



CASE STUDY

Detecting Diseases with Personalized Radiology

Alliar: A Highly Productive Business Model Benefits Millions of Patients in Brazil

July 2016

ABOUT IFC

IFC, a member of the World Bank Group, is the largest global development institution focused exclusively on leveraging the power of the private sector to tackle the world's most pressing development challenges. Working with private enterprises in more than 100 countries, IFC uses its capital, expertise and influence to help eliminate extreme poverty and promote shared prosperity.

ABOUT THE CASE STUDY

Expanding access to quality and affordable health care is a central element to eliminating extreme poverty and promoting shared prosperity. The World Bank Group has a goal to end preventable deaths and disability through Universal Health Coverage (UHC). In many developing countries, governments do not have the capacity to service the entire population and private health care providers often play a critical role in meeting societal needs.

IFC's health practice is developing case studies that demonstrate the ability of the private sector towards achieving global and national health care goals. Through a focus on efficiency and innovation, certain business models can provide better outcomes at a lower overall cost to society.

WRITTEN BY

This case study was authored by Ann M. Casanova with valuable inputs from IFC colleagues Ioan Cleaton-Jones, Leticia Crentsil, Charles Dalton, Erika Kanashiro Tugumi, Chris McCahan, and Elena Sterlin.

ACKNOWLEDGEMENTS

A special note of appreciation is extended to Alliar, especially Fernando Terni, Dr. Juan Cevasco, Fernando Pereira, Fernando Trancanella, Marcos Cominato, Cibele Carvalho, Roberto Kalil and Patricia Vieira for sharing their experience and data with us. The author is grateful for the many insights provided by IFC colleagues. Special thanks to Elizabeth Price for communications advice, and Irina Sarchenko and Borys Mar for the creative design.

DISCLAIMER

The findings, interpretations, views and conclusions expressed herein are those of the author and do not necessarily reflect the views of the Executive Directors of the International Finance Corporation or of the World Bank or the governments they represent. While IFC believes that the information provided is accurate, the information is provided on a strictly "as-is" basis, without assurance or representation of any kind. IFC may not require all or any of the described practices in its own investments, and in its sole discretion may not agree to finance or assist companies or projects that adhere to those practices. Any such practices or proposed practices would be evaluated by IFC on a case-by-case basis with due regard for the particular circumstances of the project.

COVER PHOTO

© Alliar

RIGHTS AND PERMISSIONS

© International Finance Corporation 2015. All rights reserved.

The material in this work is copyrighted. Copying and/or transmitting portions or all of this work without permission may be a violation of applicable law.

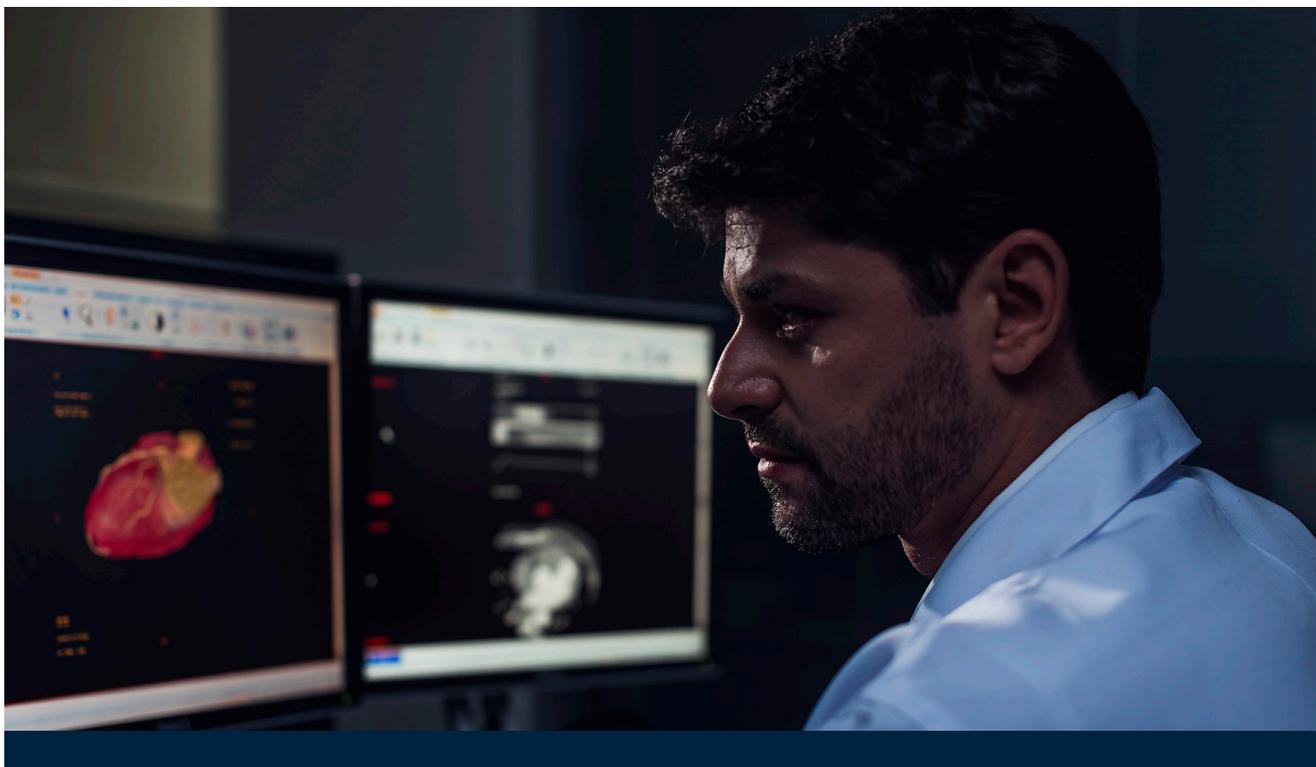


Photo © Alliar

Table of Contents

Accelerating Diagnosis and Treatment for Thousands of Patients	1
The Business Model Targets Pent-Up Demand	5
Maximizing Productivity Through Innovation	9
Obsessed with Operational Efficiencies	13
The Role of IFC	17
Conclusion	17



Photo ©Pan American Health Organization

The PPP has had a positive impact on Bahia's public health system and is a game changer for patients who have been enduring long waits.

