



Client statement



"Working as a technological complement to the "Health for Everyone" program, the telemedicine platform Medigraf made it possible to offer better remote clinical assistance, by promoting the access of patients from Sao Tome to several medical specialties that they didn't have access to, since there were no local specialists; improved efficiency and effectiveness of field missions, thanks to a previous contact with the patient, for a better triage and planning of appointments; greater efficiency and security in local health care and cost reduction thanks to a better diagnosis and therapeutic plan that prevents the need for evacuations; while contributing simultaneously to the continuous training of health professionals in the PALOP, through a continuous and focused approach in the cases; and for the reinforced cooperation and innovation regarding lusophony by resorting to solutions and professionals within the Lusophone space."

Client framework

Instituto Marquês de Valle Flôr (IMVF) was founded in 1951 as a Private Foundation with Status of Public Utility. Over the last 25 years it has operated in PALOPs as a Non-governmental Agency for Development. It also performs in Portugal, in partnership with national and European entities.

Currently the IMVF intervenes in five domains: Cooperation for Development, Education for Global Citizenship, Decentralized Cooperation, Strategic Studies and Consulting.

In the Health sector, under the Cooperation for Development work, the IMVF has developed, since 1988, a broad intervention program in Sao Tome and Principe. This program has the support of the European Union, Portuguese Cooperation, Calouste Gulbenkian Foundation and the General Directorate of Health, in a close partnership with the Sao Tome and Principe government. Thus, the "Health for Everyone" program has allowed the remodeling of an ineffective health service to a decentralized service that now covers the entire national territory and population. Its genesis lies on the introduction of an integrated pack of services that assure that primary care is provided, as well as preventive care and specialized assistance.

This program received Public Interest recognition from Sao Tome and Portuguese governments, being considered an example in empowering and sustained development practices by the United Nations. Its results become clear when observing current statistics that place Sao Tome and Principe as one of the countries in Sub-Saharan Africa with better health indicators, superior to the region's average.

Challenges

The concerted support from national and international entities, as well as a spirit of solidarity and international cooperation, has allowed the IMVF to start using a technological tool that was both fundamental and innovative – telemedicine. The medical appointments that took place since March 2011, under the integrated initiative Health for Everyone – Specialized Care and Telemedicine Program, have brought the Sao Tome Central Hospital closer to specialized doctors from Portugal. They have also allowed the follow-up and guiding of more complex clinical cases and, in parallel, remote training and support of doctors from Sao Tome, minimizing the effects of the absence of specialized resources in Sao Tome and Principe.

Encouraged by the results obtained after 2 years of telemedicine between the two countries, the IMVF attempted to go further. The telemedicine platforms used thus far presented several constraints: the price was high, they demanded a lot of bandwidth to work (which is not always viable in African countries), weren't portable, didn't allow any connection to other countries besides the initially foreseen, didn't allow connecting the central hospital to province hospitals, its language was usually English, working and maintenance would often times cause problems to the user and the operation costs to maintain the connection after external funding ceased were sky-high. Besides, they didn't work in a Web environment, which means they used their own computer language which didn't facilitate communication between platforms, countries or regions.

Identifying these constraints inspired the IMVF to challenge Altice Labs, which then offered to perfect the methods and instruments used, and to implement a new, more efficient telemedicine platform.

Proposed solution

Complementarities between the PACS system, introduced by IMVF's project, and the response given by Altice Labs, through the Medigraf platform, resulted in a new tool that invests in the improvement of patients' clinical files and a variety of new solutions for complementary means of diagnosis/therapeutics in real time. This digital platform became a state-of-the-art service in the sector, placing Portugal in the upfront of Information and Communication Technologies applied to Health services.

The new Medigraf platform, born from a partnership between IMVF and Altice Labs, is a low-cost interface, in Portuguese, that is portable and compatible with any equipment and/or medical diagnosis tool available (X-Ray, mammogram, ECG, etc). Through a small box that allows converting images of any kind to DICOM and which connection to an online computer or laptop only requires 1MB of broadband. This is possible thanks to an image fragmentation technology that almost eliminates costs after the project is completed.

From a clinical point of view, this platform allows real-time interaction between two or more people – doctors and patients anywhere in the world – or the viewing of complete medical files and complementary means of diagnosis, in real-time or delayed, thus remedying the lack of proper assistance by specialized doctors. This tool, launched on June 7 2013, made it possible to assess diagnosis and their respective

clinic and therapeutic guidance, as well as to ensure training, counseling or collaboration in medical assistance in a specialized and differentiated way. Patients can now be seen by medical professionals remotely, only a click away. Medigraf also has great versatility since it works in a Web environment that allows the synchronized viewing and editing of medical files, besides making it easy to schedule appointments, back-up exams and work offline.

Results

Thanks to telemedicine, it became possible to reduce the number of evacuation requests by 61% (of patients from São Tome to Portugal) between 2009 and 2012. Along with the benefits that span from closer medical care, estimates indicate that reducing the number of evacuations has saved about 20% of Sao Tome's health budget and 81,7% in Portugal, when comparing the costs that treatments would have if they had taken place in Portugal.

Since the beginning of telemedicine activities, the platform has received more than 24.898 exams, from several medical areas of expertise (until December 2013), that are now available for remote viewing. There exams served as a base to perform a number of remote appointments and training that surpass what was initially foreseen: over 5000/year in 15 specialties.



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