Quantitative Study of a Regional Patient Portal Usage in the Pandemic Period

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Abstract. In 2013 using a Public Procurement of Innovation procedure the Region of Galicia developed a patient portal called “E-Saúde”, that went live in 2015. COVID situation in 2019 produced a high demand of e-health services, scaling by 10x the number of users in 2021. \textbf{Objective:} In this study a quantitative description of patient portal usage from 2018 to 2022 is made to show the behaviour of usage trends of a patient portal before, during and after COVID pandemic. \textbf{Methods:} Two main data sets were obtained from patient portal logs to obtain: 1) Enrolment of new users and number of sessions opened in the portal. 2) Detailed usage of relevant functionalities. Descriptive statistical methods were applied to show the usage of the portal in a biannual time series description. \textbf{Results:} Prior to the pandemic, the portal was gradually being introduced to citizens. During pandemics, more than 1 million users were registered and a peak of 15x usage could be observed. After COVID, the level of usage of portal services decreased, but kept a sustained trend five times higher than in Pre-COVID situation. \textbf{Conclusion:} There is limited information available on metrics, functionalities and acceptability for general purpose patient portals, but the analysis performed on usage levels shows that after a high peak reached during COVID period, explained by the need of direct access to clinical information, the level of usage of the patient portal remains five times higher than in pre-pandemic situation for all functionalities of the patient portal.

\textbf{Keywords.} Patient Portal, COVID, Information Technology, eHealth, EHR.

1. Introduction

Seven years after going live, the objective of the study is to show the behaviour and level of usage of the Galician regional patient portal “E-Saúde” before, during and after COVID pandemic, and provide information of usage towards a “new normal” situation [1].

2. Methods

Log data from frontend and backend servers was used to obtain time series of data values of usage corresponding to each month from 1 January 2018 to 31 December 2022.

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Two main data sets were extracted, aggregated and represented to show 1) the biannual average number of new users and number of accesses in the portal - Figure 1-, and 2) the detailed usage of the most relevant functionalities -Figure 2-.

### 3. Results

In 2018, prior to the pandemic, the portal had been used by more than 100,000 citizens. During pandemics, more than 1 million users gained access to the portal. A peak of 15x in all measured elements can be observed. After COVID, the level of usage decreased, but shows a sustained usage level at least five times higher than in Pre-COVID situation.

### 4. Discussion

COVID-19 pandemic period has brought significant changes on healthcare, that will not come back to its previous situation. The high level of usage that was observed is explained by the need of direct access to clinical information. This increased level of usage has become the baseline for the next “new-normal” period, after a critical mass of citizens have gained access to their clinical information [2].

### 5. Conclusion

At the end of pandemic period, from june 2022 onwards, values of patient portal usage show a sustained trend that is five times higher than in preCovid period. Further development of patient portals are expected to bring a positive effect on healthcare transformation, patient autonomy and empowerment as a natural solution.

### References
