DCO Registration

Please register using the two simple steps below:

1. Log-in or create a CME account:
   https://tiny.army.mil/r/zB8A/CME

   **Tip**: If your facility is not listed as an option on the registration form, please select "OTHER/MEDCOM"

2. Register for Epi-Tech Surveillance Training series:
   https://tiny.army.mil/r/LEAid/EpiTechFY15

If you have any questions contact the DCO help desk at: usarmy.apg.medcomphc.mbx.diseaseepidemiologyprogram13@mail.mil
Laboratory Interpretation of Case Definitions

Stefani Ruiz, MHS, Epidemiologist
USAFSAM Epidemiology Consult Service/ PHR
stefani.ruiz.ctr@us.af.mil
DSN: 798-3205
Commercial: 937-938-3205
Debunking Laboratory Jargon

EIA  PCR  Ab  ELISA

Ag  IgG  IgM

RT-PCR
Format

- The lab test
- What to look for in AHLTA
- How to report in DRSi
All laboratory tests and case definitions in this presentation come from the 2012 Guidelines.

How to get a copy:

- **Army**: [http://phc.amedd.army.mil/TOPICS/HEALTHHSURV/DE/Pages/DRSiResources.aspx](http://phc.amedd.army.mil/TOPICS/HEALTHHSURV/DE/Pages/DRSiResources.aspx)
- **AF**: [https://gumbo2.area52.afnoapps.usaf.mil/epiconsult/reportableevents/](https://gumbo2.area52.afnoapps.usaf.mil/epiconsult/reportableevents/)
- **AFHSC**: [https://www.afhsc.mil/Home/ReportableEvents](https://www.afhsc.mil/Home/ReportableEvents)
Laboratory Language

- IgM vs. IgG
- 4-fold rise = acute and convalescent = paired sera
- Titer
- EIA/ELISA
- 2-tiered testing
- Seroconversion

- Rapid Flu test
- PCR vs. RT-PCR
- Novel flu labs
- Isolation = culture
- Smear = microscopy = slide
- HIV
IgM vs. IgG
Ig=Immunoglobulin

- **IgM Antibody**
  - Produced **first** in response to infection
  - Marker of current infection
  - Detectable only about 2-6 months

- **IgG Antibody**
  - Produced **later** in response to infection
  - Marker of long-term immunity
    - from vaccination or disease
IgM and IgG Example: Hepatitis A Labs

Laboratory Criteria for Diagnosis

Any of the following:

- IgM antibody to hepatitis A virus (anti-HAV) positive, or
- Fourfold or greater rise in antibody titer in paired sera.

Case definition excerpt comes from the 2012 Armed Forces Guidelines
Hepatitis A Lab Results in AHLTA

Hepatitis A Virus Ab Total: Positive

Hep A Virus total antibody is positive
(Total antibody includes IgG and IgM)

This would not meet the case definition
Hepatitis A Lab Results in AHLTA

Hepatitis A Virus Ab Total: Positive
Hepatitis A Virus Ab IgM: Equivocal

This would not be reportable.
Hepatitis A Lab Results in AHLTA

Hepatitis A Virus Ab IgM: Positive

This would be reportable so long as the rest of the case definition has been met:
5.24 HEPATITIS A

Clinical Description

A viral disease with abrupt onset of fever, malaise (i.e. general discomfort or uneasiness), anorexia, nausea and abdominal discomfort, followed within a few days by jaundice and/or elevation of serum aminotransferase levels (AST/ALT). Severity ranges from asymptomatic to severe, generally increasing with patient age.

Laboratory Criteria for Diagnosis

Any of the following:

- IgM antibody to hepatitis A virus (anti-HAV) positive, or
- Fourfold or greater rise in antibody titer in paired sera.

Case Classification

Confirmed:

- A clinically compatible case that is laboratory-confirmed;
- A clinically compatible case that occurs in a person who has an epidemiologic link to a person who has laboratory-confirmed hepatitis A (i.e., household or sexual contact with an infected person during the 15-50 days before the onset of symptoms).

Required Comments

Include the patient’s hepatitis A immunization history.

Additional Considerations

Document whether patient is food handler, a day care provider, or is an employee at a long term care facility. Also document relevant travel/deployment history (Note: the incubation period of hepatitis A is usually 28-30 days, with a range of 15-50 days).

