GUIDE AND FEDERATE THE TELEMEDICINE ACTORS FOR THE DEVELOPMENT OF SUSTAINABLE PROJECTS CONSISTENT WITH FRENCH RECOMMENDATIONS

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Abstract

Telemedicine is facing many public health challenges which makes benchmarking essential. In this perspective, the association Agir Pour La Telemedicine wanted to develop a collaborative web platform for the provision of resources for telemedicine projects. The platform makes it possible through a dynamic inventory to find an existing project, access its identity card and compare it to other projects. This tool is intended for project holders, administrations of the healthcare system and companies who are working in the telehealth industry. By facilitating feedback from telemedicine stakeholders, this interface will enable them to federate and support them efficiently through the provision of project management tools. By creating a single database this platform could allow a harmonisation of telemedicine projects in France.

Keywords: telemedicine; telehealth; eHealth; Public Health

Introduction

The deployment of telemedicine is a key factor for improving performance in our healthcare system.[1-3] Its use provides an organisational and technical response to common public health challenges: aging population, increase in the number of patients suffering from chronic diseases,[4,5] decrease in medical demographics and an over solicitation of the public health system. More broadly, a new model and a new health organisation are in the works in Western countries. Telemedicine and eHealth are one of the solutions studied because they help to offer global care of the patient and optimise the coordination of the different components of the health care system.[6-8] Today, information and commination technologies and their contributions are considered as major levers for designing and implementing these changes.[3] Telemedicine therefore has to face these many public health challenges in which being able to benchmark is essential. Indeed, while it is essential to identify the specificities that contribute to the development of a viable, relevant and reproducible model, the identification, analysis and comparison of existing telemedicine services is still difficult to obtain. In this perspective, the association Agir Pour La Telemedicine wanted to develop a collaborative web platform for the provision of resources around telemedicine projects. In particular, the platform will allow, via a dynamic inventory, to find an existing project, to access its identity card and to compare it with other projects.

In order for this project creating a web platform to be supported by the institutions, it was important to integrate national telemedicine deployment objectives into its development, in particular the logic of national deployment of a technically and economically sustainable model with the actors involved.[9]

The main objective of this work was to identify criteria allowing an inventory of French telemedicine projects. The secondary objective was to analyse data provided by the web platform.

Methods

Establishment of steering committees

Concerning the criteria used to characterise telemedicine practices, the project group set up a working team composed of professionals involved in different aspects of telemedicine. Twelve steering committees were created over 15 months. A literature review was also carried out in parallel in order to better define the orientations of the final document.

The steering committees also helped to create criteria to identify: 1) the impact of telemedicine on trades, activities and working conditions activities and working conditions; and 2) topics to be further explored during feedback meetings.

Web Platform

The web platform consists of five main functionalities: 1) search and locate medical experts, legal experts, and project managers by region; 2) find a telemedicine project and access its identity card; 3) compare and benchmark projects; 4) look for tools / methods to develop a sustainable and efficient telemedicine project; 5) search for articles, publications via a "Pubmed" type tool specialised in telemedicine and eHealth. The project team's activities consisted of three major parts, including: 1) the transversal management of the project and its technical development provided by the Association Agir Pour la Télémedicine; 2) strategic support provided by the Healthcare Cooperation Group (GCS) TéléSanté Aquitaine; and 3) national eHealth expertise provided by Easis consulting. Data provided by the web platform were also compared with other sources of information currently available, including: Association Agir pour la telemedicine (APLT),[10] Telehealth Actors Club (CATEL),[11] French Society for Telemedicine (ANTEL),[12] Managed Health Network (MHN),[13] African Medical and Research Foundation (AMREF),[14] eHealth,[15] Telemedecine-360 (TLM360),[16] and the International Society for Telemedicine and eHealth.[17]

Search for criteria to realise the inventory of telemedicine projects

The construction of the web platform had to take into account the risks identified by the steering committees, including:

- Level of maturity of institutions and users in order to adapt the pace of change;
- Capacity to mutualise information systems,
- Relevant deployment strategies with a clear follow up defined in advance

The governance of the platform was conceived with the aim of associating the majority of the current stakeholders in order to maximise the chances of sustainability of the project. The identification of the criteria for the inventory of telemedicine projects was therefore the result of a reflection involving the majority of the stakeholders and following the recommendations of the High Authority for Health.[9]

Results

The study demonstrated the need for three broad indicator areas: activity indicators, quality and safety

Table 1. Main criteria used in the study to characterise a telemedicine project.

