

Usage of a Web-Based Platform for Home Care Providers in the Pandemic Context

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Abstract. The paper presents the usage of a platform for home care providers that integrates telemonitoring functionalities in the context of the recent COVID-19 pandemic.

Keywords. remote health care, home care, tele-assistance

1. Introduction

Past year, in the COVID-19 pandemic context, we have faced a unique situation that urged the need of remote health provision. Telemonitoring offers the possibility to manage multiple subjects while minimizing human contact and the risk of spreading the SARS-COV-2 virus. [1] recommends telemedicine for monitoring different categories of COVID-19 patients or suspects. Through telemonitoring, relevant vital functions of suspected or confirmed COVID-19 patients may be effectively monitored so that symptoms exacerbations may be timely detected or even predicted and the number of hospital visits and admissions may be reduced [2], [3], [4].

The presented platform, called CDMS aims to optimize the activities of home care providers (HCPs). The current work focuses on the telemonitoring components of the platform: a web application for an HCP and APIs for integrating data from third party devices. More detailed descriptions about the platform are available in [5] and [6].

2. Methods

The CDMS platform facilitates offering health or social care services either through home visits or remotely: through videoconferences, messages or by using devices that may synchronize data over Internet.

The tele-assistance module presents the following functionalities for management of: patients; tele-assistance devices (environmental devices and medical devices); remote consultations through video conferences; tele-assistance data and tele-assistance alarms. The following capabilities of the platform facilitate remote health care: scheduling of

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video consultations; communication with the patients through messages; upload medical documents for patients; consult and manage medical data for patients. Two APIs allow data synchronization from 3rd party environmental and health devices. The API for health data has been used to integrate the Mintti Vision 6in1 health monitoring device [7] for measuring blood pressure, heart rate, body temperature, oxygen saturation in arterial blood, glucose level and for performing ECGs. The measured values are automatically integrated in the HCP web app. Health data may also be entered manually by authorized medical personnel or, directly, by patients.

3. Results, discussions and conclusions

The CDMS platform is currently running as a pilot program in Alba County, Romania. It manages 3 HCPs via subscriptions. The largest of the three HCPs has 203 (at the time of writing) subscribed patients, receiving health care at home, both through home visits and remotely, or at a clinic.

The Mintti Vision 6in1 device has been successfully used to measure vital functions, including body temperature and SpO₂, parameters that need to be monitored in case of COVID-19 infection.

At the moment, remote health care is preferred to face to face interactions and home visits are preferred to clinic visits in order to limit possible exposure to the Sars-Cov2 virus. The described tools facilitate video consults, online messaging, online medical recommendations, remote health monitoring, including remote monitoring of the health parameters that need to be measured in relation to the current threat.

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