FY18 Epi-Tech Surveillance Training

Sunday, October 01, 2017 - Sunday, September 30, 2018
DCS, APG, MD

Provided By
U.S. Army Medical Command

Activity ID | Course Director | CME Planner
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2017-1636 | John Ambrose | Mimi C. Eng

Accreditation Statement
This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of U.S. Army Medical Command and ARMY PUBLIC HEALTH CENTER. The U.S. Army Medical Command is accredited by the ACCME to provide continuing medical education for physicians.

Credit Designation
The U.S. Army Medical Command designates this Live Activity for a maximum of 5 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.
Statement of Need/Gap Analysis
The purpose of this CME activity is to address the identified gap(s):
1. Surveillance techniques - Surveillance of common communicable diseases continues to be a problem among local MTFs. In fact, cases of campylobacter were not investigated in 2015 for PACOM MTFS, while 2016 cases of salmonella were not investigated. Civilian public health agencies are required to conduct investigations into all reportable medical events. However, DoD facilities often do not take initiative to conduct this investigation.
2. Disease identification - verification of disease by established case definitions have been utilized by the local health departments, Centers for Disease Control and Prevention, World Health Organization, and the Department of Defense. With the every changing list of reportable medical events and new emerging infections, case definitions change rapidly. Army epidemiologist conduct verification studies that monitor the efficiency of reporting by local public health experts and have concluded that completeness percentages for reportable medical events range as low as 35% for select diseases.
3. Outbreak reporting - Recent evidence have demonstrated that outbreak reporting and communication between public health agencies is poor. In fact, the Army failed to report six outbreaks in the DRSi between June 2016 and September 2016.

Learning Objectives
1. Based on case presentation, enhance your ability to improve case finding and surveillance practices within your local MTF.

Target Audience / Scope of Practice
Target Audience: The intended audience for this educational activity includes preventive medicine physicians, community health nurses, public health nurses, and epidemiology technicians.
Scope of Practice: This activity will improve the performance of preventive medicine personnel who conduct surveillance activities in inpatient and outpatient settings.
Disclosure of Faculty/Committee Member Relationships
It is the policy of the U.S. Army Medical Command that all CME planning committee/faculty/authors disclose relationships with commercial entities upon invitation of participation. Disclosure documents are reviewed for potential conflicts of interest and, if identified, they are resolved prior to confirmation of participation.

**Faculty Members**
- Brown, Alfonza - No information to disclose.
- Gibson, Kelly - No information to disclose.
- Holbrook, Victoria - No information to disclose.
- Kebisek, Julianna - No information to disclose.
- Reynolds, Mark - No information to disclose.
- Reynolds, Mark - No information to disclose.
- Riegodedios, Asha - No information to disclose.
- Russell, Jamaal - Employment/Salary: Abbvie (spouse)
- Walters, Cedric - No information to disclose.

**Committee Members**
- Ambrose, John - No information to disclose.
- Eng, Mimi - No information to disclose.
- Gibson, Kelly - No information to disclose.
- Riegodedios, Asha - No information to disclose.

**Acknowledgement of Commercial Support**
There is no commercial support associated with this educational activity.
• To Register for the Monthly Disease Surveillance Trainings:
  1. Contact your Service Surveillance HUB to receive monthly updates and reminders
  2. Log-on or Request log-on ID/password: https://tiny.army.mil/r/zB8A/CME
  3. Register at: https://tiny.army.mil/r/MEHsS/EpiTechFY18

• Confirm attendance:
  – Please enter your full name/email into the DCS chat box to the right or email your Service hub
  – You will receive a confirmation email within 48 hours with your attendance record; if you do not receive this email, please contact your Service hub
Objectives

• Describe the structure and purpose of the ESSENCE-based syndromic surveillance

• Explain and demo some of the key new features of ESSENCE v5
  • MyESSENCE
  • MyAlerts
  • Query Portal

• Other new features
Brief Overview and Timeline of DoD ESSENCE

  ◦ Basic syndrome case definition using ICD9 codes
  ◦ Maryland Disease Surveillance and Reporting System
  ◦ DoD in the NCR

ESSENCE II (September 11, 2001)
  ◦ First, live nationwide DoD syndromic surveillance system
  ◦ Followed by implementation of DoD ESSENCE

ESSENCE III (2003) – Deployed setting version

ESSENCE IV (2006) – DoD Military Health System
  ◦ Addition of pharmacy, radiology and laboratory orders
  ◦ Broad expansion of military users, Health Affairs sets official use policy

“Block 3” upgrade (2012)
  ◦ Added Disease and Injury (D&I categories (like EpiNATO)
  ◦ Chief complaint (free text) algorithms

ESSENCE V (2018)
  ◦ Combination of data streams to reduce false alerts (increase specificity)
Version 1.21

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ESSENCE PROTOTYPE DISCLAIMER

NO WARRANTY

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NOT FOR PUBLIC DISCLOSURE
• MyESSENCE dashboard can be accessed by selecting “myESSENCE” from the menu bar.
MyESSENCE

• Once the user selected “myESSENCE” you will see a blank dashboard (for new users) or a dashboard of previously created queries that the user added.

• You have the ability to customize this space with widgets that you will use most often.

