Increasing Access to Health Services Through Inclusive Digital Health

Company Case Studies: Clínicas Del Azúcar & salauno

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PHOTOS

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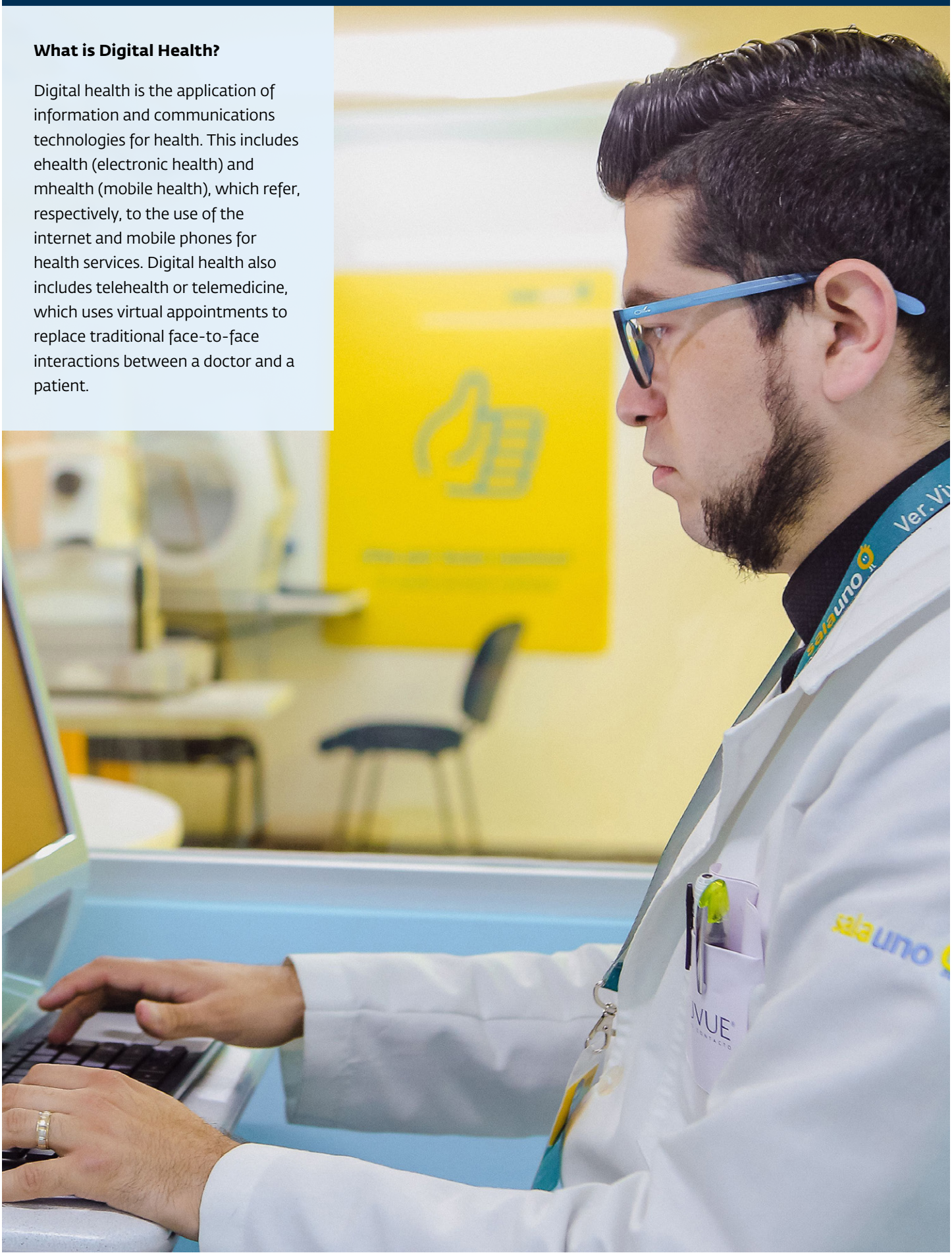
What is Digital Health?