ACCELERATING DIAGNOSIS AND TREATMENT FOR THOUSANDS OF PATIENTS

Adeni Almeida was 57 years old and had a history of suspicious nodes in her left breast. Eight years ago, the nodes had been surgically removed at the State Center of Oncology (Cican) in Salvador, Bahia, but in 2015 new nodes appeared that could be potentially cancerous and her doctor ordered a stereotactic biopsy.¹ The difficulty was that the Cican did not have the equipment to perform the test and there was a long wait at the hospital for surgery.

For a year and a half, Adeni appealed to three hospitals in Salvador—without success. She approached the private health system, but couldn't afford the amount charged, of about R\$1,400 (US\$415).² She did not have private health insurance and was reliant on the public health system, just like 75 percent of all Brazilians. She lamented, "I felt abandoned, suffering from a problem that could not wait that long. I would leave early in the morning, crying, trying to get this exam while fearing that the disease was getting worse."

It was mid-2016 when Adeni was finally able to have the procedure performed—after Alliar, through its subsidiary, the Brazilian Diagnostic Network (RBD), had established a new diagnostic imaging center at the Cican. The new center was made possible through the first ever Public Private Partnership (PPP) for diagnostic imaging services in Brazil. In February 2015, Alliar's consortium established an 11.5 year PPP with the State of Bahia to build, operate, and staff new diagnostic imaging centers in 11 hospitals across the state and establish one tele-radiology center. The PPP allows Alliar to provide quality diagnostic services to low-income patients covered by the Sistema Único de Saúde (SUS), the universal healthcare system in Brazil. The PPP has already had a huge positive impact on Bahia's public healthcare system. It was a game changer for patients who had experienced a lot of stress while enduring long waits.

Following the PPP investments, Adeni noticed improvements in services. "For several months now, things have evolved, the equipment is better, the tests are fast. I felt real changes in patient care—greater patient care. It is wonderful!"



Photo © Alliar

"For several months now, things have evolved, the equipment is better, the tests are fast. I felt real changes in patient care—greater patient care. It is wonderful!" Adeni Almeida

¹ The procedure is preferred over full surgery because it is a minimally invasive technique performed on an outpatient basis, with low risk of complications. The procedure relies on mammography to locate and guide the collection of tissue samples of abnormal growth.

² The foreign exchange rate was USD1 to BRL3.37 on June 10, 2015. www.oanda.com



“We expanded care, reduced costs to the state and improved the service with more precise diagnostics that enables us to produce rapid results.” Fernando Terni, President and CEO of Alliar

Emphasizing the importance of access to advanced diagnostic methods in the public sector, she exclaimed, “This is very important for those of us who cannot afford it! I won my life back!”

Fernando Terni, President and CEO of Alliar explained, “We expanded care, reduced costs to the state and improved the service with more precise diagnostics that enables us to produce rapid results.” This modernization strategy has resulted in a seismic shift in increasing access for patients. Dr. Juan Cevalco, the Chief Medical Officer illustrated, “Prior to the PPP, a simple cholecystectomy (surgical removal of the gallbladder) procedure would take about 35 days to turnover hospital beds, in large measure because the hospital did not have access to imaging. Now with imaging services, it was reduced to five days, just as it is supposed to be everywhere else in the world.” The ability to rapidly turnover beds has shortened waiting time for patients like Adeni and increased access to healthcare for thousands of patients. A year into the PPP, Alliar has conducted 183,000 exams for Bahia’s network of public hospitals. Once fully implemented, it should serve about 6 million SUS-dependent patients over 11 years.

Alliar Centro de Imagem Diagnosticos, SA is among the three largest diagnostic imaging companies in Brazil. The company promotes access to better quality healthcare through two main business lines (1) diagnostic imaging, and (2) on-site medical laboratory testing. For radiology, Alliar offers a broad array of modern diagnostic imaging exams and tests including Magnetic Resonance Imaging (MRI), Computed Tomography (CT) scans, ultrasound, mammography, and X-Rays.³ In addition, the company has recently begun to co-locate laboratories at its centers, thereby promoting greater convenience for its patients.

Alliar is a privately held, for-profit, holding company that was established in 2011 with the merger of four leading diagnostic companies from Bello Horizonte, Campo Grande, Juiz de Fora and São José dos Campos. The company expanded rapidly through a series of mergers and acquisitions that led to an increase in revenues of about 40 percent per year. In only five years, it has established a network by acquiring 24 companies, and managing 1 PPP, all of which are operating under 25 different, established brands. As a result of the company’s growth trajectory, it currently has 125 MRI scanners in 117 Patient Service Centers (PSCs) in 41 cities and in 10 states. It even has a PSC in Para in the Amazon—a three-hour flight from the nearest big city.

