ANNOUNCEMENTS

- All participants must register for the Monthly Disease Surveillance Trainings in order for us to provide CMEs/CNEs:
  1. Log-on or Request log-on ID/password: https://tiny.army.mil/r/zB8A/CME
  2. Register at: https://tiny.army.mil/r/4TgNE/EpiTechFY17

Communicate with your Service surveillance hub to ensure you get information on future trainings and past recordings.

- Confirm attendance for today’s training:
  - Enter your full name/email into chat box or email your Service hub
  - You will receive a confirmation email within the next 48 hours
  - If you do not receive this email, please contact us

- Please put your phones on mute when not speaking
Making the Most of ESSENCE

Presented by: Courtney Rudiger
Disease Surveillance Monthly Training
25 October 2016
Objectives

- Describe ways to optimally configure ESSENCE for routine surveillance
- Describe how to use ESSENCE to understand your population
- Describe how to use ESSENCE to track current public health events
What is ESSENCE?

Electronic Surveillance System for the Early Notification of Community Based Epidemics

- The DoD’s syndromic surveillance tool (DoDI 6200.03)
- Web based surveillance system
- Recognition of suspected or confirmed medical events or disease outbreaks
Data in ESSENCE

Data are grouped into multiple modules for querying:

- Syndromes
- D&I (Disease & Injury; formerly DNBI)
- RME (Reportable Medical Events)

ESSENCE Syndrome Categories:

- Botulism-like
- Fever (Unexplained)
- Gastrointestinal
- Hemorrhagic Illness
- Influenza-Like Illness (ILI)
- Influenza Specific
- Localized Cutaneous Lesion
- Neurological
- Rash
- Shock/Coma/Death
OPTIMAL ESSENCE CONFIGURATION
Configuring ESSENCE – how?

- User-defined sites
  - Group MTFs together in ways that are more efficient for the local user’s routine surveillance.

- User-defined syndromes
  - Group diagnoses together to query on syndromes relevant to local interest

- Local SOPs could include user-defined sites/syndromes specific to the facility that the local users should create
User-Defined Sites

- A “site” in ESSENCE is a group of MTFs that can be queried.

- System-defined sites include:
  - States
  - Countries (OCONUS)
  - Metropolitan areas
  - Army/Navy/Air Force medical regions
User-Defined Sites - Example

- A large parent MTF creates a site that includes the parent MTF as well as its child clinics.

- A regional public health command creates a site that includes all hospitals and clinics within that region.
User-Defined Sites

Site appears in list of sites to select for queries:
User-Defined Sites

- Similar to system-defined sites, specific MTF(s) from a user-defined site can be selected from a query.
  - All MTFs will include all MTFs in the selected site for the query.

![Current Data Query Selections Table]

<table>
<thead>
<tr>
<th>Site</th>
<th>Portsmouth Site Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Source</td>
<td>Health Encounters</td>
</tr>
</tbody>
</table>

![MTF Selection Window]

<table>
<thead>
<tr>
<th>MTF</th>
<th>Select Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>All MTFs</td>
<td>Syndromes</td>
</tr>
<tr>
<td>CHESAPEAKE - TRICARE OUTP</td>
<td></td>
</tr>
<tr>
<td>JOINT (AN) EB LITTLE CREEK-f</td>
<td></td>
</tr>
<tr>
<td>NORFOLK - NAS NORFOLK NRR</td>
<td></td>
</tr>
</tbody>
</table>
User-Defined Syndromes

- User defined syndromes allows users to make their own syndrome groups in addition to the predefined syndromes.
  - Can use the following to define a syndrome:
    - ICD9-ICD10 diagnosis codes
    - GC3 codes (pharmacy)
    - CPT codes (laboratory and radiology)
    - Chief Complaint sub-syndrome or keywords

- User defined syndromes can be shared among ESSENCE users.
User-Defined Syndromes - examples

- A local MTF creates a syndrome of pneumonia-specific diagnoses to monitor severe respiratory illness during influenza season.

- A local MTF creates a syndrome with a specific diagnosis code to monitor occurrences of that specific condition.
User-Defined Syndrome

User-defined syndromes appear at the bottom of the syndrome list when querying syndromes:
User-Defined Sites and Syndromes

- Using these user-defined functions allow for greater versatility for ESSENCE queries.

- Provides the ability to customize both the search area and the illnesses/conditions to those of greatest interest to the user.

