

1,000,000 Electrocardiograms by Distance: An Outstanding Milestone for Telehealth in Minas Gerais, Brazil

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Introduction Minas Gerais is the Brazilian state with the largest number of municipalities (853), with important social, cultural, economic, infra-structural and geographical contrasts. Within this context, telehealth has been used with the objective of improving healthcare for the population who live in isolated cities by supporting healthcare professionals in these areas. As Brazil is a developing country, emphasis is put on financially sound services and thus telehealth must be applied in a manner which optimizes its cost effectiveness. Method The Telehealth Network of Minas Gerais (TNMG) was established in 2006. It currently connects 660 cities in the State of Minas Gerais, providing teleconsultations for a broad range of specialties, analysis of electrocardiograms, Holter and ambulatory blood pressure monitoring, to support healthcare professionals, mainly in primary care. Financial support is provided by federal, state and municipal government. Using low-cost equipment and simple technology, TNMG has employed various strategies to overcome the barriers to telehealth use. Results: TNMG has already reached more than 1,000,000 electrocardiograms and 46,000 teleconsultations, promoting savings of 32.5M USD for an investment of 10M USD, an outstanding milestone for telehealth in Minas Gerais. Nowadays it is a regular health service in the State, integrated to the healthcare system. To achieve these results, technology and implementation and maintenance methodologies are constantly evaluated and improved. The main success factors were collaborative network, partnership government and academia, to meet real needs of users, to use simple and low-cost technology, adequate combination between virtual and personal process and economic sustainability. The success in primary care led it also to be adopted in secondary and emergency care. Conclusion The telehealth model developed to support primary healthcare in Minas Gerais has produced good clinical and economical results. As a consequence, it is now a regular health service in the State, integrated to the healthcare system. The model and technology characteristics permit the replication in other parts of the world.

Keywords: Telehealth, primary care, electrocardiography, teleconsultation