

## **Upgrades in EARS-SAS version 5.1, compared with version 5.0**

### **New features:**

- Two additional, post-algorithm, aberration management features: 1) An optional Recurrence Interval manual threshold, and 2) the ability to differentiate between new aberrations and those previously identified in routinely repeated analyses.
- Acceptance of a fifth input dataset structure: Non-summarized (i.e. "patient-level") data that has assigned indicator categories (i.e. syndromes) using binary digit values to designate assigned indicators, each, in its own column.

### **Corrected issues:**

- Acceptance of CSV input file types with Date variables formatted as date-time.
- Error messages warning users of improper use of Excel/Access 2007 file types with SAS v9.1.3 now display properly.
- During a run requiring transformation the Input Data Table on the Interactive Graph Output Screen now correctly shows the counts seen in the input dataset (instead of "1" values).
- The minimum time period required for algorithms to run which employ a moving baseline correctly match the requirements specified in the Help Guide.

## **Upgrades in EARS-SAS version 5.0, compared with version 4.5**

### **General features:**

- A wizard-like interface is now used to specify how EARS should analyze your data. This has replaced the Excel spreadsheet used in version 4.5.
- Completely accessible and simplified SAS code with intuitive logic and a lot of commentary for SAS programmers. Only 1 macro level deep.
- A Help Guide which provides information about why individual features were designed and epidemiologic reasoning to use them, in addition to technical specifications and instruction.
- Better technical support. Support for version 4.5 is being phased out.
- No SAS experience required. Once you complete the wizard and instruct EARS to run, SAS will run in the background without opening on your screen.

### **Specific analytic features added:**

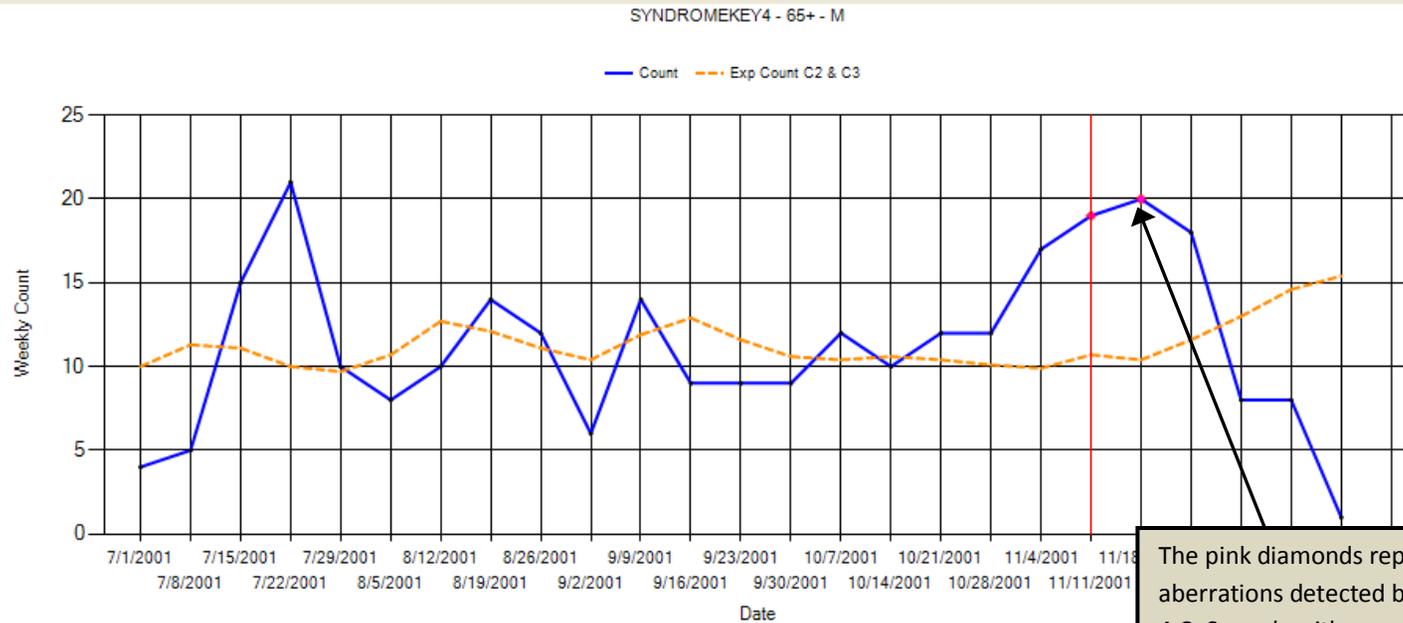
- Acceptance of a fourth input dataset structure: data that has assigned indicator (i.e. syndrome) categories but is not yet summarized.
- A dynamic report format for changing output graphs without having to re-run EARS. This is in addition to HTML output and allows drilldown capability on any data point, not just anomalies.
- A 4th algorithm choice was added that improves sensitivity and specificity when used with emergency department data. This means fewer false signals.
- Option to calculate and plot Rates alongside Counts.
- Missing dates and blank values points are treated as missing. Version 4.5 converted these to a zero value.
- Analysis stratified by up to 3 strata variables (in addition to indicators). Version 4.5 only permitted 1 strata variable.
- Drill down into your raw/original data on any data point, not just on days with aberrations.
- Option to plot different strata values on the same graph.
- Optional static baseline period. Useful for post-disaster surveillance periods or comparing seasonal data to prior years.
- Option to exclude holidays or other specific dates from analyses (to prevent their influence on algorithm performance).

### **Specific analytic features removed:**

- No more mapping capability. There are a variety of COTS mapping tools which can geographically display EARS output datasets with more flexibility and visually pleasing formats than EARS can provide.
- Writing output to multiple folder locations.

# Interactive Graph

Minimum Date: Jun 26, 2001 Maximum Date: Dec 26, 2001 Graph Type: Line  Show Anomaly Label  Count  [Help Guide](#)



The pink diamonds represent aberrations detected by one of the 4 CuSum algorithms. Click on any data point to drill into aberration statistics and to view your raw data contributing to it.

## Output Data Date format = yyyy/mm/dd; TUI= Time Unit Interval; SD = Standard Deviation; Exp = Expected; Obs = Observed

DATE	TUI End Date	Observed Count	Anomaly Type	C2&3: SDs above Exp	C2&3: Obs-Exp	C2&3: Obs/Exp
2001/10/28	2001/11/03	12		0.7	1.9	1.2
2001/11/04	2001/11/10	17		2.8	7.1	1.7
2001/11/11	2001/11/17	19	C2	4.2	8.3	1.8
2001/11/18	2001/11/24	20	C2	6.3	9.6	1.9

## Input Data

Visit_DATE	Age_Category	Patient_Gender	fac_name	ProviderID	PatientID	VisitID	Patient_Age	ICD9_Diagnosis_Code	ICD9	icd9_text_description	CPT_Proced
2001/11/10	65+	M	Fac. X	40200000...	40200000...	D9KJ3-TOG	75				71020
2001/11/11	65+	M	Fac. X	40200000...	40200000...	D9M8B-TOG	81	692.9	X	DERMATITIS NOS	
2001/11/12	65+	M	Fac. X	40200000...	40200000...	D9MP4-TOG	72	789.06	X	ABDMNAL PAIN EPIGAS...	
2001/11/12	65+	M	Fac. X	40200000...	40200000...	D9MQ0-TOG	79				85008
2001/11/13	65+	M	Fac. X	40200000...	40200000...	D9P1D-TOG	85				85008