Case definition excerpt comes from the 2012 Armed Forces Guidelines

Need to be symptomatic
### DRSi: Hepatitis A

**Medical Event**
- **Diagnosis (ICD-9 code):** Hepatitis A
- **Date of Onset:**
- **Reporting Unit:**

**Method of Confirmation**
- Biopsy
- Slide
- Serology
- Culture
- Clinical
- Other

**Case Status**
- Confirmed
- Suspect
- Probable
- Not a Case
- Pending

**MER Status**

**Date of Report:** 8/6/2014

**Laboratory Tests**
- IgM antibody to Hepatitis A virus (anti-HAV)
  - Positive
- 4-fold rise in antibody titer with paired sera
  - Positive

**Event Related Questions**
- Vaccine history: has the patient been vaccinated against hepatitis A?
  - Yes
  - No
4-fold rise in serum antibody titer

<table>
<thead>
<tr>
<th>Laboratory Criteria for Diagnosis</th>
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</tr>
<tr>
<td>• Fourfold or greater rise in antibody titer in paired sera.</td>
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</table>

Case definition excerpt comes from the 2012 Armed Forces Guidelines

4-fold = acute and convalescent = paired sera

4-fold = concentration (titer) of IgG in the 2\textsuperscript{nd} sera (convalescent) needs to be $\geq 4$ fold higher than in the 1\textsuperscript{st} sera (acute).

Titer = measurement indicating concentration of antibodies (IgG) as performed by serial dilutions

Paired = 2 samples

A single serology DOES NOT count
Concentration of IgG at week b needs to be \( \geq 4 \) fold higher than the 1st sera at week a.
4-fold math

If the acute serum is 1:8, then the convalescent serum must be at least 1:128 to meet the 4-fold definition.

These are serial dilutions: if pos at a higher titer, it means antibody is still detectable at a higher dilution so you have more antibody.
4-fold rise in serum antibody titer

- Note in the above example:
  - AHLTA will only report out the titers
  - You have to do the math to know if there is a 4-fold increase

- 2 serologies separated by @ least 2 weeks
  - Some case definitions require @ least 3 weeks

- Not done frequently
  - MD’s don’t want to wait
Measuring antibody concentration: EIA / ELISA

- **EIA** = Enzyme immunoassay
- **ELISA** (a type of EIA) = Enzyme linked immunosorbent assay
- Test detects antigen from the organism or antibody (IgG or IgM) against the organism
Measuring antibody concentration: EIA / ELISA

- For the Campy example, this EIA is detecting *Campylobacter antigen*
  - found in stool

<table>
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<tbody>
<tr>
<td>Any of the following:</td>
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<tr>
<td>• Isolation of <em>Campylobacter jejuni</em> from any clinical specimen, or</td>
</tr>
<tr>
<td>• EIA for antigen in stool</td>
</tr>
</tbody>
</table>

Case definition excerpt comes from the 2012 Armed Forces Guidelines
Measuring antibody concentration: EIA / ELISA

- For the Coccidioidomycosis example, the EIA is detecting IgM or IgG antibodies against the organism
  - found in any body fluid.

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Any of the following:</td>
</tr>
<tr>
<td>• Positive serologic test for coccidioidal antibodies in serum or cerebrospinal fluid, or other body fluids by any of the following:</td>
</tr>
<tr>
<td>o Detection of coccidioidal immunoglobulin M (IgM) by immunodiffusion, enzyme immunoassay (EIA), latex agglutination, or tube precipitin, or</td>
</tr>
<tr>
<td>o Detection of coccidioidal immunoglobulin G (IgG) by immunodiffusion, EIA, or complement fixation.</td>
</tr>
</tbody>
</table>

Case definition excerpt comes from the 2012 Armed Forces Guidelines
Back to Hep A
Both of these could be performed through EIA’s.

The trick with the case definitions: sometimes the laboratory method is specifically named, and sometimes not.

### Laboratory Criteria for Diagnosis

<table>
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<th>Any of the following:</th>
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<tr>
<td>IgM antibody to hepatitis A virus (anti-HAV) positive, or</td>
</tr>
<tr>
<td>Fourfold or greater rise in antibody titer in paired sera.</td>
</tr>
</tbody>
</table>

Case definition excerpt comes from the 2012 Armed Forces Guidelines
# 2-tiered testing: Lyme disease

2 tiered testing ≠ paired sera

---

## Laboratory Criteria for Diagnosis

Any of the following:

For the purposes of surveillance, the definition of a qualified laboratory assay is:

- Positive Culture for *B. burgdorferi*;
- Two-tier testing interpreted using established criteria [1], where:
  - Positive IgM is sufficient only when ≤30 days from symptom onset
  - Positive IgG is sufficient at any point during illness
- Single-tier IgG immunoblot seropositivity using established criteria [1-4]; or
- CSF antibody positive for *B. burgdorferi* by Enzyme Immunoassay (EIA) or Immunofluorescence Assay (IFA), when the titer is higher than it was in serum.