Digital health is the application of information and communications technologies for health. This includes ehealth (electronic health) and mhealth (mobile health), which refer, respectively, to the use of the internet and mobile phones for health services. Digital health also includes telehealth or telemedicine, which uses virtual appointments to replace traditional face-to-face interactions between a doctor and a patient.



Introduction

Across the world, significant strides have been made in low- to middle-income countries to expand access to, and the quality of healthcare. However, healthcare expenditures around the world are growing faster than GDP, with recent estimates suggesting that global expenditures on health could rise to over $18 trillion by 2040.[1]

This is forcing governments to think about how they can deliver services more efficiently, and prioritize which services they deliver. This need is especially acute in emerging economies where healthcare systems continue to face resource, personnel, and infrastructure constraints. For example, in Mexico, the average number of beds per 1,000 people is only 1, versus an average of 4 in Organisation for Economic Co-operation and Development (OECD) countries.[2] The COVID-19 pandemic, which overburdened healthcare systems overnight, further exacerbated these constraints.

The most severely impacted people are poor and underserved individuals at the base of the economic pyramid (BOP). The BOP have more limited access to information on healthcare conditions and are less able to get treatment. They also have less income to pay for health services, which affects their ability to receive care. The World Health Organization (WHO) estimates that each year, high healthcare costs push about 100 million people into extreme poverty.[3] In Mexico, out-of-pocket spending accounts for 40 percent of people's total expenditures on health, which is one of the highest rates in the world.[4] In addition, the BOP commonly live in rural or remote areas where hospitals and doctors are scarce. In recent years, the application of digital technology has emerged as a way to improve access and efficiency in healthcare systems, as well as the quality of care and patient outcomes. Digitalization is particularly relevant for providers in rural or resource-constrained settings, and those serving BOP patients.

Digital tools can help healthcare providers to maximize the use of resources, improve on the cost-quality equation by increasing efficiency, and provide new ways to serve harder-to-reach populations. For example, remote training can address the skill gaps of local healthcare providers, point-of-care diagnostics can facilitate patient diagnosis in basic care settings, telehealth platforms can allow specialists in urban hospitals to consult with clinicians and patients in distant rural clinics, and health information systems can enable the instantaneous and seamless flow of data across facilities. While digital health has the potential to reduce barriers for the underserved, solutions need to be designed to ensure that they do not widen the digital divide. In Mexico, for example, only 70 percent of the population use the internet.[5]

The COVID-19 pandemic has pushed healthcare providers further toward an omnichannel approach that combines digital health with traditional "bricks-and-mortar" medical treatment. The market for telemedicine is now expected to grow by almost 20 percent per year, and much of this will be in emerging economies.[6]

Digital health aligns with IFC's efforts to help countries accelerate their progress toward Universal Healthcare Coverage, and increase access to quality, affordable healthcare. Across the developing world, IFC is working with healthcare providers to catalyze digital transformation to improve equitable access to healthcare.

> "Virtual care and digital solutions have a huge positive impact on our patients, especially the most vulnerable. For women and patients in rural areas, for example, the cost and burden of transportation is a major barrier to access to care."
>
> **Javier Lozano, Co-founder and CEO**

IFC's Investment:

IFC invested $4 million as part of a $6.8 million Series B investment round.

Clínicas del Azúcar Case Study

COMPANY BACKGROUND

Clínicas del Azúcar (CdA), one of the largest private diabetes healthcare providers in Mexico, opened its first clinic in 2011. By 2022, the company had grown to 33 clinics in 14 states, and it was serving more than 35,000 patients per month. CdA offers patients a "one-stop shop" with integrated, multi-disciplinary care through an annual membership. The company targets middle- and lower-income Mexicans, and it has significantly cut the cost of privately provided diabetes care in Mexico from an average $1,000 per year to $250.[7]

Mexico has one of the highest diabetes rates in the world. By the end of 2021, more than 14 million Mexicans had diabetes, and another 40 million Mexicans likely had the disease.[8] Lower-income individuals and women have much higher rates of diabetes, they receive less optimal care, and they face greater risk of diabetes-related complications such as blindness and premature death.

