

Combining Technology with Quality in Medical Care

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Short Editorial related to the article: *Combination of Tele-Cardiology Tools for Cardiovascular Risk Stratification in Primary Care: Data from the PROVAR+ Study*

First, the X-ray, and then the electrocardiogram, revolutionized the diagnostic approach in cardiology. Medical devices become more sophisticated every day, with the increasing use of diagnostic tools, now offering the possibility of remote transmission of exams, anticipating diagnosis, and allowing the application of care protocols and therapeutic decisions.

In cardiology, with the transmission of the electrocardiographic tracing to Cardiological Centers in real-time, which at first was done through facsimile devices, and later, with devices with internet transmission, it was possible to adopt treatment protocols, with impact on lethality and function prognosis. Teleconsulting programs in the context of acute myocardial infarction, with transmission of an electrocardiogram performed at the first place of care, for this purpose, were developed in Rio de Janeiro¹ (TIET Project), Salvador,² São Paulo³ and Minas Gerais⁴ (Minas Telecardio), all within the public health system (Sistema Único de Saúde - SUS), where the safety and benefit of using Teleconsultation was demonstrated, shortening the time to perform the most appropriate revascularization method.

In this issue of ABC Cardiol, we have data from a pilot protocol within the PROVAR+ Study, carried out within the same Rede Minas, in which the authors' objective was to evaluate the accuracy of Tele-ECG in distant locations to predict abnormalities in the screening echocardiogram, carried out by non-medical health professionals in Primary Care Centers with remote reports by specialists.⁵ Despite the limitations mentioned in the article itself, abnormalities in the Tele-ECG increased the probability of significant Heart Disease on screening ultrasound, generating good prospects for streamlining the stratification and regulation process in the primary care setting.

Telemedicine has great potential as a factor in transforming the health care network, including primary care. This model of providing healthcare remotely offers a series of benefits and challenges that must be carefully evaluated, a problem not only in Brazil but present in several other countries around the world.^{6,7}

Keywords

Medical Assistance; Primary Health Care; Cardiovascular Diseases; Telemedicine; Basic Health Services

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Even with projects underway, there are barriers. The article by Damasceno et al.⁸ from 2019, with data obtained from a questionnaire with 385 doctors who worked in the Family Health Strategy (ESF) in 73 municipalities in the North of the State of Minas Gerais, regarding the use of Teleconsulting offered by the aforementioned Health Network Teleassistance in Minas Gerais, which develops PROVAR+, showed that 55.8% of doctors did not use it, with reasons being identified as ranging from the non-availability of computers and Internet access in Basic Health Units to the lack of information and training in telehealth consultancy. The results demonstrate the great challenge of implementing this type of program across the country and all the merit of those who develop it.

There is still a major obstacle for the Health System, which is the regulation process after the initial diagnosis when it would be necessary to guarantee equal access to quality medical care. Regulatory Systems do not address the health needs of the population. There are long waiting lists, with a direct impact on prevention and treatment success.⁹ Again, this is not exclusive to Brazil and there is concern from the World Health Organization itself about the backlog of patients in Primary Care, impeding the objective of the current proposal for Universal Health Coverage.¹⁰

Although telemedicine may represent broader access to healthcare, especially for populations in remote areas or those with difficulty accessing traditional medical centers, there are challenges to be overcome. To maximize the benefits of telemedicine in primary care, it is essential to integrate it holistically into existing healthcare systems. This includes training healthcare professionals to effectively utilize telemedicine technologies, developing specific clinical practice guidelines and standards for remote consultations, and ensuring that technological infrastructure is robust enough to support the growing demand for services. digitized healthcare. Technological growth is extremely rapid, with the prospect of Artificial Intelligence occupying a large part of the risk stratification and diagnosis process, with the potential to revolutionize Health Systems, but its full implementation will require extensive legal and ethical regulation.¹¹

In summary, telemedicine has great potential within the different levels of health care, by allowing broader and more efficient access to diagnosis and treatment. However, for this to be achieved successfully, it is crucial to address the challenges and ensure careful and integrated implementation within existing health systems, with adequate financing and the fundamental multidisciplinary integration, which already occurs in several developed countries with non-restrictive legislation. Without this, it will be another good idea, lost amid bureaucracy and waste. The data presented in this stage of PROVAR+ are promising and deserve attention.

References

1. Abreu LM, Escosteguy CC, Amaral W, Ypiranga M. Thrombolytic therapy of infarction in emergency medical hotline: five year results. *Rev SOCERJ*. 2005;18(5):418-28.
2. Solla DJ, Paiva Filho IM, Delisle JE, Braga AA, Moura JB, Moraes Jr XD, et al. Integrated regional networks for ST-segment-elevation myocardial infarction care in developing countries: the experience of Salvador, Bahia, Brazil. *Circ Cardiovasc Qual Outcomes*. 2013;6(1):9-17. doi: 10.1161/CIRCOUTCOMES.112.967505.
3. Caluza AC, Barbosa AH, Gonçalves I, Oliveira CA, Matos LN, Zeefried C, et al. Rede de Infarto com Supradesnívelamento de ST: Sistematização em 205 Casos Diminui Eventos Clínicos na Rede Pública. *Arq Bras Cardiol*. 2012;99(5):1040-8. doi: 10.1590/s0066-782x2012005000100
4. Ribeiro AL, Alkmim MB, Cardoso CS, Carvalho GG, Caiaffa WT, Andrade MV, et al. Implementation of a telecardiology system in the state of Minas Gerais: the Minas Telecardio Project. *Arq Bras Cardiol*. 2010;95(1):70-8. doi: 10.1590/s0066-782x2010005000060
5. Fraga LL, Nascimento BR, Haiashi BC, Ferreira AM, Silva MHA, Ribeiro IKS, et al. Combinação de Ferramentas de Telecardiologia para Estratificação de Risco Cardiovascular na Atenção Primária: Dados do Estudo PROVAR+. *Arq Bras Cardiol*. 2024; 121(2):e20230653. DOI: <https://doi.org/10.36660/abc.20230653>.
6. Kruse CS, Karem P, Shifflett K, Vegi L, Ravi K, Brooks M. Evaluating barriers to adopting telemedicine worldwide: a systematic review. *J Telemed Telecare*. 2018;24(1):4-12. doi: 10.1177/1357633X16674087
7. Flodgren G, Rachas A, Farmer AJ, Inzitari M, Shepperd S. Interactive telemedicine: effects on professional practice and health care outcomes. *Cochrane Database Syst Rev*. 2015;2015(9):CD002098. doi: 10.1002/14651858.CD002098.pub2
8. Damasceno RF, Caldeira AP. Factors associated with the non-use of telehealth consultancy by physicians of the Family Health Strategy. *Cien Saude Colet*. 2019;24(8):3089-98. doi: 10.1590/1413-81232018248.28752017
9. Araújo MDS, Albuquerque AC, Felisberto E, Samico I, Rodrigues AS. [Assessment of the implementation of an care teleregulation project in a Brazilian capital city]. *Cad Saude Publica*. 2023;39(7):e00009623. doi:10.1590/0102-311XPT009623
10. Horton R. Offline: Primary healthcare is not enough. *Lancet*. 2023;402(10404):760. doi: 10.1016/S0140-6736(23)01843-3
11. Alowais SA, Alghamdi SS, Alsuhebany N, Alqahtani T, Alshaya AI, Almohareb SN, et al. Revolutionizing healthcare: the role of artificial intelligence in clinical practice. *BMC Med Educ*. 2023;23(1):689. doi:10.1186/s12909-023-04698-z

