

# Pilot Results: Syndromic Surveillance Utilizing Catalis Health Point-of-Care Technology In A Rural Texas Outpatient Clinic

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## Objective

Pilot and evaluate the sensitivity, specificity, end-user acceptability and ease of implementation of a point-of-care electronic medical record (EMR) system for syndromic surveillance in a rural outpatient clinic in Texas.

## Background

The Texas Department of State Health Services (DSHS) Health Service Region 8 (HSR 8) encompasses 28 counties in South Central Texas. Of these, 27 do not have a county epidemiologist, 22 are designated as rural counties, 10 are designated as border counties, and 7 do not have a county hospital. Rural and border county characteristics necessitate a direct flow of surveillance data from non-hospital providers to the regional health department for epidemiological analysis without duplicating or increasing work or effort. Catalis Health interfaces with available clinic practice management systems to produce a standardized data set via a point-of-care EMR which can be utilized for syndromic surveillance without interfering with clinic workflow.

## Methods

Surveillance of three syndromes defined by the DSHS Statewide Syndromic Surveillance Standardization (SSSSC) Committee was piloted for a period of two months at a private practice in Kerr county. The Catalis Health system flagged electronic patient records in real time in accordance with pre-determined algorithms based on standardized point-of-care data points selected by the health department. Flagged records were viewed daily by health department staff. Metrics included a) patient encounters (PEs) captured by the Catalis Health system, b) PEs containing some key words (such as “fever,” or “rash”) but not meeting the health department syndrome definition and therefore not flagged, c) PEs flagged as meeting health department syndrome definition d) number flagged out of total that should have been flagged, e) number not flagged out of total that should not have been flagged.

Acceptability and ease of implementation were assessed by qualitative evaluation tools developed by the SSSSC to evaluate all syndromic pilots in Texas.

## Results

Syndromes under surveillance included rash fever illness, meningoenzephalitis and influenza-like illness. Results are summarized in Table 1.

**Table 1. Catalis Health Pilot Results, Kerr County, Mar – May, 2003**

Patient encounters (PEs) captured by the Catalis Health System	112
PEs containing no key words (not flagged)	48 (42.9%)
PEs containing some key words but not meeting the syndrome definition (not flagged)	61 (54.4%)
PEs flagged as meeting the syndrome definition	3 (2.7%)
PEs flagged/PEs that should have been flagged	3/3 (100%)
PEs not flagged/PEs that should not have been flagged	109/109 (100%)

End users rated the system 4.2 out of a possible 5.0 for acceptability. Implementation required hardware and software purchase as well as single-level software installation. The daily amount of time spent by providers was “about the amount of time expected,” and the amount of time spent by health department staff was “much less time than expected.” The participating clinic elected to sustain use of the system after the pilot had been completed and still continues to use the system two years later.

## Conclusions

During the pilot period, the Catalis Health system was 100% accurate in flagging PEs in accordance with health department syndrome definition. The system received positive evaluations from end users regarding acceptability and ease of implementation. Since Catalis Health data are standardized at point-of-care, syndromic definitions were readily adopted without the need to address potential natural language variations or data entry errors. In areas like DSHS HSR 8 where there are limited epidemiological resources and a high proportion of rural counties with non-hospital providers, the direct data flow from clinic providers to the health department enables standardized syndromic surveillance that is otherwise impossible. A proposal has been submitted to expand point-of-care electronic EMR in the HSR 8 and other areas of the state.