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# Clinical Laboratories in Brazil

## Integrated Diagnostic Centres That Favour the Patient-Centred Model of Care

Brazil has been operating fully-integrated labs for years with a model that has potential for cross-border implementation.



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Private clinical laboratories in Brazil tend to be somewhat different from their counterparts in Europe, the U.S. and Asia. In Brazil, especially in big cities and metropolitan areas such as São Paulo and Rio de Janeiro, fully-integrated diagnostic laboratories are common in the private healthcare system. These labs are composed of several patient service centres spread over the cities where not only specimens for Clinical and Anatomic Pathology tests can be collected, but also several Imaging and Radiology exams. Additionally, functional tests from different medical specialties, such as Cardiology, Gastroenterology, Gynecology, among others, can be performed by subspecialty physicians.

This model has been developed since the 1980s, when the scope of the patient centre units started to be broadened by the installation of the first radiology machines in the facilities where primarily only blood, urine and other clinical specimens were collected. Such an approach made it easier for patients to have all their tests performed in the same place which was appreciated given the urban mobility challenges that were starting to become relevant at that point. Over time, several types of functional diagnostic tests were added to the patient service centres, increasing convenience for patients for one side, and the potential for the integration of diagnostic tests from several medical specialties for the other, as physicians from different specialties were working under the same roof.

Among the main advantages of this model are multi-disciplinary discussions and collaborative teamwork, allowing for the development of high-level expert physicians in several diagnostic areas. In addition, it enables the delivery of fast, high-quality and integrated diagnostic solutions that favour the patient-centred model of care. The importance of diagnostic integration has increased, with the growing complexity brought about by the technological advances in all medical specialties, in recent years. Besides physical proximity, it requires dedicated information technology resources for multisystem integration: LIS (laboratory information system), RIS (radiology information system), PACS (picture archiving and communication system), among other information technology tools. This framework facilitates meetings and discussions among experts from different diagnostic areas and platforms and

diagnostic conclusions can be enriched with information about prognosis, or with suggestions about further relevant investigations to direct the treatment decisions in accordance with the most recent clinical evidence. This can then be communicated to the attending physician.

“ WE FEEL PREPARED TO DEVELOP OUR MODEL, IN SUCH A WAY THAT IT WILL POTENTIALLY BE USEFUL FOR OTHER COUNTRIES ”

Over time, one-stop solution services for discrete niches of patients have been implemented, focusing on the diagnostic investigation of specific clinical conditions. Individuals with thyroid nodules, for instance, can have the ultrasound, fine needle aspiration and cytology examination by the pathologist performed at the same visit, leaving the patient centre with the final report in hands. Pregnant women have a dedicated service in some facilities, where all tests on the different phases of pregnancy can be performed at the same facility. Women with breast nodules can be submitted to a similar investigatory workflow, saving time and resulting in a conclusive diagnosis. As an additional advantage of this approach, diagnosticians have the opportunity to double check and cross validate test results. Findings from mammograms can be cross-validated with findings from breast ultrasounds, for example. Such situations have been regarded as valuable opportunities by physicians, as they provide timely and accurate feedback for continuous learning and expertise development. Integrating diagnostic data provides the consistent feedback required for the development of skilled diagnosticians, who can thereby increase the likelihood of becoming recognised experts in their fields.

More recently, the ever-increasing complex urban mobility issues of big cities in Brazil have risen in parallel with the growing complexity and growing demands for integration and interoperability of the healthcare system. Because we have been dealing with such integration for several years in Brazil, we feel well prepared to further develop our model, in such a way that it will potentially be useful for other countries. ■