• There are several different ways to customize your dashboard.
MyESSENCE

• You may wish to add a new time series graph to quickly view daily counts at your MTF.
• Click “Times Series Graph” from the dropdown menu.
• A popup box will appear.
• Check the box or boxes you wish to see on your tab.
• When you’re finished, click “Submit”.
• Your dashboard tab will update to show your selected options.
MyESSENCE

• If you would like to share your tab with others, you can select “Share Tab” from the dashboard menu.

• A popup box will appear. Enter a title for the shared tab and click which tabs you want to share. Click “Submit” when you’re finished.
MyAlerts

• The myAlerts function can be set by a user to provide alert messages or records that meet the user’s alert criteria.

• The user can set criteria for alerting that include statistical thresholds, minimum counts and consecutive days of alerting.

• MyAlerts can be created for the default syndrome and sub-syndrome categories, free text queries, as well as for any of the other data sources available in ESSENCE.
MyAlerts

- For example, a user can create a myAlert from a Time Series page, enter a name for the query in the text box labeled Query Name and then select Create MyAlert.
MyAlert

- The Create MyAlert dialog box will open with options to edit enable the MyAlert, select the details.

- You can share the myAlert with other ESSENCE users if you choose.

- MyAlerts A user can set user defined thresholds for Minimum Count, the number of alerts in the past number of days, and consecutive alerts.
MyAlert

• When you access myAlerts you will see two tabs, one with alerts and one with record of interest.

• MyAlerts for records of interest can be useful for rare events with small visit numbers. This will return any results in a line listing format.
MyAlert

• You can subscribe to alerts by clicking “Subscribe” from the myAlerts menu.

• Once subscribed to a myAlert you will receive an email whenever there is an alert.
Query Portal

- The Query Port permits users to select specific populations to perform analysis, visualizations and export features are available within the portal.

- You can access the portal by selecting “Query Portal” from the ESSENCE menu bar.
Query Portal

• The query wizard pull-downs permit the user to select a variety of basic parameters for the query for the query, including Datasource, Time Resolution, Detector, As Percent Query, Start Date, and End Date.

• Once custom analysis features are selected, they can be sent to the myESSENCE and myAlerts for use in routine analysis and alerting.
Query Portal

• Remember, ESSENCE has data from several data sources. You will need to select a data source to run your query.

• Health encounters data is the most used data set. You can select this or other options from the dropdown menu at the top right of the Query Wizard.
Query Portal

• You will also need to select a time resolution for your query.

• You can select from daily, weekly, monthly, quarterly or yearly time periods. If you’re checking ESSENCE regularly, you will likely want to use daily for this option.

• You can select your time option from the dropdown menu at the top of the Query Wizard.
Query Portal

• You will also need to select a data range for your query.

• Use the calendar on the top right of the Query Wizard to select a start date and an end date for your query.
Query Portal

• From the left panel on the next set of options, the user can select from Available Query Fields. These query fields options will be dependent on the data source selected.

• For each query field selected, the field specific options are displayed in the center panel. These options can be simple combo box pull downs, number ranges selectors, date range selectors, free-text query fields, or adder-style select boxes for very large lists.
Query Portal

• The user is required to choose the desired options and once selected, they will be added to the Selected Query Fields panel on the right side to build their query.

• Once the user has selected all its components, the query can be executed. There are several options for executing and viewing outputs for that query.

• The options are a tabular format via the Table Builder, Time Series view, and Data Details view. The user can also access the Graph Builder, Overview Portal, and Advanced Query tool from this page.
Query Portal

• All entries in the middle box will be the chosen options once the "SELECT" button is pressed.

• Your selection are shown in the right side box.

• You can remove selected query fields by clicking the red X button.

• Once your selections are finalized you can run the query by clicking one of the options below that were previously mentioned.
Time Series

• Note that the detection on a time series page is run dynamically with the most up-to-date data that is available. This is sometimes different than the alerts on an Alert List because those detectors are run on a schedule and so may not include the most recent data.

• If you hold the cursor over a particular date's marker on the graph, a text box will appear with specific information about that date.
Time Series

• You can add a time series to myESSENCE or myAlert under Query Options. Other options include Save Query, Save Report Query, Share URL and Publish Report.

• You must enter a name for the query then select what option you would like to use.

• For example, if you add the query to myESSENCE, you will have to select which tab to place the query in and select Add to myESSENCE. The query will now be visible in myESSENCE under the selected tab.
Data Details

• The data details option displays all line level records over the date range. Similar to the Alert List, the default sorting is by date, but the earliest date of the date range is displayed first.

• Similar to the Time Series View, this page has the Description box, Query Options, and Configuration Options.

• Also, Graph options are provided from which the user can select to visualize pie charts or bar charts. The set of field options available for building pie or bar charts are provided as drop-downs.
ESSENCE v5: Other New Features

- Interactive Time Series & Anomaly Detection
- Pie/Bar Charts & Detailed Line Listings
- Interactive Mapping & Spatial Cluster Detection
- Table Builder: Crosstab & Pivots
- Free-text & Advanced Querying

- Event Communication
- Overview Graphs
- Time of Arrival Detection
- Temporal Detection
- Statistical Report Builder

- User customized myESSENCE Dashboards (e.g., plots, tables, maps)
- User customized myAlerts
- Multi-Datasource & Denominator Queries
- Data Quality Reports
- External Report Publishing
Contact Information

- **Army:** APHC – Disease Epidemiology Division
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Questions