INTERNAL ASSESSMENT

The assessment of CdA, which included consultations with management and staff in mid-2020, highlighted several needs and opportunities that could be addressed through digitization. This included the opportunity to: use digital tools to increase patient referrals to CdA and improve patients' engagement and adherence to treatment protocols, expand CdA's geographic coverage and the range of services that the company could provide to patients through digital technology, optimize physicians' time in CdA clinics by booking virtual consultations at times when clinic patients are few, and integrate company systems more effectively to improve information flow and ensure interoperability.

Inclusive Digital Health Project Recommendations

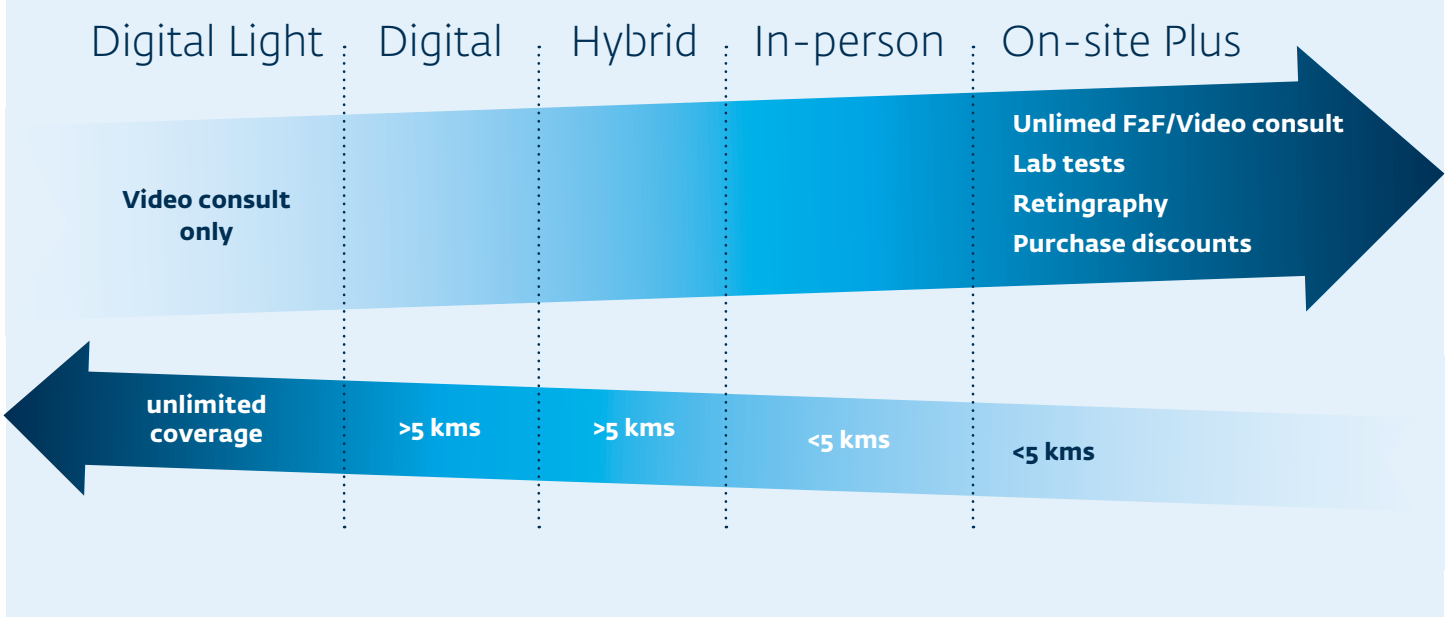
Below are some key recommendations in CdA's digital health strategy and roadmap that focus on greater inclusion of BOP patients:

