

## Initial System Requirements

Our group work is planning to develop a platform to monitor and provide follow-up to patients with diabetic foot ulcers. This new platform is intended to replace some of the face-to-face clinic encounters with virtual communication between the patient and the health care professionals.

Patients must select a physician from our board of certified health care professionals to be responsible for their treatment. A wound care management plan is set after a first encounter between the physician and the patient.

Within the platform, the patients have access to four different features. In one of the features, the patient can insert their glycemic levels and access their old ones in order to have a better understanding of their condition. Relevant information from reliable sources such as DGS about diabetes and diabetic foot ulcers (e.g., how to change their dressings daily) can also be found in a second feature.

The third feature allows the patient to record the state of his diabetic foot ulcers through photos. Self-notes, observations or complaints (e.g., too much drainage, painful wound, etc) can be uploaded alongside the picture to give a more detailed and personalized description.

According to the patients' condition, different periodicities by which the photos must be taken and uploaded are recommended. However, this periodicity can always be changed by the patient.

Since patient engagement in the wound care management plan is vital, alerts/notifications will be sent to the patient daily to assure that the plan is being satisfied (e.g., feet is being assessed, glucose levels are being measured, etc).

The last feature is the patient-physician interface to facilitate scheduling videoconference appointments, obtain additional clarification about the care management plan, or request the physician to view the data right after it was uploaded.

To have access to all the features provided by the platform the patient must subscribe and pay an annual fee which is automatically renewed unless the patient chooses to cancel the subscription before the renewal date.

Health care professionals must be able to access the platform to see which patients they are responsible for, and also to access the patients' data. The data is presented to the health care professional in an easy to read and analyze manner. The physician may view the data at specific times (for example, during a specific scheduled time of the day) or in response to patient requests. This data can be incorporated into the patient electronic medical record (EMR).

Based on the data, the health care professional can formulate clinical recommendations such as, change the periodicity of the photos, recommend a different wound dressing change frequency, and scale the lesions according to the Wagner scale. This feedback can be given weekly or daily, depending on the patients' condition, via messages or in real-time by videoconference.