---

- **1\textsuperscript{st} tier:** EIA or IFA
- If positive/equivocal, then **2\textsuperscript{nd} tier:** IgM or IgG Western Blot

---

**Diagnosis (ICD-9 code)**

- Lyme Disease

**Reporting Unit**

<table>
<thead>
<tr>
<th>Method of Confirmation</th>
<th>Case Status</th>
<th>MER Status</th>
</tr>
</thead>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Case Status should be classified as suspect, probable or confirmed according to the current Triservice.

### Laboratory Tests

- **CSF antibody by EIA or IFA**
  - Positive
  - Pending
  - Negative

- **Single-tier IgG immunoblot**
  - Positive
  - Pending
  - Negative

- **Two-tier IgM/IgG testing**
  - Positive
  - Pending
  - Negative

- **Isolation of Borrelia burgdorferi**
  - Positive
  - Pending
  - Negative

- **Other labs not listed**

### Event Related Questions

- **Was this exposure duty related?**
  - Yes, non-deployment related
  - Yes, Deployment related
  - No

- **Is the patient experiencing late clinical manifestations?**
  - Yes
  - No

- **Is there a documented Erythema Migrans skin lesion?**
  - Yes
  - No

- **Is there a documented tick bite?**
  - Yes
  - No
Seroconversion

- **Sero**: root word is “serum”
  - So looking for IgM or IgG in serum

- **Conversion**: changing from 1 form to another

- Converting from negative IgM to positive IgM
  - or from negative IgG to positive IgG

- Still need to find 2 serologies in AHLTA
  - Single serologies do not count
Seroconversion: Examples of Case Definitions

**Dengue**

- Seroconversion from negative for dengue virus-specific serum Immunoglobulin M (IgM) antibody in an acute phase (≤ 5 days after symptom onset) specimen to positive for dengue-specific serum IgM antibodies in a convalescent-phase specimen collected ≥5 days after symptom onset.

  - Translation: Seroconversion from a negative IgM in an acute sera to pos IgM in convalescent sera

**Mumps**

- Demonstration of specific mumps antibody response in absence of recent vaccination, either a four-fold increase in IgG titer as measured by quantitative assays, or a seroconversion from negative to positive using a standard serologic assay of paired acute and convalescent serum specimens.

  - Translation: Seroconversion from negative IgG to positive IgG in acute and convalescent serum
### Medical Event

**Diagnosis (ICD-9 code)**

Dengue Fever

**Reporting Unit**


### Method of Confirmation  

**Case Status**


**Case Status should be classified as suspect, probable or confirmed according to the**

### Laboratory Tests

- **IgM seroconversion**
  - Positive  
  - Pending  
  - Negative
- IgM antibodies in serum with P/N ratio >= 2
  - Positive  
  - Pending  
  - Negative
- IgM antibodies in CSF
  - Positive  
  - Pending  
  - Negative
- 4-fold rise in PRNT end point titer
  - Positive  
  - Pending  
  - Negative
- 4-fold rise in IgG antibody titer
  - Positive  
  - Pending  
  - Negative
- Isolation of virus
  - Positive  
  - Pending  
  - Negative
- Other labs not listed

**DRSi: Dengue seroconversion**
Influenza

Laboratory Criteria for Diagnosis

Any of the following:

Probable:

- Commercial influenza diagnostic rapid antigen test (RAT) of respiratory specimens.

Confirmed:

- Detection of influenza-specific RNA by RT-PCR testing of respiratory specimens;
- Influenza virus isolation in tissue cell culture from respiratory specimens;
  - Direct antigen detection by immunofluorescent antibody (IFA) staining (direct or indirect) of respiratory specimens;
  - Antigen detection by immunohistochemical (IHC) staining for influenza viral antigens in respiratory tract or other tissue from biopsy or autopsy specimens; or
- Four-fold rise in influenza hemagglutination inhibition (HI) antibody titer in paired acute and convalescent sera.

Case Classification

**Probable**: A hospitalization for acute illness associated with a diagnosis of influenza with a positive result from a rapid antigen test (RAT). A confirmatory test should be ordered following a positive RAT.