1. Increase affordability and access for BOP patients through a range of virtual care offerings.

Hybrid membership offerings can cater to patient needs with flexibility in services, price, and location. Rather than offering only an in-person membership, CdA could offer a range of membership plans, incorporating both in-person and virtual care. This would allow patients to choose the best option, based on the level of service, convenience of the location, and the price **(see Box 1).** Membership offerings incorporating virtual care would provide lower-cost membership options to patients. It would also cut down patients' trips to the clinic from an average of 21 visits per year, to just 4, which would save patients both time and money. This is particularly important for the BOP, and for women, who often must wait until a family member is available to take them to the clinic.

Virtual consultations could extend CdA's reach to people in remote locations, and also improve service cost-efficiency. CdA's clinics typically serve their nearby community, but with telehealth, clinic physicians could cover a substantially larger area. Additionally, virtual consultations help patients who have a disability, lack transportation, and/or have financial and time constraints—problems that are more common for the BOP. Telehealth could be especially valuable in expanding BOP access to services in less-densely populated areas where opening a clinic would not be financially feasible for the company.

Box 1: **CdA Memberships Differentiated to Expand Coverage**



Telehealth could also improve CdA's efficiency through optimal use of its staff. In many of CdA's clinics, doctors are underutilized at certain times of the day, and virtual visits could be booked during these slow times. Making optimum use of staff resources enables CDA to maximize cost-efficiencies to provide affordable care and remain financially sustainable.

2. Expand networks of physicians and health service providers to increase diagnosis and treatment. Along with virtual care, expanding a network of partnerships with physicians and other healthcare providers would enable CdA to increase its geographic coverage. Through these networks, CdA could raise patients' awareness about diabetes and generate patient referrals. This is particularly important for the BOP who are less likely to be aware of the illness or avail themselves of treatment. Networks with other service providers such as optometrists and podiatrists would improve patients' quality of care by providing them with more services, close to home. Partnerships with labs and pharmacies in locations without CdA clinics could also provide virtual members with tests and prescriptions at CdA's discounted prices.

3. Leverage mobile health (mHealth) to improve patients' adherence to their treatment regimen, and their outcomes.

Mobile health (mHealth) could play a vital role in informing people, getting them diagnosed, and encouraging behaviors that optimize treatment outcomes. CdA's model is inherently patient-centered, and by adopting mHealth, the company could enhance the entire patient journey from patients' first visit through the course of treating their disease. Targeted messaging can raise peoples' awareness about diabetes, help them determine their risk, and bring them to a CdA clinic or healthcare provider for a test. mHealth can also enable patients to book appointments; access their test results; provide recipes and fitness programs; and motivate patients to eat properly, exercise, and follow their treatment plan. This could be coupled, too, with an incentive system that awards points and prizes to patients who adhere to their treatment plan, and also drive the use of new product offerings. **See Box 2** for examples of proposed digital tools that target patient satisfaction, quality of care, and outcomes.

BOX 2: **Patient Tools**

ACQUISITION	TREATMENT	FOLLOW-UP
• Risk calculator • Medical information • Chatbot	• Appointment scheduling • Virtual consultation • Lab test results • Information on diet, recipes, etc • Remote patient monitoring	• Reminders (e.g., medications, appoints) • Rewards • Account information • E-commerce or online pharmacy

Use Remote Patient Monitoring (RPM) tools to improve diabetes management with harder-to-reach, more vulnerable populations. Use of an RPM tool enables patients to record and transmit information on their blood glucose levels, blood pressure, and other vital data so that CdA staff can monitor their health and quickly adjust their treatment, if needed.