In 2012, IFC played a catalytic role in the growth of Alliar by providing a US\$50 million loan for expansion through organic growth and acquisitions. Additionally, IFC’s funding was used to make existing centers more efficient. Alliar has successfully expanded to underserved regions and contributed to the increase of the availability of MRI exams in Brazil by opening 30 new PSCs and installing 42 new MRI scanners in five years,

³ Alliar’s services include Arterial Blood Pressure Monitoring (M.A.P.A.), Biopsies (including diagnostic guided biopsies especially of the breast, prostate, and thyroid), Bone Density, Cardiotocography, Coronary Angiotomography, CT Scans, Doppler Echocardiography, Echo Doppler, Electrocardiograms, Ergometrics, Ergospirometry, Fetal Medicine, Flexible Sigmoidoscopies, Holter, Mammograms, Mamotomies, Medical Laboratory Testing, MRI, Nuclear Medicine, Pathological Anatomy Exams, Pet-CT, Ultrasounds, Upper Digestive Video Endoscopy, Vaccines, and Video Colonoscopy.

particularly targeting cities or areas that lacked access to MRI. The growth of the network has enabled it to serve 4.3 million patients since it was founded in 2011. Alliar's growth has been good news for women, who represented 67 percent of Alliar's patient population in 2015. Expansion has generated new jobs and by mid-2016, the company had 5,200 employees, of which 75 percent were female. It has about 1,000 medical doctors, of which about 60 percent are female. The increase in capacity and the number of patients served has led Alliar to generate revenues of over R\$1 billion (US\$296 million) in 2015.

KEY SUCCESS FACTORS

The key factors that have contributed to the company's success are a focus on high productivity through innovation, excellence in quality, and partnerships.

HIGH PRODUCTIVITY THROUGH INNOVATION

Alliar is a company that is driven by increasing the number of patients that have access to diagnostic imaging services. It achieves this by constantly reviewing and reducing costs, and increasing productivity, largely through technology. The company has digitized all its operations enabling diagnostic images to be easily transmittable across the country in real time. This has permitted Alliar to implement its tele-medicine strategy which helps to tackle the radiologist shortage in Brazil because radiologists do not need to be located in the same city as the patient. By eliminating the need of the radiologist to travel to multiple clinics, cities that lack radiologists can also be served. This approach has helped to triple the number of patients a radiologist can serve. Alliar also leveraged technology to pioneer the world's first MRI "Command Center" where its most experienced technicians remotely operate multiple MRI scanners in different cities. Technicians are very productive and can operate multiple MRI scanners at a time. Each Command Center runs about 55,000 scans a month. The overall increase in productivity dramatically increases patient access to scarce specialist medical skills.

EXCELLENCE IN QUALITY

Alliar places great importance in cultivating a culture of medical excellence. The company's logo "Alliar – Médicos à Frente," meaning "Alliar—

Doctors at the Forefront" emphasizes that doctors are in charge of the company. Alliar ensures excellence by acquiring the leading radiology companies in the local market. Then, it leverages the local brand to open new PSCs in nearby cities. It invests in state-of-the-art equipment that is appropriate to the disease profile, utilization and affordability for its new PSCs. The latest technology produces high-quality images that allows radiologists to provide a more accurate analysis of an image and provides faster results.

PARTNERSHIPS

Partnerships have been fundamental to Alliar's success, especially the partnerships forged with the doctors of the acquired companies and the equipment suppliers. Firstly, as a rule, the doctors who owned the acquired companies continue to be shareholders in Alliar. They play a fundamental role in medical decisions taken by the company and ensure that medical quality is of paramount importance. This is critical to Alliar because it wants to continue to acquire the top radiology practices and is a distinguishing feature when compared to the competition. Secondly, equipment suppliers are essential for innovation. Without them, it would not have been possible to establish the Command Center where it operates MRI scanners centrally. Thirdly, the company has been able to reduce capital expenditure (capex) costs through volume discounts with partnering suppliers.



Photo © Adam Jones | Elderly Women Take a Stroll, Rio de Janeiro, Brazil

By 2033 Brazil's population over 65 years of age is projected to reach 24 million, increasing the need for medical and diagnostic services.

THE BUSINESS MODEL TARGETS PENT-UP DEMAND

In 2013, the segment of Brazil's population over 65 years of age was roughly 14 million and growing rapidly. By 2033, it is projected to increase to 24 million people. This population segment typically has a greater need for medical and diagnostic services. The disease profile in Brazil is similar to many other parts of the world, with an increasing incidence of cancer and heart disease. As medicine continues to evolve toward more ambulatory care and less invasive procedures, medical diagnostic services will continue to play an important role for individual patients who need personalized care.

The diagnostic imaging market in Brazil is a very fragmented industry with more than 5,000 small providers spread out across the country. The five largest players have less than a third of the market. Further, the availability of equipment is limited. For instance, in 2011, Brazil had 1,060 MRI scanners with nearly 700 concentrated in the largest cities with over 400,000 people. These circumstances limited patient access and many were not served at all.

The substantive investments needed in state-of-the-art equipment that is appropriate to service the local disease profile makes it difficult for small providers in distant parts of Brazil to remain competitive. This led several local diagnostic imaging companies to join forces and purchase equipment together to obtain better pricing. In 2011, four companies decided to merge. The founders decided to name the new company "Alliar," roughly meaning "alliance" in Portuguese. Alliar's mission is to combine human capital with technology and entrepreneurship to bring quality diagnostic medicine to every region of Brazil.

