



Standard Operating Procedures for Projects/ Tasks using EpiData Center HL7 Data

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Background

EpiData Center utilizes the Health Level 7 (HL7) formatted data from the Composite Health Care System (CHCS) for the development of multiple surveillance products, including reports, line lists of pertinent records, integration with other data sources, and in support of existing surveillance systems. Upon the receipt of the data extracts from Defense Health Surveillance System (DHSS), the EpiData Center processes the data into a production database from which most of the queries are developed. The lists below serve as a reference for identification of formally documented processes that utilize HL7 data either as a sole source or as a supporting source. The processes include the use of microbiology, chemistry, anatomic pathology, radiology and three pharmacy datasets, or any combination of data.

Standard operating procedures (SOP) are considered 'live' documents, therefore the available documentation is edited either routinely or as changes in processes require. If necessary, the most recent document should be requested or used to evaluate and apply processes. The documentation is specific to information technology structure within the EpiData Center, including the separation of internet and stand-alone computers for data processing. The SOPs may not be applicable to those outside the EpiData Center but should enable the understanding of general processes, steps required, as well as files and configurations applied. Any referenced SAS or SQL code that is part of the SOPs can be provided upon request to DoD entities, though significant modification may be required for processing due to data structure and technical set-up.

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List of Available SOPs

The list below identified the title of the project/task, as well as the primary point of contact.

- HL7 Data In-processing Daily [Azad Al-Koshnaw]
 - Import and management of the raw HL7 message datasets from node delivery to loading into a production database for use by programmers and epidemiologist. Database administration functions within a secured network.
- DON Active Duty Malaria Monthly Surveillance [Gosia Nowak]
 - Identification of positive laboratory for malaria (sp) for Preventive Medicine review, tracking and follow-up; aligns to DRSi and ambulatory/inpatient encounters, including AFHSB shared list.
- DON Active Duty/Recruit Tuberculosis Monthly Surveillance [Gosia Nowak]
 - Identification of positive respiratory cultures with isolation of M. tuberculosis for Preventive Medicine review, tracking and follow-up; aligns to DRSi and ambulatory/inpatient encounters.
- Daily Case Finding for DRSi [Gosia Nowak]
 - Identification of reportable diseases or conditions using the laboratory definitions in the RME Guidelines [adjusted with revisions], including newly developed tests. Automation includes the integration of 54 disease-specific SAS algorithms. Direct feed into DRSi module for Preventive Medicine case support.
 - Modification of extract for Division of Integrated Biosurveillance, AFHSB
 - Modification of extract for DoD Inpatient Influenza Cases for USAFSAM
- SITREP: Influenza [Gosia Nowak]
 - Weekly and Annual analysis of multiple data sources to describe impact and burden of influenza on the DON beneficiary population in CONUS and OCONUS.
 - Laboratory positive cases and bacterial infections
 - Radiological confirmations of pneumonia-association (if needed)
 - Pharmacy records for antiviral distribution to beneficiaries, with and without alignment to laboratory confirmation.
- Positive Laboratory MTF Line List for Review [Gosia Nowak]
 - Development of a line list of prior month's identified positive and suspect laboratory results for a specific DMIS to allow MTF to review and submit missing DRSi reports.
- Case Finding DRSi Quarterly Compliance [Gosia Nowak]
 - Quarterly report to assess how many of the positive laboratory cases (i.e. sufficient for reporting) have associated Medical Event Report(s) by Navy



Medicine Region and parent facilities. Respective red/yellow/green cut points developed by NMCPHC Preventive Medicine.

- DoD and DoN MDRO Quarterly Report [Uzo Chukwuma]
 - Quarterly report provides a quarterly snapshot of the MDRO among DoD and DoN populations. MDROs assessed include MRSA, Acinetobacter, VRE, E. Coli, C. Diff, Klebsiella, and Pseudomonas.
- Select Pathogen Annual Summary [Uzo Chukwuma]
 - Annual report to describe the burden and trends observed for each pathogen. Pathogens with annual report include MRSA, Acinetobacter, and VRE.
- Facility and Service Specific MDRO Monthly Report [Uzo Chukwuma]
 - Monthly cumulative summary of the pathogens of interest identified at MTFs, description of demographics and clinical characteristics of those impacted. Service specific report also generated for the public health hubs.
- Facility Specific Annual Antibiogram [Uzo Chukwuma]
 - Report provides MTFs with facility specific antibiogram; describes the susceptibilities for pathogens of interest for the specific facilities.
- WRNMMC Monthly MDRO Inpatient Line list [Uzo Chukwuma]
 - Monthly line list of inpatient MDROs identified at WRNMMC; provided to the ICP for classification of isolates as HAIs.
- NHSN AR Monthly Upload [Uzo Chukwuma]
 - Supports the DoD CARB initiative and creates a line list of pathogens and susceptibility results per specification of NHSN AR protocol for each registered facility; data loaded into NHSN for the facility. Creates the facility specific line list and delivery to the programmer for upload.
- Daily CRE HL7 Record Review [Uzo Chukwuma]
 - Quality assurance process used to ensure that the ARO file has the most up to date susceptibility result for confirmed CRE lab records.
- NMCP Monthly Blood Isolate [Uzo Chukwuma]
 - Line listed that contains monthly blood isolates identified at NMC Portsmouth.
- Daily Carbapenem Surveillance [Uzo Chukwuma]
 - Assessment of isolates that could be cabapenamse carriers among DoD beneficiaries; isolates are flagged and requested to be sent to MRSN for characterization.
- Monthly Carbapenem Report [Uzo Chukwuma]
 - Description of carbapenem resistance among DoD beneficiaries.
- Influenza Coinfections [Uzo Chukwuma]