Tailor or complement digital tools to address patients' technology constraints. As the poorest patients may lack access to digital tools such as a computer, smart phone, and the internet, CdA should complement its digital tools with other means of communication. For example, for patients who lack access to a smart phone and/or the internet, mobile phone messages can remind them about appointments and taking their medication. Also, video consultations via a computer or smart phone can be replaced with telephone calls. Finally, patients without a bank account could pay in person for their CdA membership at a retail chain.

4. Support financial sustainability and growth by creating new digital health revenue streams.

The roadmap IFC created with CdA outlined new revenue opportunities that the company could harness through digital channels. These could support CdA's growth and financial sustainability, as well as increase its reach with people at the base of the pyramid. For example, CdA could partner with online pharmacies that could fill patients' prescriptions, and with e-commerce vendors that could sell patients diabetes-related products such as compression socks and cookbooks. CdA could expand, too, into new markets in Latin America.

CdA Response to the COVID-19 Pandemic:

At the start of the pandemic, CdA experienced a surge in patients, and needed a quick solution that would keep both clients and staff safe from infection. CdA swiftly launched an interim telemedicine service that connected patients with doctors and nurses through telephone and video calls. CdA also began offering new services such as psychological counselling for patients who were locked down at home, and battling COVID-19-related anxiety, loneliness, and depression.

THE RESULTS

In December of 2020, CdA began piloting both the use its smart phone app for patients and remote consultations. Over the first few months of 2021, the suite of membership offerings (including hybrid models) was successfully tested with patients, and the hybrid model is now CdA's standard offering. By June of 2022 30% of CdA's patients moved to hybrid care and CdA is now the most comprehensive platform of clinics and digital front door solutions for diabetes care in the country.

IFC's Investment:

Led a Series A financing round in 2014 with a $2.2 million equity investment.

Salauno Case Study

COMPANY BACKGROUND

Salauno is a low-cost, high-quality ophthalmic care provider in Mexico, with 20 clinics and one surgical center, serving more than 9,000 patients a month. The company was founded in 2011 to bring high quality and affordable specialty eye care to middle- and lower-income Mexicans. Salauno's "hub and spoke" model has enabled the company to cut the typical cost of Mexican ophthalmic care by one third.[9] In 2019, salauno started piloting telemedicine in one clinic, and then expanded this to 10 of its clinics.

Each year almost 6 million people in Mexico need treatment for cataracts, retinal detachment, and glaucoma, but less than a third of those who need treatment can access it. Also, women are more likely to get cataracts, and suffer from blindness as a result, and they are less likely to undergo vison-saving cataract surgery.

ASSESSMENT

The assessment of salauno, which included consultations with management and staff in mid-2020, identified several needs and opportunities that could be addressed through digitalization. This included the opportunity to fill the gap in access to specialist physicians' services in marginalized communities, build an integrated and responsive web platform, improve patient acquisition and maintenance, and take advantage of excess staff and equipment; and the *need* to enable staff to use new technologies by standardizing the telemedicine process and providing training to increase staff buy-in and use.

