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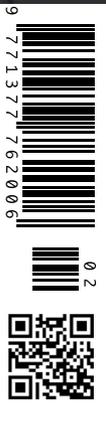
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COVID-19 Challenges of IT Team

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After a state of emergency was declared in Spain in mid-March, an IT team in a leading hospital had to develop a number of systems, upgrade the infrastructure and provide training, to ensure that the delivery of care continues smoothly. Two experts who led this massive effort share their experience and outline the new areas for work, which the pandemic has brought to the forefront.



✓ Key Points

- Despite the state of emergency in Spain, Clínica Universidad de Navarra had to continue providing care to its patients. Its IT team was tasked with finding alternative ways of care delivery.
- A virtual consultation system was set up with expanded functionality, and relevant training was provided to the staff and the patients.
- Use of many online platforms simultaneously proved to be counterproductive, and the IT team had to optimise the communication flows between various parties with a distinct set of tools.
- Training the staff and the patients has been one of the biggest challenges on the way. The IT team encountered some reluctance from the staff to use the new telemedicine tools, but the general perception has been favourable.
- Now telemedicine is one of the priorities for further development. Some potential for improvement also lies with video conference systems, data collection, and security.

Clinica Universidad de Navarra (CUN) in Pamplona and Madrid, Spain, is a private academic and research hospital system listed among the top 50 hospitals in the world according to Newsweek magazine. At CUN, we take care of thousands of patients from more than 50 countries per year. CUN's distinctive feature is that it has its own hospital information system (HIS), electronic medical record (EMR) system and ancillary systems being developed by a strong IT team for over 30 years. During the pandemic, this has proven to be our main strength.

Tasks and Challenges

Due to the COVID-19 outbreak, the Spanish government declared a state of emergency on 13 March, 2020. The

the physicians to better understand the strengths and weakness of virtual consultations, and we are going to work on a strategic plan in order to make virtual consultations part of the services we offer. Also, it is now clear that we should reconsider what a virtual consultation is. At the beginning, we thought that it was only to provide a video call between a patient and a physician, but we discovered it was much more than that. The process starts with the patient getting an appointment and, maybe, needing to send medical information to the physician in a secure way. Or the other way around, the physician needs the patient to fill in some forms. A virtual consultation also does not end when the video call is over as some drugs may need to be prescribed or

- One tool to send/receive files and medical records from/to patients.
- One tool to call/contact patients and colleagues.
- Encourage the use of our mobile app and patient portal to get in touch with patients.

Biggest Reward

We can be proud of ourselves. As an IT department, we were more prepared than we thought. Almost no technical issue had to be resolved. Now, two months later, we think that this has been a big step towards the adoption of new methods, and we have found support among the physician leadership to encourage the use of our telemedicine systems. Now our challenge is to maintain this momentum and improve the virtual consultation ser-

So far, our biggest work has been in change management, focussed on physician training. We had to make a big effort here

measure allowed the authorities to limit the movement of citizens and ration the use of services in a bid to slow the spread of the coronavirus.

We at CUN, however, had to keep providing medical services to each of our patients, regardless of where they were, with all the available tools. So we put all our IT team to work to achieve this objective as fast as we could.

So far, our biggest work has been in change management, focussed on physician training. We had to make a big effort here. Other tasks have been easier as we had done part of the job before the pandemic and have been more prepared.

We are right now evaluating the outcomes. The main objective was to provide an alternative way to deliver patient consultations. We have just completed a survey among

nursing department may need to be informed of the patient follow-up.

We have discovered that, in order to achieve the excellence we want, there are many tasks to be done.

Change management and effective internal communication to align physicians, nurses, assistants and patients in a short period of time using the right tools was a real challenge. We were overwhelmed with so many communication tools for internal and external communication. We were trying really hard not to collapse using at the same time tools such as Skype, WhatsApp, phone, Teams, Zoom or email, among others. In those new stressful conditions, having too many options was counterproductive. Therefore, we had to choose one, and only one, tool for each task.

vice, so that it becomes something physicians use every day. It should help us to reach and retain patients who live far from our facilities.

User Attitudes

We can observe two attitudes to the adoption of computer tools. There are some physicians who see the new tools as 'a waste of time,' but there are more of those who think these tools help to improve their work and that we, as hospital, must encourage their use. We can say that our physicians either love video consultations, or hate them. It seems that there is no middle path.

The biggest challenge so far has been with training patients and physicians. In the first two weeks of the state of emergency, the IT department's work was mainly about organising training for physicians

and nurses, with courses all day long for each tool. We also had to reinforce patient training and explain how they can access our patient portal to send files, medical records and second opinion surveys, make appointments, or make video calls to our employees.

Infrastructure Adjustments

There was a huge need for web cameras and video infrastructure setup. Also, many laptops had to be

staff are also fine with telework.

The major outcome of these projects would be that, when the pandemic ends, we will still be providing video consultations. Now our physicians demand more online tools from us to serve patients as efficiently as we do during traditional face-to-face meetings.

Increased adoption and new departmental projects would be some of the KPIs we must be looking at.

One of the long-term outcomes is

that patients can provide by themselves before getting to the hospital. It will improve our face-to-face consultations, but especially our remote consultations.

Additionally, cybersecurity and secure development issues are now much more important than before as our systems are more exposed. Over the years, all security issues we had to deal with were related to infrastructure and network access. This has changed now, and this year our

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provided to the staff.

More than 400 CUN employees received training, and we acquired and started using new software, as we needed a documentation transfer tool for the second opinion consultations and medical review follow-ups, and patients were sending files by email or through other non-GDPR-compliant platforms. We were not ready in March because patients were used to providing all this information on paper and by hand to a physician. There are still some concerns about privacy and how to send medical information online. This is why we have decided to use the new software, which is 100% integrated with our HIS and EMR, so patients can trust our system and actively use it.

Major Outcomes

For the IT department, the work has not changed much because of the pandemic. The only difference is working remotely. Among the IT staff the satisfaction with remote work is very high, and they claim they will keep working this way once the pandemic has ended. Our clinical

work on new and improved processes based on the lessons learned in stressful conditions, to be better prepared to face the new challenges.

New Research Areas

This pandemic has surely opened some new directions for us.

One line of action would be the increase in mobile and cloud-based tools and their integration with our on-site systems, so that the physicians are able to use all their tools regardless of where they physically are.

Also, new collaboration tools for physicians are needed. Video conference systems used by patients and doctors to meet should improve with added functionality, eg, a multi-party call with another doctor or the patient's relatives on the go. The physical space and environment, in which physicians use the video system, had to be reevaluated as noise or light conditions are important, but almost no one takes care of these.

Another discovery has been the need to upgrade the data collection during the registration process. We should expand the amount of data

development team will have to make a big effort to improve the situation.

Success Factors

We think that our relative success has been due to the adoption of agile teams for the development. This enabled us to react fast enough when a response was needed. Many processes had to be revised because of COVID-19, and our system enables us to implement the changes quickly.

Regarding the general management, a strong crisis committee has been created. This has helped to communicate information between departments and areas, to clarify and unify the criteria.

Our advice to colleagues would be – you should not be afraid. Taking risks to push new initiatives, using technology, and transforming an organization are the new roles CIOs have. And here in Spain, not just at CUN, every CIO we have talked to discovered that we were more prepared than we thought. ■