
APPLICATION TOOL FOR IMPROVEMENT OF THE METRICS OF UNREAD AND UNEVALUATED TELECONSULTATIONS OF THE TELEHEALTH CENTER - HUUFMA

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Abstract

The Brazil Telehealth Networks Programme is a project that contributes to the quality of services provided by the Unified Health System (SUS), which offers conditions to promote Tele-assistance and Tele-education. In the area of tele-assistance, the Telehealth Centre of the University Hospital of the Federal University of Maranhão (NTS-HUUFMA) has built up Teleconsultation services, which provide communication tools to assist health professionals. The process of a teleconsultation starts with a question on the online platform and finishes with the response sent by a qualified health professional. Previously, monitoring of this task was done by using a digital spreadsheet. It was necessary to develop an application to monitor and manage the inactivated and unevaluated teleconsultations. Before the development of the system, the Telehealth Centre had around 25% of teleconsultations that were not responded to, and this number has decreased significantly since its deployment.

Keywords: teleconsultation; telemedicine; information technology management in health care; telehealth system; Brazil

Introduction

The Telehealth Brazil Networks Programme (Programa Telessaúde Brasil Redes) is a project that is part of the Basic Health Units (UBS) Upgrading programme whose main objective is to improve the quality of care in Primary Health Care in the Unified Health System – SUS. Primary care physicians and specialists are able to communicate through a Platform that promotes teleconsultation, second formative opinion, tele-assistance and tele-education.¹

In 2007, the Telehealth Centre (NTS) of the University Hospital of the Federal University of Maranhão (HUUFMA) began to promote Teleconsultation and Tele-education actions in the State of Maranhão through Telemedicine Network resources (RUTE). Currently NTS-HUUFMA is one of the most active centres in the country with its activities in Tele-education and Teleconsultation.²

According to the resolution of the Ministry of Health, teleconsultation is a question and answer, recorded to clarify doubts about management, conduct and clinical procedures, health actions and work process issues, based on scientific evidence. These teleconsultations are carried out by means of an offline message, which must be answered within 72 hours by the Telehealth Center.¹

The process for conducting a teleconsultation begins with the primary care professional, who asks a question on the platform. This question/problem is analysed by a tele-regulator, a professional who directs the teleconsultation to a specialist, the teleconsultor, who responds in the time and manner stipulated by the Ministry of Health. This response is sent to whoever requested it, who will have 30 days to read and evaluate the answer, otherwise the teleconsultation is disabled without feedback from the applicant.³

In 2015 NTS-HUUFMA created a Teleconsultation Monitoring and Management System, to efficiently manage all teleconsultation processes. This is an interactive platform capable of transforming data into information instantly, illustrated through charts and tables. One of the tools contained in this system is a chart capable of managing the flows of daily teleconsultation, developed with the objective of increasing the percentage of teleconsultation evaluated, in contrast, reduce the percentage of disabled answers.⁴

Methods

This study was conducted at the Telehealth Centre of the University Hospital of Federal University of Maranhão. The data were obtained from the Monitoring and Management System for Teleconsultation (SMGT) application that is stored on a local database hosted in the hospital infrastructure.

Development of the new feature

The development of the SMGT is ongoing, with the purpose of improving existing features. The existing feature of monitoring the evaluated/unevaluated teleconsultations was modified to reduce the number of disabled teleconsultations that were answered and not evaluated in over the past 15 to 60 days. **(Error! Reference source not found.)** This enables the manager to see which teleconsultations are about to be disabled. He can then contact the primary care professional who asked the question to remind them that their teleconsultations are ready to be read.

For the purposes of the study, a teleconsultation was considered to have been completed when the applicant had read and evaluated the teleconsultor's response, and considered to have been completed

when the applicant had read and evaluated the teleconsultor's response, and disabled when the applicant did not read and did not evaluate the teleconsultor's response within 30 days from the response dispatch.

Statistical Analysis

Requested teleconsultations were analysed from January 2016 to December 2016 and were divided into two groups: Group 1 - before the implementation of the feature (from January to July 2016) and Group 2 - after the deployment of the tool (period from August 2016 to December 2016). The management tool was included in the SMGT in August 2016.

To analyse the difference between the proportions of evaluated and disabled teleconsultations in the studied period, the Chi-square test was used with alpha set at 5%.

