check what happened in the previous shift to have a better understanding of the patient's current condition as well as the information for additional medication that has been given. However, the nurse complained that the charting and narrative notes took her so long that she couldn't spend enough time with the patient. The patient's mom also told us that the patient was very complex, but often stable. For example, when the patient was sleeping, the narrative notes were very similar to the previous night. We adapted the term “stock answers” from the patient's mom to describe information that was often repeated in the narrative notes. These “stock answers” could be used to describe the entire shift so that the nurses didn't have to write down the same information. Therefore, we hope to develop an application that can improve the current note taking to be easier and more efficient.

We asked our stakeholders about possible ways to improve the current note taking system. Our stakeholders mentioned that a tablet would be a good device for them as it could be easily carried, so the nurse can take notes on the patient independently of their current location. It is important to not restrict the patients to stay at their houses but enjoy their social lives. The most common environment for using our technology will be at the patient's house, however, it might also be needed outside. For example, the patient's mom told us about going to the theatre together where the nurse could take out the tablet and quickly input information about the patient's assessment. Instead of writing down everything in their informal notes, our system would allow them to input information by, for example, choosing stock answers. At the end of their shift, it would be helpful for them to request the notes they took previously within their particular shift's time frame using our application to finish writing the narrative notes. Therefore, they don't have to leave the patient to another caregiver or have a hard time balancing their

attention between the patient and the narrative notes. Since our application can help organize the narrative notes with a specific time block, the nurses don't need to worry about these and can spend more time with the patient. We also asked the nurse if she knew about similar technologies to our application. She informed us that she was not aware of any applications that were being currently used.

Both our stakeholders agree that clicking and voice input would be possible during the shift. Voice input would allow them to freely dictate their personal notes, however, we also consider clicking on pre-defined stock answers as a possible solution. The main goal here is to get rid of all the repeated paperwork that the nurses have to waste time filling out every day. We hope to streamline this repetitiveness in order to provide the nurses more time to spend with the patients. It is important that the patients can get full attention from the nurses for play or developmental time, so they are taken cared of and can "do life" as the patient's mom likes to say.