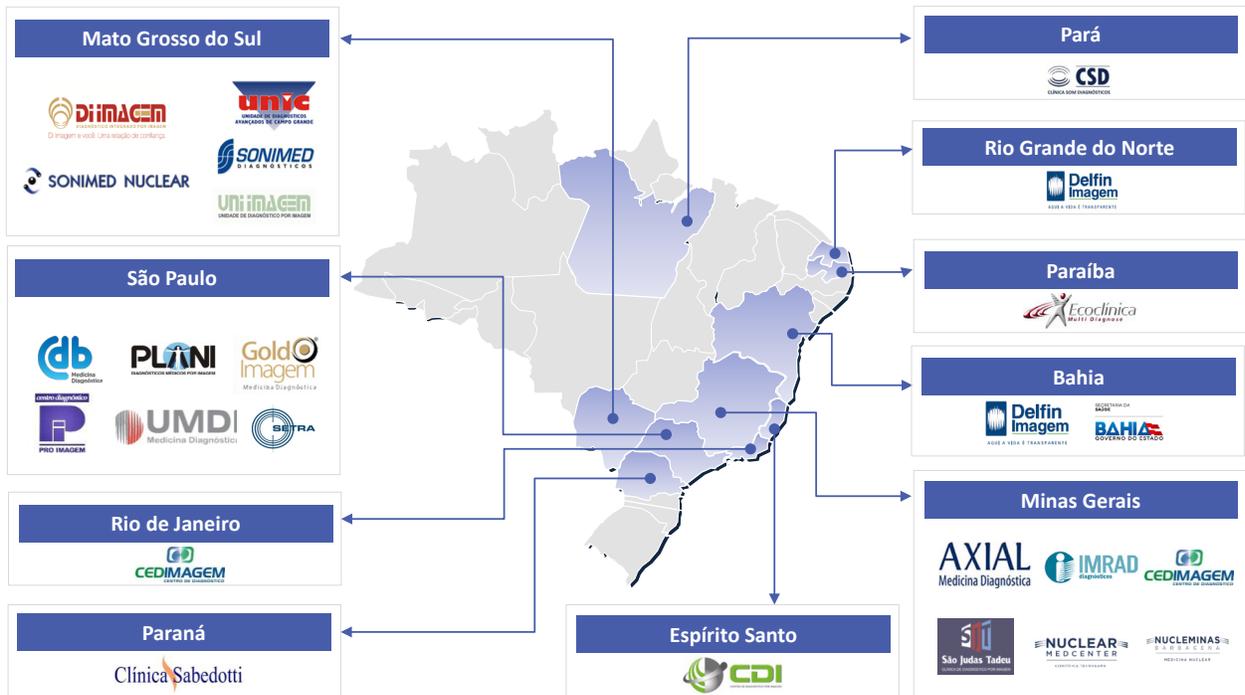
The founders selected Patria Investimentos, a private-equity firm, to provide advisory services and capital. Alliar chose Patria because it agreed to give doctors a key role in decisions related to medical services. It backed this promise up by keeping the doctor as a shareholder of Alliar to ensure continuity of quality. Today, Patria owns about 25 percent of Alliar and has about 51 percent of the voting shares while doctors own about 70 percent of the company and have about 44 percent of the voting shares.

FROM SOLE PROPRIETOR TO NETWORK

Alliar adopted an accelerated growth strategy where it seeks to consolidate the market. It created a network through a "hub and spoke" model. Hubs were targeted through mergers and acquisitions of leading companies in midsize cities where there was pent-up demand, or in cities where patients had to travel more than 200 km to have access to services. Hubs were typically identified as the leading provider of quality and revenues in the local market, and who also had expansion plans.

Spokes were cultivated organically as a natural extension of the brands of the hubs. They expanded into frontier regions that had a population of more than 200,000 inhabitants and did not have an MRI. With this strategy, in the first four years, Alliar opened up more than 30 greenfield PSCs in smaller cities.

FIGURE 1: FOOTPRINT OF ALLIAR'S NETWORK IN BRAZIL



At the outset, they deliberately avoided the largest cities, such as Rio, where there was greater competition from the top two providers. It was in 2015 that Alliar expanded its footprint into primary cities, with the acquisition of CDB, and began working in São Paulo.

BRANDING

Alliar recognized that the established reputations of the local brands bring tremendous value. As a result, Alliar decided to keep the local brand names. In the future, it expects to begin to co-brand the local brands alongside that of Alliar.



MANAGEMENT STRATEGY PROMOTES EFFICIENCY AND HIGH QUALITY

When Alliar established the network, it created a management structure to allow management to concentrate on its area of expertise. The doctor is responsible for the medical side of the business and remains clinically in charge of each PSC. A medical committee comprised of 6 doctors and 1 finance professional from Patria takes medical decisions over the selection of new equipment. Alliar’s CEO is responsible for the day-to-day running of the business as well as innovating, benchmarking, proposing new ideas, and promulgating efficiencies across the network. Patria retains decision-making authority over financial matters. Important decisions are taken by consensus.

Alliar places great importance in cultivating a culture of medical excellence. The company’s logo “Alliar – Médicos à Frente,” meaning “Alliar—Doctors at the Forefront” emphasizes that doctors are in charge of the company.

TARGET MARKET

Alliar's aggressive growth strategy requires high capex investments. Each newly established PSC is equipped with a minimum package of basic equipment that includes one MRI, one CT scanner, and three ultrasounds. Due to the large capex investments, the company works hard to establish a reliable revenue stream to help it reach the breakeven point faster.

Alliar found a steady revenue stream in the private health insurance market in Brazil. Roughly 25 percent of the population has private health insurance and in 2015, 87 percent of Alliar's revenues were from patients with private health insurance. With the conclusion of the PPP with the State of Bahia in 2015, Alliar began to diversify the revenue streams and pursue the 75 percent of the market with government health insurance, but through a more reliable payment mechanism. Under the PPP, Alliar agrees to serve a target number of patients and the state pays a monthly fee. In 2015, roughly 9 percent of revenues were from the PPP. In contrast, in 2014, 2.5 percent of revenues were from public health insurance.