Results

During the study period, 7,381 teleconsultations were analysed, of which 5,962 were completed and 1,419 were disabled. Table 1 shows the results found. The chi-square test showed a statistically significant

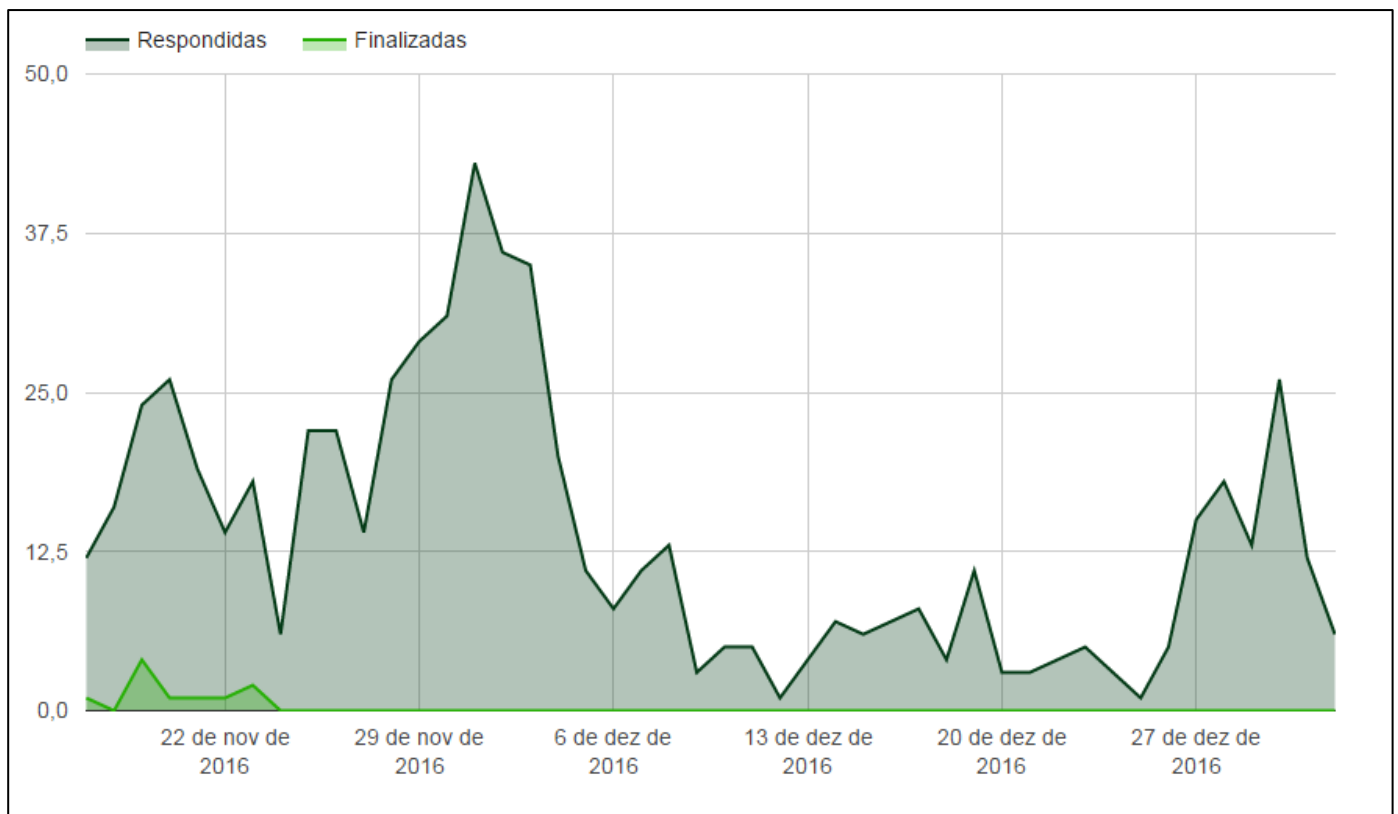


Figure 1. Forecast chart for answered and disabled teleconsultations from 17 November 2016 to 1 January 2017.

difference when comparing the proportions (disabled and evaluated) between group 1 and group 2 ($p < 0.001$).

Table 1. Evaluated and disabled teleconsultations before and after implementation of the new chart feature.

