TELEHEALTH PROJECT SUMMARY TEMPLATE
Please provide information on all major projects in the last ten years (1998-2008) and any planned future projects

SUMMARY WRITER: LTC C. Becket Mahnke (Christopher.Mahnke@us.army.mil)

PROJECT NAME: Heartsounds Tele-Auscultation

ORGANIZATION/AGENCY (and primary contact): Tripler Army Medical Center; Dept of Pediatrics (Cardiology)

FUNDING (source and amount): Telemedicine and Advanced Technology Research Center (TATRC), Army Medical Department (AMEDD) Advanced Medical Technology Initiative (AAMTI) and AMEDD Advances in Medical Practice (AMP) Program

START UP FUNDS: Equipment initially funded through AMEDD Advances in Medical Practice (AMP) Program $157,500

REIMBURSEMENT (submitted/not submitted): N/A

DURATION (start time and date): 2005 to present

PURPOSE/INTENT (100 words maximum):

Heart murmurs are present in over 50% of pediatric patients, yet only 1% of children have heart defects. As such, primary care physicians must quickly and accurately determine which patients require further cardiac evaluation from a large patient population. The high prevalence of cardiac findings results in frequent evaluations of innocent heart murmurs (the most common reason for pediatric cardiology referral). Many of these patients will require air-evacuation of the patient and family members to TAMC for pediatric cardiology consultation. These referrals of patients with normal findings generate unnecessary costs and significant parental stress. Pediatric cardiologists can accurately diagnose the innocent heart murmur by auscultation alone, thereby eliminating the need for more costly studies. Advances in electronic stethoscopy allow for the acquisition of digital heartsounds with transmission of these sounds to a computer for further evaluation and storage, creating the potential for telecardiology evaluation.

MAJOR CRITICAL ACCOMPLISHMENTS:

TAMC has developed a high-quality, user-friendly pediatric tele-auscultation system for remote telecardiology evaluation. This Heartsounds system utilizes digital heartsound recordings for telecardiology consultation that 1) improves access to pediatric cardiology care, 2) improves quality of care for those patients with abnormalities detected by facilitating appropriate early transfer, and 3) decreases cost by eliminating the need for travel by the majority patient population with innocent findings. The Heartsounds system can diagnose normal/innocent heartsound findings with a high degree of accuracy, resulting in faster diagnosis as well as reducing the need for travel to the pediatric cardiologist. The Advances in Medical Practice (AMP) program has funded the deployment six heartsound recording devices throughout the Pacific Region.

CRITICAL SUCCESS FACTORS:

Success will rely on ongoing collaboration between clinicians, engineers and industry partners.

CRITICAL BARRIERS (overcome or not):

Adoption and acceptance of the new tele-auscultation technology will be critical. Understanding the effect of the new technology for both providers and patients must be continually evaluated.

MAJOR LESSON LEARNED:

Recording, transmission, playback, and storage of medical sound information is a complex process which must be optimized for this technology to become an accepted medical practice.

CURRENT STATUS (active, planned, dormant, completed, other?):

Deployment of the auscultation devices will occur in 2009. Further refinements to all parts of the tele-auscultation system are ongoing.

PARTNERING ORGANIZATIONS:

Telemedicine and Advanced Technology Research Center (TATRC), Zargis Medical and University of Hawaii

IS THERE A CLINICAL CHAMPION OR A COMMITTEE OVERSEEING THE TELEMEDICINE PROGRAM?

Clinical Champion

TECHNOLOGY USED: Tele-auscultation and automated interpretation