REVENUES

In 2015, about 90 percent of revenues were generated from diagnostic imaging, of which MRI represented the largest share with 41 percent of the overall revenues for the company. Medical laboratory testing was recently introduced and this represented 10 percent of revenues.

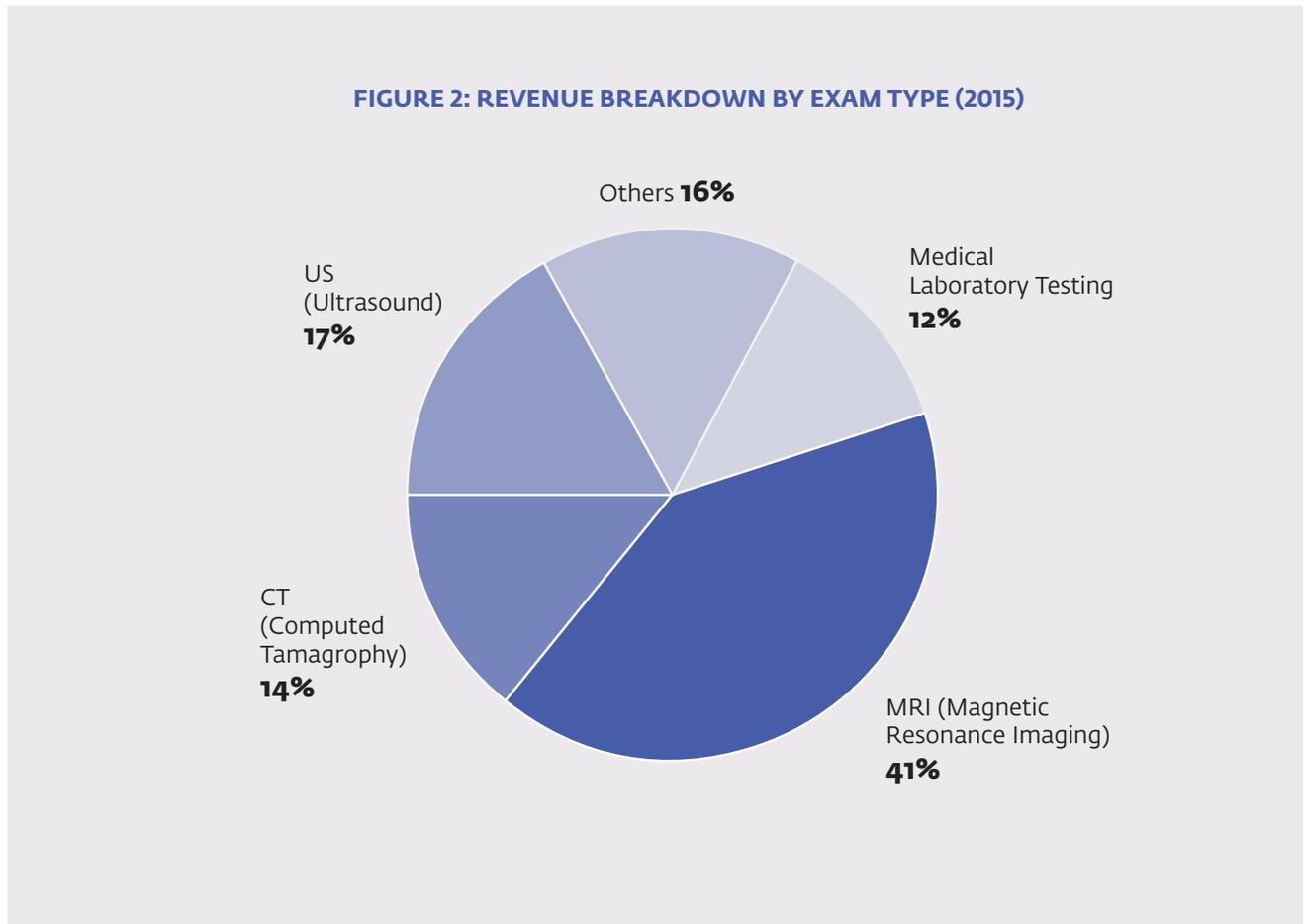




Photo © Alliar

The Command Center expands Alliar's capabilities to provide top technicians to remote or underserved locations, where qualified technicians are difficult to find.

MAXIMIZING PRODUCTIVITY THROUGH INNOVATION

THE COMMAND CENTER—A GLOBAL FIRST

By mid-2014, after a new PSC in a distant location began operating, a technician had a family emergency and could not go to work. He was the only technician on staff at the time. The problem was that a patient was waiting for an MRI exam. A technician in another city connected remotely to the MRI scanner's computer and coached the nurse on the steps to conduct the procedure at a distance. The second time it happened, Alliar realized that it could build upon the existing technology to expand routine service delivery to patients. The discovery led to the establishment of Alliar's Command Center and made Alliar an innovator on a global level. The concept is revolutionary because it removes the technician from the exam room and relocates a group of top technicians to one of the five centralized Command Centers located across Brazil.⁴

The Command Center was a global first.⁵ It was made a reality through a partnership between Alliar and SIEMENS to develop the next generation communications platform for screen sharing and Voice over Internet Protocol (VoIP) for the MRI scanners. As a result, technicians can connect remotely to the MRI scanners in the PSCs and can control the scanners from the Command Center. They can see what is going on in the room through TV cameras that have been set up in the exam room and can speak with the nurse who is physically present attending to the patient.