- Sharing user-defined syndromes helps customize the use of ESSENCE among users responsible for the same area/region.
UNDERSTANDING YOUR POPULATION
ESSENCE algorithms use the “expected” number of cases in syndromic groups to identify potential alerts.

Not all alerts may be a true event.

Routine ESSENCE use can give the user a baseline.
Understanding Your Population

- Important to keep external factors in mind:
  - Training cycles
  - Deployment cycles
  - Other personnel movement
Understanding Your Population – example

- A clinic at a military academy queries ILI encounters and observes a graph similar to the below:

- Are these alerts significant?
Understanding Your Population – example

- Consider external factors:
  - Influx of new students in July

- Could expect higher rates of illness in this time

- Do previous years show similar increases?
TRACKING PUBLIC HEALTH EVENTS IN ESSENCE
Tracking Public Health Events - examples

- Providers at a recruit training center are seeing many patients with ILI symptoms and believe that this is “more than normal”.

- There is a heightened alert for a public health event, such as Zika virus, prompting the need for enhanced surveillance.

- A food recall has been announced due to an outbreak of hepatitis A.

- All of these can be tracked using ESSENCE!
Tracking Public Health Events

- Providers at a recruit training center are seeing many patients with gastrointestinal symptoms and believe that this is “more than normal”.

- Use ESSENCE to:
  - Query gastrointestinal encounters:
Tracking Public Health Events

- There is a heightened alert for a public health event, such as Zika virus, prompting the need for enhanced surveillance.

- Use ESSENCE to:
  - Create a user-defined syndrome specific for Zika virus.
    - Symptoms and/or disease-specific codes
  - Add monitoring of this syndrome to routine ESSENCE surveillance processes.
Tracking Public Health Events

- A food recall has been announced due to an outbreak of hepatitis A.
- Use ESSENCE to:
  - Identify cases of hepatitis A in the reportable events module.
  - Supplement existing case finding efforts.

<table>
<thead>
<tr>
<th>Encounter/Order Date</th>
<th>Disp</th>
<th>PIN</th>
<th>Age</th>
<th>ICD</th>
<th>ICD Description/Test Name</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>02/Aug/2016</td>
<td>OUT:Release No Limit</td>
<td></td>
<td>19</td>
<td>B15.9</td>
<td>Hepatitis A without hepatic coma</td>
<td>Hepatitis A</td>
</tr>
<tr>
<td>10/Aug/2016</td>
<td>IN:Continue Hosp</td>
<td></td>
<td>32</td>
<td>B15.9</td>
<td>Hepatitis A without hepatic coma</td>
<td>Hepatitis A</td>
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</table>
More ESSENCE Help and Information

  - ESSENCE Registration Guide
  - Creating a Pneumonia User-Defined Syndrome

Contact Information

- **Army:** USAPHC – Disease Epidemiology Program
  Aberdeen Proving Ground – MD
  Comm: (410) 436-7605  DSN: 584-7605
  usaphc.disease.epidemiology@us.army.mil

- **Air Force:** Contact your MAJCOM PH or USAFSAM/PHR
  USAFSAM / PHR / Epidemiology Consult Service
  Wright-Patterson AFB, Ohio
  Comm: (937) 938-3207  DSN: 798-3207
  USAFSAMESSENCE@us.af.mil
Contact Information

- **Navy**: NMCPHC Preventive Medicine Programs and Policy Support Department
  - COMM: (757) 953-0700; DSN: (312) 377-0700
  - Email: usn.hampton-roads.navmcpubhlthcenpors.list.nmcphc-threatassess@mail.mil

- Navy Environmental and Preventive Medicine Units (NEPMU)
  - **NEPMU2**
    - COMM: (757) 953-6600; DSN: (312) 377-6600
    - Email: usn.hampton-roads.navhospporsva.list.nepmu2norfolk-threatassess@mail.mil
  - **NEPMU5**
    - COMM: (619) 556-7070; DSN (312) 526-7070
    - Email: usn.san-diego.navenpvntmedufive.list.nepmu5-health-surveillance@mail.mil
  - **NEPMU6**
    - COMM: (808) 471-0237; DSN: (315) 471-0237
    - Email: usn.jbphh.navenpvntmedusixhi.list.nepmu6@mail.mil
  - **NEPMU7**
    - COMM (international): 011-34-956-82-2230 (local: 727-2230); DSN: 94-314-727-2230
    - Email: NEPMU7@eu.navy.mil
Questions?