Inclusive Digital Health Project Recommendations

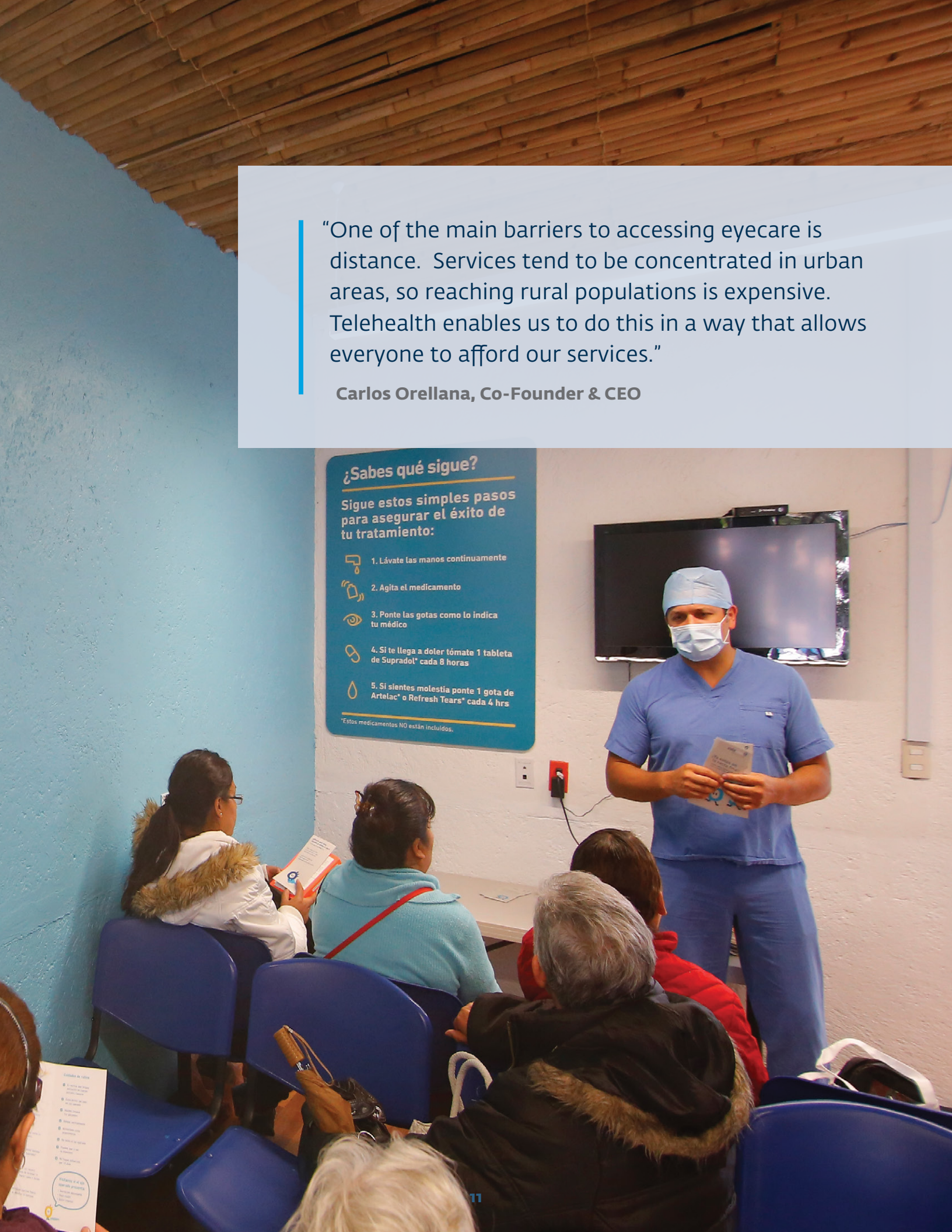
1. Reduce access and affordability barriers for the BOP through digitalization

Embed the telehealth platform to provide care for "hard to reach" populations. A secure, reliable, and scalable telehealth platform can extend BOP access to healthcare services. With this platform, patients can connect with a specialist through a provider in a local clinic, rather than spend time and money travelling long distances to a specialist facility. By using telehealth, salauno can establish services in areas where an ophthalmologist is not available, and it would not be cost-efficient to bring one in, given the location's population density, and, thus, the estimated demand. Also, using a telehealth platform would optimize the use of salauno's ophthalmologists because at times when in-patient bookings are slow, an ophthalmologist could consult with patients, virtually, across several locations.

Expand affordable access for the BOP by using low-cost retinal scanning technology. Salauno introduced low-cost retinal scanning technology in a sub-set of clinics, and then rolled out the technology across the company's whole system. Through doing a retinal scan, ophthalmologists can screen and offer a preliminary diagnosis of cataracts and other retinal conditions with an accuracy of 95 percent. Those patients with a pre-diagnosis are then referred to the surgical center where an ophthalmologist confirms the diagnosis, and the corresponding treatment is scheduled.