The Command Center was an important innovation for Alliar that increased quality and productivity because the technician plays a key role in capturing the highest quality image possible. Furthermore, the Command Center expands Alliar's capabilities to provide top technicians to remote or underserved locations, where it is more difficult to find qualified technicians. Fernando Terni, explains, "The Command Center gives us a huge improvement in quality because I have the best technicians running the machines. We had a heart attack patient in the middle of the Amazon, but the local technicians were not specialized to run a heart exam. By centralizing the technicians, we can do any type of exam on any of our machines. Those are the best technicians on staff, so the quality of the images is much higher."

Technicians are able to operate between two and three MRI scanners simultaneously, thereby increasing productivity and reducing personnel costs. By centralizing the technicians, their time is optimized because they can advance to the next patient in "PSC-A" while the room is being prepared for the next patient in "PSC-B." Traditionally, three patients could be screened in an hour, but with the Command Center, one technician can typically screen six patients per hour for the most common studies. Dr. Cevasco believes this could be streamlined even further, "In the next five to seven years, we could go much faster, maybe 10 patients an hour by using optimized protocols and processes."

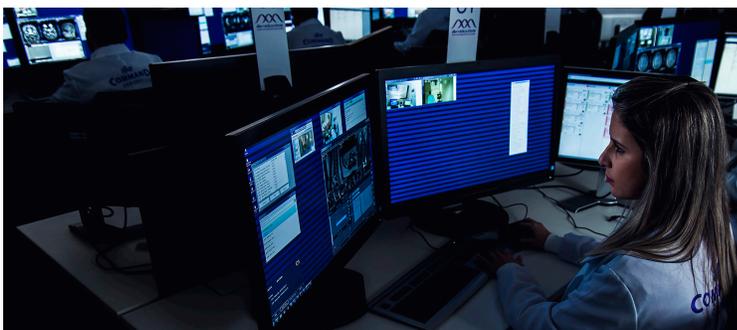
⁴ The Command Centers are located in São Paulo, Belo Horizonte, Campo Grande, Juiz de Fora, and São José dos Campos.

⁵ "Siemens Healthcare introduced the first remote control room for magnetic resonance imaging (MRI) equipment. The room, which uses Siemens' Expert-I medical equipment remote connection, was developed for Alliar, one of the biggest diagnostic medicine chains in Brazil." http://www.siemens.com/about/pool/worldwide/siemens_brazil_en.pdf

Today, 60 MRI scanners from across Alliar's network are connected to one of its Command Centers. Each Command Center is staffed with about 20 technicians who are running about 55,000 MR scans a month, significantly higher than in any single center.

The result is a win-win for everybody involved. The patient gets a higher-quality exam performed in a more efficient timetable. The technicians are developing a more sophisticated skill set and gaining a broader depth of expertise because they are dealing with a larger population and see a greater variety of conditions. The Command Center technicians are better compensated because of increased expertise and volumes and the company's bottom line benefits from more efficient practices. Given the success of the initiative, Alliar plans to connect nearly 70 more PSCs to the Command Centers in the future.

Alliar leverages technology to pioneer the world's first MRI "Command Center" where its most experienced technicians remotely operate multiple MRI scanners in different cities.



Photos © Alliar

MORE PRODUCTIVE RADIOLOGISTS

In 2014, there were about 9,700 board certified radiologists in Brazil,⁶ which is inadequate for a country with 206 million inhabitants and an aging population. To complicate matters further, the radiologists are disproportionately concentrated—about 50 percent of radiologists are located in São Paulo and Rio. This leaves secondary and tertiary cities significantly underserved, creates bottlenecks in areas that have large numbers of patients, and even leads to idle radiologists at other locations.

Alliar decided to better manage the capacity of the radiologists by encouraging a small group of doctors to team up and leverage Alliar's tele-medicine capabilities. Radiologists can view the records of all patients through Alliar's Picture Archiving and Control System (PACS). All patient records are securely uploaded to the cloud and can be accessed remotely at any time by the radiologists. Radiologists can interpret the diagnostic images and write the reports remotely. This paradigm shift allows radiologists to break free from traditional geographical constraints and provide diagnostic services without having to be physically present at the PSC.

⁶ http://www.sbpcc.org.br/upload/conteudo/demografia_medica2015.pdf

Even though not every center will have a radiologist present to read the images, a doctor will be available on a 24-hour basis through tele-medicine. Significant time is saved since the radiologist no longer needs to drive to multiple clinics in distant cities. This increases the radiologist's productivity by a factor of three. Prior to leveraging Alliar's tele-medicine capabilities, radiologists could interpret two to three images per hour, but now they can report 10 studies per hour.

Patients benefit from getting imaging study results much faster. Alliar's typical turnaround for a study report is two days and this can be done faster upon special request. The increased productivity of the radiologists allows Alliar to provide services to more patients in smaller cities and benefit from highly experienced radiologist in bigger cities. It also helps expand Alliar's capabilities and makes it possible for radiologists in the better-supplied South of Brazil to serve patients in the poorly-supplied North of the country.

Alliar's enhanced productivity means that the company can address the lack of radiologists even as the number of patients served expands. The increase in efficiencies also allows the radiologist to increase earning capacity since they are compensated according to the number of reports produced. This in turn attracts more radiologists to work with Alliar or to sell their practices to Alliar. In addition, as an incentive to retain its best radiologists, Alliar invites 2 percent of its best performing doctors to become shareholders. This succession planning ensures that Alliar will not encounter a gap in expertise when the first generation owners begin to retire.

MODERNIZATION OF PROTOCOLS

The company is working to improve medicine as a whole by modernizing protocols. Traditionally, a patient had to fit into a predetermined protocol; however, there have been instances where the technician has escalated unusual findings to the radiologist and obtained specific guidance to modify a particular sequence. The technician recommended an imaging sequence that was not in the routine protocol, but that was tailored to the immediate findings, while the patient was still in the scanner. Through this approach, Alliar has been able to deliver customized, personalized medicine that is more effective.

