

Title: TEDAS (Texas Emergency Department Asthma Surveillance)
A Prospective and Retrospective Data Tracking System for Pediatric
Emergency Department Asthma Visits

Keywords: Automated Form Processing (AFP), Emergency Department (ED)

Background: TEDAS is a collaborative project between government entities and healthcare institutions in southeast Texas who provide about 65-70% of emergency pediatric asthma care in this 13 county region. The project provides ongoing surveillance of pediatric ED asthma visits by linking data with demographic and environmental asthma triggers and risk factors, to ED utilization outcomes.

Objectives: To create a connected data repository network that links participating institutions. The central database will serve a number of needed purposes: to help determine pediatric asthma prevalence, morbidity, and mortality, estimate emergency healthcare utilization, define useful areas for asthma control and preventive therapy, and provide the region with an asthma surveillance system infrastructure for future projects.

Method: Data is collected using the automated form processing technology (hard copy) with digital capture and translation into the database, or through direct electronic capture. Prospective data is collected at the bedside. Diagnoses, complaints and medication data are reviewed to identify pediatric ED asthma patients for retrospective surveillance by chart review. All data is sent to the central collection institution for verification and processing.

Result: Over 3,000 patient visits per year have been captured for the past 2 years. The current method for hard copy collection does not limit submission of forms with incomplete data fields or incorrect variable types. Additionally, a multi-step process of data collection, scanning, and verification is fragmented and allows multiple points for error entry, thus necessitating rigorous continuous quality assurance.

Conclusion: Long-term data tracking systems may benefit from abbreviated electronic translation of collection to database entry processes. This may be easier to deploy across networks, and improve data collection quality.