"One of the main barriers to accessing eyecare is distance. Services tend to be concentrated in urban areas, so reaching rural populations is expensive. Telehealth enables us to do this in a way that allows everyone to afford our services."

Carlos Orellana, Co-Founder & CEO



BOX 3: **Patient Tools**

ACQUISITION	TREATMENT	FOLLOW-UP
• Chatbot • Online partnerships	• Appointment scheduling • Video consultation • Low-cost technology cameras	• Webpage updates • Data integration across platforms • Automated patient communication

Only in a few cases do patients have to visit an ophthalmologist in the surgical center to confirm their diagnosis. Another benefit is that with one scan, an ophthalmologist can look for several different diseases of the eye, which reduces the number of visits a patient must make and optimizes the ophthalmologist's time and costs per patient.

Use artificial intelligence to screen more patients. Artificial intelligence and predictive algorithms can be used for a patient's initial diagnosis, and this can then be confirmed by a specialist. At more advanced stages, this could move to "instantaneous" screening of patients using AI, and become a standard offering across salauno's clinics. Introducing and scaling up the use of AI was another core component of the digital health strategy and roadmap for salauno, because AI could substantially increase the volume and cost-effectiveness of patient screening and diagnosis.

Improve the functionality of other online tools and integrate the systems together. Other recommendations included search engine optimization, integrating a chatbot into salauno's website to increase access to information and generate patient referrals, enhancing website functionality to improve the quality and convenience of services for patients, and integrating a telehealth platform with other information and communication systems to allow for the seamless and automated flow of information. **Box 3** highlights other areas of focus in the strategy and roadmap designed for patient acquisition, treatment, and retention through digitalization.

2. Build partnerships with healthcare service providers to decentralize care and reach more patients.

Salauno could further decentralize its model by expanding its physician and optometrist networks through its "Guardianes de la Vista" (Guardians of Sight) program. Healthcare providers participating in the Guardianes program are located in the communities where patients live, and they are the first point of contact. These health care providers have built trusting relationships with their patients, they could raise patients' awareness about eye diseases, and conduct basic visual acuity tests and risk factor

questionnaires to determine which patients should be referred to salauno for diagnosis and possible treatment. For those healthcare providers that screen and refer a large number of patients, salauno could provide a low-cost retinal scanner.

In addition to collaborating with physicians and optometrists, salauno could increase BOP patients' access to its services by partnering with opticians, laboratories, pharmacies/pharmacy kiosks, and patients' associations with a large number of members.

3. Increase the uptake of telehealth services by building the capacity of healthcare professionals.

One of the key issues identified during the internal assessment stage, was that equipment and healthcare professionals were being underutilized in salauno clinics, which suggested excess capacity. However, staff were hesitant to fill that capacity by providing telehealth services. Therefore, other recommendations included setting up standardized protocols and procedures, and then training healthcare professionals and other staff on their use. Greater use of telehealth could also improve the cost-efficiency of services and physician utilization rates.

4. Explore access to finance solutions to ensure that services are affordable for low-income people.

Salauno has already embedded several innovations in its business model to keep patients' costs lower than its competitors. This includes partnerships with NGOs and government that subsidize the cost of patients' eye surgery. IFC also recommended that salauno keep affordability in mind as it continues to scale up—for example, by partnering with a financial institution that can provide patients with a low-cost loan to pay for their surgery.

Responding to the COVID Pandemic:

The COVID-19 pandemic created an urgent need for a virtual option. Initially, the company focused on a quick solution that would connect with patients at home and enable them to access both information and physicians. Once clinics were able to reopen, salauno's focus shifted to creating a virtual offering that would enable patients in salauno's clinics to connect with specialists in its surgical center.