Dr. Cevasco expects that it can formally continue to streamline sequences for more optimal results. "What happened historically is that we had major technological advances in the last 20 years. We keep adding to our protocols but we never cut anything. We are very fat in protocols. It costs a lot of money and is not very beneficial." He adds, "Sometimes, you don't need a R\$500 (US\$150) study, you can get what you need for under R\$200 (US\$60)."

The company is in the midst of discussions with its 1,000 doctors to identify areas that can be modernized. He explains, "The Command Center helps spread effective and efficient techniques and protocols across all our MRI scanners. We are now in a constant process of discussing and implementing newer, quicker and more focused protocols throughout our installed base." They hope to conduct a pilot later this year to test their thesis.



Photo © Alliar

"Tele-radiology makes it possible for radiologists in the better-supplied South of Brazil to serve patients in the poorly-supplied North of the country." Dr. Cevasco, Alliar



Photo © Alliar

Within six months of acquisition, a company transitions to Alliar's IT platforms which promotes operational efficiencies and allows management to monitor operations across its 10 state network.

OBSESSED WITH OPERATIONAL EFFICIENCIES

STRONG PURCHASING POWER

An MRI scanner typically costs about US\$1.4 million, making it cost prohibitive for many small radiology centers to obtain one because it is difficult to raise the capital to finance it. A key benefit of Alliar's network is its strong purchasing power, which has enabled it to get much better pricing. Twelve months after the establishment of the company, Alliar placed an order for medical imaging equipment from Siemens. At that time, it was Siemens' largest order in Latin America. Under the agreement, Alliar would obtain 60 highly innovative imaging systems over three years.⁷ That deal and others like it translated into significant savings for the company. Beneficial pricing has been a key factor to successfully implement the company's aggressive expansion strategy.

EXTENDED OPERATING HOURS CONTRIBUTES TO HIGH VOLUMES

Given the high demand and the backlog of patients to be seen, many of Alliar's PSCs are open for screenings 18 hours a day. In cities where demand is high, Alliar is running the scanners from 6 a.m. to midnight. In some cases, they can even do overnight routine outpatient scheduling. Some PSCs are open shorter hours given the cultural sensitivities in a given location, but the PSCs with the shortest operating hours are still operating the scanners for 12 hours a day. This translates into a higher number of patients that can be seen and also allows Alliar to breakeven on an investment in an MRI scanner in about two years.

COST-EFFECTIVE IT PLATFORMS

Alliar's drive for increased productivity and operational efficiencies has led to the creation of several harmonized IT platforms for radiology, accounting, and a call center. Within six months of acquisition, a company transitions into Alliar's IT platforms. The company estimates that the network synergies generate savings of 25 percent of the cost of each acquired company.⁸



Photo © Alliar

Beneficial pricing has been a key factor to opening 30 new PSCs in cities that lacked access to MRI. The rapid expansion allowed more patients in frontier regions to access technology that accelerated diagnosis and treatment.

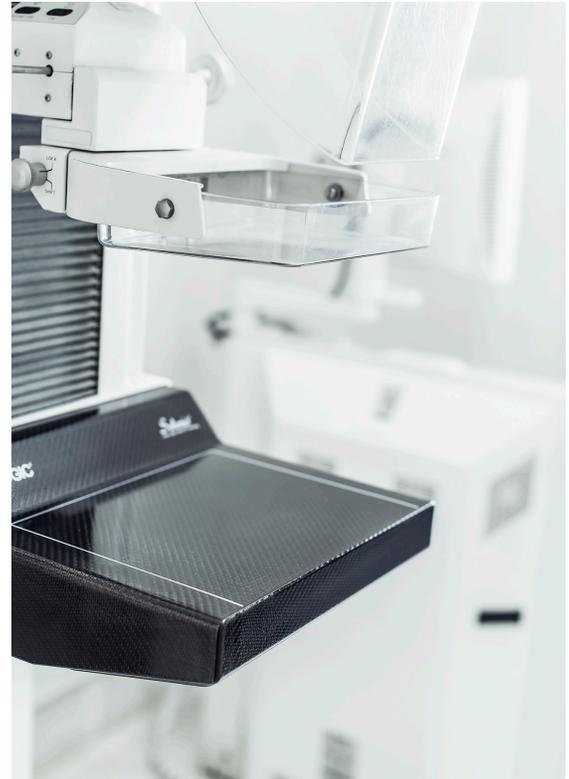
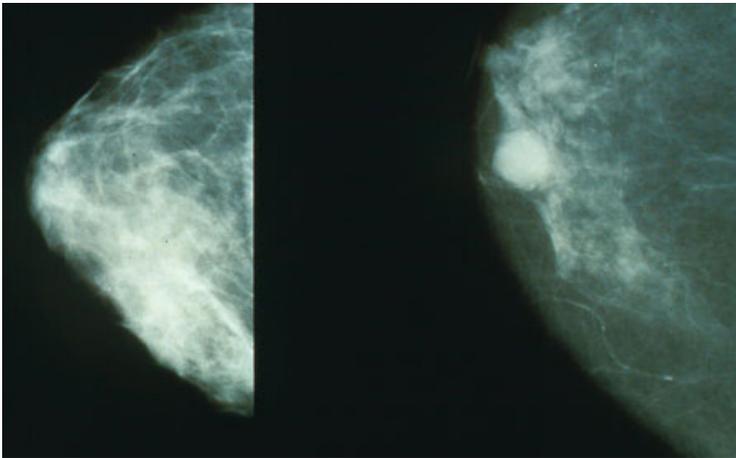
⁷ "Siemens Healthcare wins largest imaging equipment order in Latin America." Press Release. December 8, 2011. <http://www.siemens.com/press/en/pressrelease/?press=en/pressrelease/2011/healthcare/h201112009.htm>

⁸ Setenta e Demais?, Exame, March 2, 2016. pg 50.