**Confirmed**: A hospitalization for acute illness associated with a diagnosis of influenza and confirmed by an appropriate laboratory test as defined above.

**Note**: For all confirmed cases a nasal wash specimen should be submitted to an appropriate laboratory for further influenza laboratory testing (i.e., gene sequencing).

**Required Comments**

Case definition excerpt comes from the 2012 Armed Forces Guidelines
Influenza Lab Results in AHLTA

Influenza A+B Virus Ag

- Rarely does AHLTA use the word “rapid”
- Most of the time, it will say just “Ag”.
- It’s detecting flu Antigen.
- “Ag” your tip off that this is a rapid antigen test (RAT).
Influenza Lab Results in AHLTA

Influenza A+B Virus Ag
Influenza Virus A Ag: Positive
Influenza Virus B Ag: Negative

This person has Flu A, as performed by a rapid test
Clinical Case Definition

An illness compatible with influenza virus infection (fever $\geq 100.5^\circ$F accompanied by cough or sore throat in the absence of other diagnoses) in individuals $< 65$ years of age that results in hospitalization.

AND

Laboratory test confirmation or positive rapid test result supporting influenza diagnosis obtained less than 4 days after hospital admission (to minimize the reporting of nosocomial [hospital acquired] rather than community acquired infections).

Comment

Hospitalization is defined as an admission to an inpatient ward of a hospital, or a medical transfer or evacuation to a facility with a higher level of care. Patients admitted for observation and discharged the same day are considered hospitalized for this case definition. An overnight stay is not required. Emergency room or outpatient clinic visits that do not result in hospital admission are not considered hospitalizations.

Case definition excerpt comes from the 2012 Armed Forces Guidelines

Before reporting in DRSi, also check to make sure person is $<65$ yrs of age and hospitalized.

Only report flu if the patient is hospitalized and under 65 yrs of age.
The underlying method of the rapid test is antibody/antigen detection (EIA) which is a serologic test.
Respiratory Virus Panel

Respiratory Viral Culture: Influenza Virus Type A
Influenza Virus A+B DNA: 2009 Influenza A(H1N1)

- In this case a Respiratory Virus Panel includes Culture and DNA (AHLTA really means RNA)
- Both are positive
  - Culture has identified the type: Flu A
  - DNA has identified the subtype: A(H1N1)
- Our patient has Flu A, specifically A(H1N1)
When the case definition says

- …“Detection of influenza-specific RNA”

And AHLTA says “Influenza Virus A+B DNA”

- …for the purposes of meeting the case definition, they’re the same thing.
When the case definition says

- “Detection......by RT-PCR”

And AHLTA says “Influenza Panel PCR”

- for the purposes of meeting the case definition, they’re the same thing.
Each MTF has a different way of reporting out results

- AHLTA is designed differently at every MTF
- Talk to your lab people to find out how they code their tests and their results
- Also note: some positive results are in red, some are not – don’t get fooled!
Reporting this patient
We do not want you to report like this.

Once a lab test is selected, it cannot be deselected. Have to delete the record and start a new DRSi report.
DRSi: How is this Influenza Report?

Type in the chat box
**DRSi: How is this report?**

Type in the chat box

### Diagnosis (ICD-9 code)
Influenza, Novel

### Reporting Unit

#### Method of Confirmation
- Culture

#### Case Status
- Confirmed

### First Reported Date (mm/dd/yyyy):
- 12/4/2014

### Original Reporting Unit

### Case Status should be classified as suspect, probable or confirmed according to:

### Laboratory Tests

**Rapid Antigen Test**
- Positive
- Pending
- Negative

**Antigen detection by immunohistochemical staining (IHC)**
- Positive
- Pending
- Negative

**4-fold rise in influenza HI antibody titer**
- Positive
- Pending
- Negative

**PCR**
- Positive
- Pending
- Negative

**Isolation of virus**
- Positive
- Pending
- Negative
Before submitting all DRSi reports, please make sure that Method of Confirmation, Case (classification) status, and Lab criteria are congruent with each other as well as the case definition.
What’s in a Name: Novel Flu

- A new flu virus
- Has never circulated in humans before
- Therefore:
  - No immunity
  - No vaccine
  - Could cause high morbidity/mortality
  - Rampant transmission: Global pandemic

Though it shares the same name, it is not the same thing as Seasonal Flu

Novel flu ≠ Seasonal flu
Novel flu ≠ New flu diagnosis in a patient
If there were sustained novel flu transmission, there would be a global crisis

- WHO would declare an emergency of international concern
- Markets would shut down
- Panic would be rampant
- Would be all over media outlets
- It is a BIG deal
If the physician’s diagnosis says:

“Influenza due to identified novel influenza A virus with other respiratory manifestations”

And AHLTA says:

Influenza Virus A+B Virus Ag: Influenza Virus A

Do Not Report This as Novel Flu
(The only way to identify novel flu is through PCR)
Don’t report it
- (unless you are told to report it that way by your chain of command.)