THE RESULTS

Salauno re-designed its website with added patient functionality (for example, for booking appointments and making payments). The company also launched a physician-to-patient virtual offering to address its immediate needs during the COVID-19 pandemic, and physicians were able to see 20 to 30 patients a day during the height of the pandemic. When the COVID-19 threat declined, salauno revamped its system to integrate a physician-to-clinic telehealth platform, and it is currently using low-cost retinal scanners in 10 clinics, and these have the capacity to screen 15 to 20 patients a day. Salauno has also launched an artificial intelligence pilot in 10 of its clinics. Expansion of the Guardianes de la Vista program is underway, too, with the goal of having 4,500 physicians enrolled, and 12,000 new patients treated by the end of the year. Finally, salauno has recently launched a partnership with a microfinance institution that is currently providing financing for 15 percent of the patients who require surgery. That number is expected to grow to 30 percent of patients.

Lessons Learned

Below are some of the key lessons that emerged during the Clínicas del Azúcar and salauno projects. These highlight factors that other healthcare providers should consider when they embark on their own digital health transformation.

DIGITAL TRANSFORMATION SHOULD BE AT THE CORE OF THE COMPANY'S BUSINESS STRATEGY

Senior management from both companies had a clear vision and were strong champions of digital health as a core part of their strategy. It was also critical that management from different parts of the business were engaged—including the clinical and technical functions—to ensure that the digital strategy would be embedded across the company's operations.

ADOPT A USER-CENTERED DESIGN APPROACH

Make sure that "the voice of the patient" is a focus. The digital health strategy should reflect the needs of all users of digital technologies—including patients, physicians, and the company's staff. The strategy should also consider how the company's target patients' journey could be reimagined with the application of digital tools. It should consider, too, the specific opportunities and needs, or pain points, for specific patient segments—for example, in these projects, awareness, affordability, access barriers for the BOP patient segment.

THERE IS NO "ONE-SIZE-FITS-ALL" TECHNOLOGICAL SOLUTION

The right solution depends on a range of factors, including organizational capacity, resources, and digital maturity. Solutions should also consider the company's longer-term plans for growth to ensure that its technological systems are scalable. Technology may be off-the-shelf, with some customization; or integrated within existing systems, or a combination of the two. As CdA and salauno already had a moderate level of digital maturity and systems in place, focus was on integrating with their existing systems and ensuring interoperability.

IMPLEMENT IN PHASES; PROTOTYPE AND TEST DESIGN SOLUTIONS EARLY, AND OFTEN; BE ADAPTABLE, ITERATIVE, AND ALLOW FOR ADJUSTMENTS

In the case of salauno, the team used an agile, scrum approach with several quick sprints. This meant implementing changes using an incremental approach (starting with a chatbot and then website redesign). This allowed the team to have quick wins, learn quickly, iterate, and be flexible. For CdA, the team prototyped and tested hybrid plan options with a cohort of members to identify and address potential challenges before launching on a larger scale.

EMBED CHANGE MANAGEMENT PRINCIPLES THROUGHOUT THE DIGITAL TRANSFORMATION PROCESS

Digital transformation requires managing the "people" side of change in an organization to adapt mindsets and cultures (change management). In addition to senior management, engagement with company staff was crucial, too. Involving staff early on through visioning workshops was important to gain their buy in, and their ideas about design. This helped to ensure that the digital strategy was effectively embedded at the core of company's business model. It also ensured that planning included sufficient budget and human resources, as well as training and communications. Finally, it allowed for a solid plan to be put in place to track and coordinate tasks across the company's relevant teams.

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9 See IFC case study on salauno for more information: https://www.ifc.org/wps/wcm/connect/c7db8dfa-1efc-4f00-86f3-cae75151b8ea/IBiz+Case+Study+-salauno+-+final+-+no+covers.pdf?MOD=AJPERES&CVID=lLZYzAn

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