PACS

Alliar makes very intensive usage of tele-medicine technology to boost productivity. PACS enables Alliar to make diagnostic images portable and transmit them to locations where they can be studied by the country's leading physicians, according to their specialty. PACS is the technology that has allowed Alliar to expand into smaller cities, while relying on access to radiologists in bigger cities. The referring doctor also has access to the system and can view the images and consult Alliar's experts even before the report is ready. Dr. Cevasco pointed out, "Using this technology, we empower medical offices with all the diagnostic power that a major hospital would have."

"Using this technology, we empower medical offices with all the diagnostic power that a major hospital would have." Dr. Cevasco



Photos © Alliar and National Cancer Institute

RIS

In addition to PACS, Alliar has been working on a Radiology Information System (RIS) that is customized to the needs of Alliar. The software has some intelligence built into it to increase doctor productivity. Through a dashboard format, the doctor can quickly see the relevant results rather than having to search through several pages of reports to search for specific results. For instance, if the patient came for a liver study, RIS will populate only the dashboard with the imaging and lab studies of the abdomen. For lab test results, the dashboard first displays results that are abnormal, followed by the complete lab record. By simply presenting relevant information quickly and minimizing search time for doctors, Alliar can provide relevant, personalized radiology results to doctors and patients faster.

SHARED SERVICE CENTER ENABLES AN EFFICIENT BACK OFFICE

By consolidating the back-office functions in a Shared Services Center, the fixed costs are diluted across all the brands, and the company promotes economies of scale. Financial functions and human resources are centralized with very high efficiencies. The budget is managed on a zero-based budget methodology, which relies on a minimum structure that is necessary to provide the service.

The full integration of PACS, RIS, and the shared services center enables the seamless integration and a substantial improvement of the company's operations.

OPERATIONS DASHBOARD ENABLES REAL TIME MONITORING

Company executives are keen to monitor key indicators on a daily basis, particularly given the dispersed geographical footprint. The company does this through six large TV screens that are prominently located in a hallway at the home office in São Paulo. The screens track several key performance indicators, including equipment function, production, customer satisfaction, and call center performance. If an indicator goes red, executives follow up quickly.



Photo © Exame

The Operations Dashboard tracks several performance indicators and flags trouble spots in real time for quick follow up by management.



Photo © Alliar

In only five years, the quality of Alliar's work has led it to become recognized as one of the best diagnostic imaging companies in Brazil.

THE ROLE OF IFC

Since the company was founded in January 2011, Alliar adopted an aggressive growth strategy to consolidate the market. It approached IFC in mid-2011 in the early stages of a major expansion. Patria Investimentos, had an established relationship with IFC through another client and brought Alliar to partner with IFC. IFC was an attractive partner for Alliar because of the global credibility and the international links to the industry it brought to the company. In addition, IFC's ability to provide longer-term funding, with an unusual equity-convertibility feature, which were not otherwise available in the local market, were also appealing. Patria knew the relevance of having a partner like IFC to support Alliar not only with a loan, but also to encourage the company to meet the best practices of corporate governance and environmental and social standards. IFC support for sustainable growth would prepare the company for an eventual Initial Public Offering (IPO).

IFC was interested in doing business with Alliar, even though it was a very new company with limited history, mainly because of Patria's proven track record. IFC was interested in Alliar's strategic space in the diagnostic imaging sector as well as the innovations that Alliar was developing. The company's objectives were aligned with IFC's industry and country strategies to increase access to healthcare in urban populations by bringing diagnostic services of good quality to underserved regions. In 2012, IFC provided Alliar with the local currency equivalent of a US\$50 million loan, a portion of which is convertible.

As the company continues to consolidate the market, it anticipates a future IPO. IFC has helped make it possible for Alliar to achieve scale and to develop a significant track record that will be important for an IPO. Fernando Terni reflects, "Without IFC, we would not have been able to grow at the same speed." Besides the funding, IFC credentials and worldwide recognition are very important for the IPO process.

CONCLUSION

In only five years, the quality of Alliar's work has led it to become recognized as one of the best diagnostic imaging companies in Brazil. It is exponentially increasing the number of patients—with both public and private health insurance—that now have access to diagnostic services. By addressing pent-up demand in previously underserved areas, patients are spending less time waiting for a diagnostic exam that will determine the course of their treatment. Through the Command Center, it is revolutionizing the delivery of tele-radiology that ensures high-quality imaging and enables radiologists to provide more accurate interpretations. Alliar has proved that the private sector is a key partner to provide high-quality diagnostic imaging, while reducing costs, increasing productivity, increasing access to care and accelerating results for doctors and patients.

STAY CONNECTED

WEB: www.ifc.org/health

LINKEDIN: www.linkedin.com/company/ifc-health

TWITTER: [#ifchealth](https://twitter.com/ifchealth)

For more information about IFC's investments in health please contact:

Elena Sterlin
Global Manager, Health and Education
Email: Esterlin@ifc.org
Washington, D.C., USA
www.ifc.org/education
www.ifc.org/health

Chris McCahan
Global Lead, Health Care
E-mail: cmccahan@ifc.org
Washington, D.C., USA
www.ifc.org/health



2121 Pennsylvania Ave. NW
Washington, DC 20433
Tel. 1-202-473-1000