

# A NEW TELECARDIOLOGY MODEL INTEGRATED INTO A GENERAL HOSPITAL MANAGEMENT SYSTEM FOR PEDIATRIC TELEMEDICINE SERVICE

Gianpietro Spagna 1, Paolo Verzeletti 2, Antonio Sanzo 3, Giulia Fini 4, Irene Raso 4, Valeria Calcaterra 4, Sara Santacesaria 4, Gianvincenzo Zuccotti 4,5, Savina Mannarino 4

1 AMPS LLC, New York, USA, 2 Cardio Calm srl, Montichiari, Italy, 3 Fondazione IRCCS Policlinico San Matteo, Pavia, Italy, 4 Pediatric Department, Buzzi Children's Hospital, Milano, Italy, 5 Università degli Studi di Milano, Milan, Italy

**Introduction:** Telecardiology has emerged as a vital field within telemedicine, fostering collaboration between hospitals and community medicine. However, the variety of systems used in clinical work represents a technical issue and a usability obstacle for clinicians with consequent efficiency decreasing. This pilot study introduces an innovative pediatric telecardiology system, comprising a telecardiology system seamlessly integrated with a hospital telemedicine platform. A smooth flow of ECG execution, transmission, and reporting between Primary Care Pediatrician clinics and the hospital was tested as the primary objective. User experience surveys were also considered.

**Methods:** The study involved three Primary Care Pediatrician clinics, and the enrollment of children took place consecutively from January to July 2023. The platform is designed to be multitenant, allowing multiple hospitals to share their own data and the same engine. For ECG recording, the study employed the TeleCardioCalm telecardiology system, which allows simultaneous recording of a 12-lead ECG signal, and transmission of the patient's ECG data from the community to the Hospital Pediatric Cardiologist.

**” integrating telecardiology into  
“ community healthcare practices**

**Results:** A total of 158 children (80M/78F, 8.9±2.8yrs) underwent ECG recording (78.5% medical certificates, 21.5% presence of symptoms) with no technical issues. Normal findings on the ECG were demonstrated in 94.9% of children. 70.8% of users completed the full survey. Respondents had a high level of education (90%) and demonstrated excellent/good competence in using digital technologies (89%). 51% of respondents were not familiar with the term “Telemedicine” and 81% had no previous telemedicine experience. 90% of users were very satisfied/satisfied with the service. Connection problems (2.8%) and concerns about the service's reliability (3.7%) were mentioned as possible limitations. The workflow is efficient and smooth.

***a telecardiology system seamlessly integrated with  
a hospital telemedicine platform*** ”  
“

**Conclusions:** our new telecardiology system offers a diagnostic tool to enhance patient management in the community. This integrated system for cardiology exams allows easy management of bookings, delocalization of exams provider, interconnection between spoke and hub hospital, with high quality and accurate service.