Macroscopic indicators	Microscopic indicators
Activity indicators	Acts: part of care by telemedicine compared to the total number of cases without telemedicine
	Patients monitored: active
Quality and safety indicators	Immediate or lagged Alert Rate
	Gross rate of alerts: number of alerts on the number of acts
	Relevant Alert Rate: Number of alerts deemed relevant by the team divided by the total number of alerts
	Duplication rate: number of acts that had to be carried out by conventional means after the failure of the telemedicine
	Rate of adverse side effects associated with telemedicine: number of patients who underwent an adverse side effects during the telemedicine act divided by the number of patients who underwent an adverse side effects during a management without telemedicine
	Analysis of practices
	Alert analysis: individual analysis of alerts, collective analysis of alerts
	Analysis of adverse side effects : number of adverse side effects analyses on the total number of adverse side effects
Organisational and economic impact indicators	Time to manage patients for telemedicine
	Waiting time for patients included before the telemedicine act
	Waiting time for sending mail (report) to the general practitioner
	The median time between the date of the consultation of the deed and the sending of the report to the general practitioner
	System acquisition costs
	Operation costs
	Maintenance costs

indicators, and organisational and economic impact indicators. (Table 1) The results show that these three indicators provide the essential characteristics for the success of a telemedicine project. These indicators have thus helped to support telemedicine projects as well as to develop initiatives within the liberal professions, healthcare facilities and medical-social institutions.

Impact matrix of the web platform
For the project holders: The results show that the web platform made it possible to share the information gathered with them. The results show that, for project holders, the data from the web platform made it possible to facilitate exchanges between actors, to progress by knowing the bumps or levers already identified by other actors, and to remain connected in receiving notifications in real time.

For the telemedicine companies: the web platform allowed to get a transversal vision of the evolution of their industry, to shorten the loop on the returns or expectations of professionals concerning the tools and the practice and to be known and recognised by different players in telemedicine.

For the health authorities: the web platform made it possible to have a map of the existing and future projects, to optimise the homogeneous and structured feedback and to facilitate the use of common indicators and recommended by the authorities.

For healthcare professionals: the web platform makes it possible to share information about the various existing telemedicine projects and services, with the aim of improving the care of patients and the quality of care. The data from the web platform were compared with those from other sources such as APLT,[10] CATEL,[11] ANTEL,[12] MHN,[13] AMREF,[14] eHealth,[15] TLM360,[16] and ISFTEH.[17] (Table 2) No significant correlations were found and no other source has as much data as the web platform.

Discussion

The results of this work allowed us to show the many advantages of a web platform. The web platform studied in this work allows real resources to be made available in the context of a telemedicine activity. This is a unique tool in France. This interface makes it possible to federate the actors, to encourage inter-professional exchanges and to support the players in an efficient way thanks to the provision of tools.

This work brings in many perspectives. For example, this platform can be used as a proactive aid in the identification of public health objectives within the field of eHealth and telemedicine in the Regional project "Appel à Manifestation d'Intérêt"(AMI) from the region "Nouvelle Aquitaine". To this end, the idea is to evaluate telemedicine projects linked to national indicators recommended by the High Authority for Health (HAS), regional indicators linked to the Regional Telemedicine Program published by the Regional Health Agency and as well as indicators derived from medical specialties or learned societies. This evaluation could also include specific quality and

Table 2. Comparison of the product with the competition.

Website content	APLT	CATEL	ANTEL	MHN	AMREF	eHealth	TLM360	ISFTEH
Studies	Yes	Yes	Yes		Yes	Yes	Yes	Yes
Personalised project support		Yes		Yes				
Event management help		Yes						
Forum	Yes			Yes				
FAQ	Yes		Yes	Yes				
Videos	Yes	Yes	Yes	Yes	Yes			
Training	Yes		Yes					
Testimony	Yes							
Diary	Yes	Yes	Yes		Yes		Yes	Yes
Professional directory	Yes			Yes				
Newsletter	Yes	Yes			Yes		Yes	Yes
Organisational chart		Yes						
Custom area	Yes		Yes	Yes				Yes
Glossary				Yes				
Feedback / valorisation of telemedicine projects	Yes							
Partners	Yes		Yes					Yes
Project location on map	Yes				Yes			

carried out and statistical analyses of determined indicators.

This type of use of the web platform can be considered as a real added value if we compared with existing ones. This represents an example of possible future uses of this product. In the very short term, international openness is also envisaged, allowing large-scale statistical studies for telemedicine projects.

Conclusion

Telemedicine, which is supported by national and regional health policies, makes it possible to fight medical deserts and improve the healthcare system. This platform allows federation and facilitates exchanges between the telemedicine actors and will lead to harmonisation of telemedicine projects in France and thus projects of better quality.

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