H1N1 is no longer novel
- In 2009 it was novel, but it no longer is.

H3N2 is NOT novel
- (H3N2)v is novel
- Don’t confuse the two

If you have question about novel flu, call your service hub or the USAFSAM Epi lab.
What’s in a name: H. flu

*Haemophilus influenzae* (H. flu)
(a bacteria)

≠

Influenza (Flu)
(a virus)
Isolation = Culture

- Regardless if referring to bacteria or virus.

**Confirmed:**
- Detection of influenza-specific RNA by RT-PCR testing of respiratory specimens;
- Influenza virus isolation in tissue cell culture from respiratory specimens;

Case definition excerpt comes from the 2012 Armed Forces Guidelines

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<td>- Isolation of <em>Campylobacter jejuni</em> from any clinical specimen, or</td>
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</table>

Case definition excerpt comes from the 2012 Armed Forces Guidelines

In AHLTA you will not see the word “isolation”. You will see “culture”. They are synonymous.
### Medical Event

**Diagnosis (ICD-9 code)**
- Campylobacter Infection

**Date of Onset**

**Reporting Unit**

---

### Method of Confirmation

- Biopsy
- Slide
- Serology
- Culture

### Case Status

- Confirmed
- Suspect
- Probable
- Not a Case
- Pending

### Laboratory Tests

- **Isolation of agent**
  - Positive
  - Pending
  - Negative

- **EIA for antigen in stool**
  - Positive
  - Pending
  - Negative

- **Other labs not listed**

---

### Event Related Questions

Please specify the species of agent if possible.
New in DRSi: Chikungunya

- Only report Confirmed cases
- Air Force and Navy are using an updated draft case definition that includes laboratories:

---

1. **Diagnosis**
   - Consider chikungunya virus infection in patients with onset of fever and polyarthalgia, especially travelers who have returned within two weeks from areas with virus transmission (CDC). Preliminary diagnosis should be based on the patient's clinical features, activities, as well as places and dates of travel.
   - Check for dengue. Prevention of dengue (WHO guidelines) can improve outcomes. Dengue and chikungunya viruses are transmitted by the same mosquitoes and have similar clinical features. The two viruses often coexist in the same area and can cause occasional co-infections in the same patient. Chikungunya virus infection is more likely to cause fever, severe arthralgia, arthritis, rash, and lymphopenia, while dengue virus infection is more likely to cause neutropenia, thrombocytopenia, hemorrhage, shock, and death. Co-infections may include any of these symptoms.
   - Differential diagnoses include leptospirosis, malaria, tick-bite fever, group A streptococcus, rubella, measles, parvovirus, antiviruses, adenoviruses, other alphaviruses (e.g., Mayaro), post-infection arthritis, and rheumatologic conditions.

2. **Clinical Diagnostic Testing:**
   - USAMRIID Special Pathogens Laboratory (SPL)
     nephrology.dermatology@amedd.army.mil, special.pathogens.lab@usamriid.mil
     202-566-3511 (DSN 536)
     For sample submission please use the SPL Form.
   - HNSC Navy Infections Disease Diagnostic Laboratory (NHIDL)
     LCDR Todd Myers
todd.myers@med.navy.mil
     202-319-7447 (DSN 269)

If a non-DoD lab is used, saving an aliquot of refrigerated serum for DoD lab characterization is highly recommended.

3. **Reporting:**
   - Confirmed cases of chikungunya infection should be reported through the chain of command and the appropriate Service-specific public health POCs:
     - Navy Environmental Preventive Medicine Unit
       Navy and Marine Corps Public Health Center Threat Assessment
       turnveraenam.nmchc.mil
       757-953-0700 (DSN 374-0700)
     - U.S. Air Force School of Aerospace Medicine
       Epidemiology 
       Epidemiology@usafrac.edu
       920-798-3207 (DSN 798-3207)
     - Army Institute of Public Health Disease Epidemiology Program

---

**Laboratory Criteria for Diagnosis**

Evaluate serum or plasma by:

- Viral culture to detect virus in first 3 days of illness; or
- RT-PCR to detect viral RNA in first 8 days of illness; or
- Serology to detect IgM, IgG, and neutralizing antibodies that develop toward the end of the first week of illness (≥4 days post illness onset)
Chikungunya Lab Results in AHLTA

Chikungunya virus Ab
Chikungunya virus IgG: Positive
Chikungunya virus IgM: Positive

Laboratory Criteria for Diagnosis
Evaluate serum or plasma by:

- Viral culture to detect virus in first 3 days of illness; or
- RT-PCR to detect viral RNA in first 8 days of illness; or
- Serology to detect IgM, IgG, and neutralizing antibodies that develop toward the end of the first week of illness (≥4 days post illness onset)
New in DRSi: Chikungunya Page

No longer reportable as “Any other unusual condition not listed”
Obvious case definition examples:

- Malaria (confirmed) – detection of malaria on blood film
- Gonorrhea
  - (confirmed): Observation of gram-negative intracellular diplococci in a urethral smear obtained from a male.
  - (probable): Demonstration of gram-negative intracellular diplococci in an endocervical smear obtained from a female

Case definitions taken from the 2012 Armed Forces Guidelines
Smear = microscopy = slide = film

- Not so obvious examples:
  - TB (probable) – demonstration of acid fast bacillus in a clinical specimen
    - Look at the color of bacterial cell wall under the microscope
  - Meningococcal Disease (suspected) – gram negative diplococci from sterile site
    - Look at color and shape of the bacteria under the microscope
  - Giardia (confirmed): observation of cysts or trophozoites in stool

Case definitions taken from the 2012 Armed Forces Guidelines
### Serology (serologic test method)
- Any EIA/ELISA test method
- Rapid flu test

### Clinical
- Things that don’t require labs to confirm:
  - Any case definition that only requires sign/symptoms
    - Cold weather, heat illnesses, some definitions of Lyme, suspect measles

### Other
- Any genetic/DNA tests: PCR, RT-PCR, probe
HIV/AIDS is not reportable to DRSi
DRSi Helpdesk e-mails

- **Navy and Air Force** (share the Navy DRSi Helpdesk)
  - usn.hampton-roads.navmcpubhlthcenpors.list.nmcphc-ndrs@mail.mil
  - !This is a new address!

- **Army DRSi Helpdesk:**
  - usarmy.apg.medcom-phc.mbx.disease-epidemiologyprogram13@mail.mil

- Use these addresses to send your completed DD2875 forms
- Or for any technical DRSi issues
- Continue to reach out to your respective service hub for all other issues
  - (comm disease issues, outbreaks, case definition guidance, etc)
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
  episervices@wpafb.af.mil
Contact Information

Navy:

NMCPHC Preventive Medicine Department
- COMM: (757) 953-0700; DSN: (312) 377-0700
- Email: NMCPHCPPTS-threatassessment@med.navy.mil

Navy Environmental and Preventive Medicine Units (NEPMU)

- NEPMU2
  - COMM: (757) 953-6600; DSN: (312) 377-6600
  - Email: NEPMU2Norfolk-Threat-MedEpi@med.navy.mil

- NEPMU5
  - COMM: (619) 556-7070; DSN (312) 526-7070
  - Email: HealthSurveillance@med.navy.mil

- NEPMU6:
  - COMM: (808) 471-0237; DSN: (315) 471-0237
  - Email: usn.jbphh.navenpvntmedusixhi.list.nepemu6@mail.mil

- NEPMU7
  - COMM (international): 011-34-956-82-2230 (local: 727-2230); DSN: 94-314-727-2230
  - Email: NEPMU7@eu.navy.mil
Conclusion

- Gone through case definitions from a laboratory perspective
- Understood laboratory terminology
- Reviewed DRSi reporting

Moral of the story: if the case definitions change, the principles of how to read AHLTA or how to read a case definition do not.

For more information on laboratory interpretation:
- Talk to your lab officer
- http://labtestsonline.org/map/aiindex/
Questions
DCO Registration

Please register using the two simple steps below:

1. Log-in or create a CME account:
   https://tiny.army.mil/r/zB8A/CME

   **Tip**: If your facility is not listed as an option on the registration form, please select "OTHER/MEDCOM"

2. Register for Epi-Tech Surveillance Training series:
   https://tiny.army.mil/r/LEAid/EpiTechFY15

If you have any questions contact the DCO help desk at:
usarmy.apg.medcomphc.mbx.diseaseepidemiologyprogram13@mail.mil