- Evaluation of coinfections associated with influenza laboratory confirmed cases for SITREP, including lower and upper respiratory distinction.
- Organism Master List and Antibiotics Frequency [Uzo Chukwuma]
 - Process is used to track variation in spelling names for organisms and antibiotics in the microbiology data; part of ARO database generation.
- Daily and Weekly MDRO Surveillance [Uzo Chukwuma]
 - Assessment of isolates that are classified as MDRO of public health interest. Summary of isolates sent to the facility ICP for follow up and review.
- BacLink Conversion of ARO files [Uzo Chukwuma]
 - Process for conversion of ARO files in BacLink
- HAI Metrics (Exposure metric) [Uzo Chukwuma]
 - Report that describes the burden of HAI among DoD and DoN beneficiaries using the HAI metrics; process for evaluating the exposure metric.



List of Pending SOPs

The list below identified the title of the project/task, as well as the primary point of contact.

- Force Health Surveillance Report [Tina Luse]
 - Ten monthly reports provided to USN and USMC commands that provide prevalence rates of behavioral health conditions, extended use of psychotropic medications and behavioral health responses on the PDHRA.
- Suicide Medical Record Review [Tina Luse]
 - Administrative and provider encounter notes are reviewed for each death by suicide in the USN and USMC. Administrative sources include both direct and out of network care. Risk factors, diagnoses, medications, and BH screens are flagged.
- Capture – Recapture Disease Burden Estimation (STI) [Gosia Nowak]
 - Identification of chlamydia, gonorrhea and syphilis cases in the laboratory data, encounter data, and medical event reports, and application to statistical methods to estimate known and unknown case burden. Can be applied to other conditions.
- Annual Group A Beta Hemolytic Streptococcus Surveillance in Recruits [Gosia Nowak]
 - Identification of GABHS laboratory confirmed cases in personnel during recruit training, including the alignment to prophylaxis programs (NHRC source), trends over the last 10 years, and severity assessment.
- Daily and Annual Neisseria Meningitides Surveillance [Gosia Nowak]
 - Identification of isolated N. meningitis from sterile sources in all DoD beneficiaries. Annual report of DoD isolates and population description; Preventive Medicine and NHRC as primary customers.
 - Daily isolate identification and notification to NHRC to enable potential for obtaining isolate from MTF for further testing and typing.
- DON Lead Policy Support Surveillance [Chris Rennix]
 - Annual assessment of children under 18 tested for blood lead levels, including by-facility report and description of cases with high values of BLL. Replaced MTF requirement for paper-based reporting of blood lead testing.
- Cancer Investigation Process [Chris Rennix]
 - Process for the integration of multiple sources (including anatomic pathology) in support of investigation of confirmed and potential cancer clusters, individuals and special reviews.
- DON Beryllium Identification [Chris Rennix]



- Tracking potential environmental exposure to beryllium for all DON beneficiaries.
- DoN Cadmium Identification [Chris Rennix]
 - Tracking potential environmental exposure to cadmium for all DON beneficiaries.
- NHSN AR Monthly Upload [Uzo Chukwuma]
 - Development of pathogen line list and susceptibility results per specification of NHSN AR protocol for each registered facility. EDC uploads data into NHSN for the facility in support of the DoD CARB initiative.
- HAI Metrics (device and procedure associated infections) [Uzo Chukwuma]
 - Report to describe the burden of HAI among DoD and DoN beneficiaries through the HAI metrics; device associated infection metric pending.
- Acinetobacter Monthly and Annual Maps [Uzo Chukwuma]
 - Generation of monthly and annual maps that are imbedded into the Acinetobacter reports.
- ARO Database [Uzo Chukwuma]
 - Describes the process of creating the ARO database, including programmer/DBA efforts as well as epidemiology processes.