	Group 1	Group 2	Total
	N (%)	N (%)	N (%)
Evaluated	3,893 (75.2%)	2,069 (93.8%)	5,962 (80.8%)
Disabled	1,283 (24.8%)	136 (6.2%)	1,419 (19.2%)
Total	5,176	2,205	7,381

Chi-square test, $p < 0.001$.

The monthly percentage of teleconsultations evaluated and disabled are shown in Figure 2. There is a significant reduction of disabled teleconsultations, as well as the increase of those evaluated from the addition of the new management tool, deployed in August 2016.

2016, this control has been done directly in the SGMT through a forecast chart, where the manager maintains daily control of teleconsultations in an automated way, making the whole process more efficient and effective. This has resulted in the number of disabled teleconsultations has falling significantly, while the percentage of evaluated teleconsultation has been increasing month by month.

Conclusion

The NTS-HUUFMA has the objective of keeping proximity with the health professionals who use the Telehealth platform. The tool proved to be effective and efficient as the number of evaluated teleconsultation increased considerably, narrowing the relationship between the centre and the professional requesting the consultation.

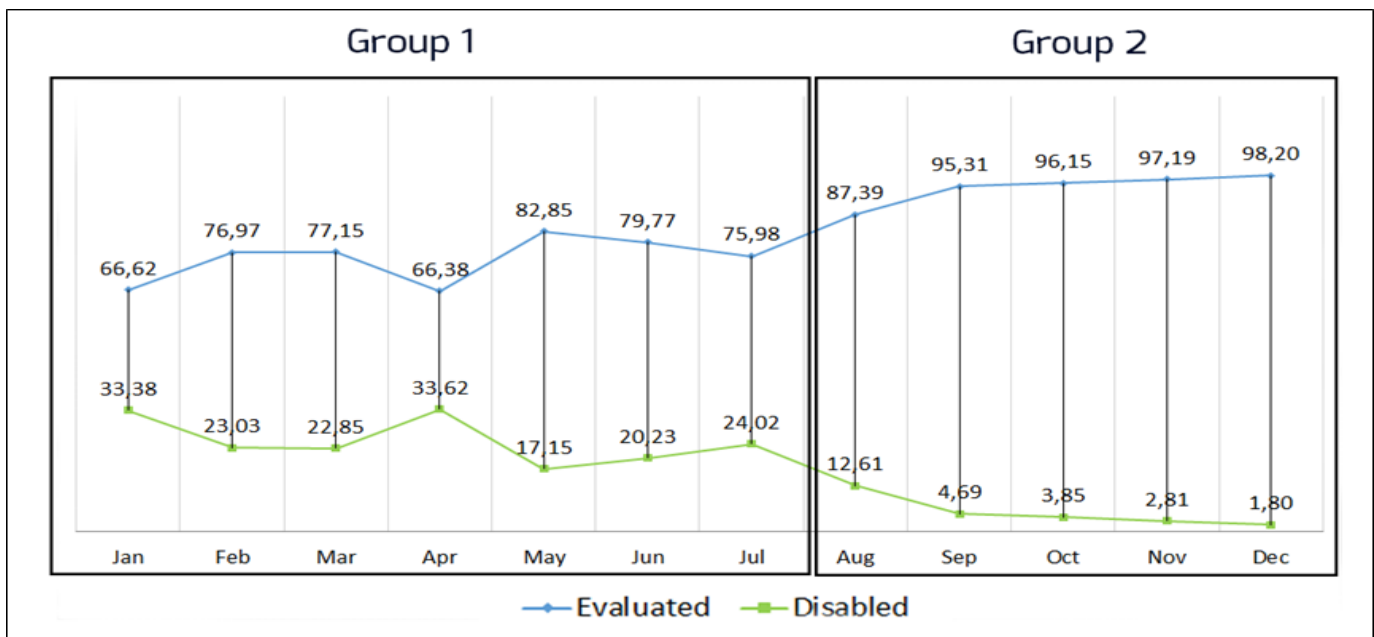


Figure 1. Percentage of evaluated and disabled teleconsultations from January/2016 to December/2016.

Discussion

Prior to the development of the tool, the management of evaluated and disabled teleconsultations was done manually using a spreadsheet. The manager would daily verify the evaluation deadline and status of teleconsultations in order to maintain the process control. During this period, the percentage of disabled teleconsultations was high and unstable.

Based on the implementation of the new teleconsultation flow management tool, in August of

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Conflict of interest. The authors declare no conflicts of interest.

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