

Laboratory
Emerging Pathogens Initiative (EPI)
Hepatitis C Extract and EPI Technical and User Guide



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Department of Veterans Affairs
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Revision History

Date	Version	Description	Author
07/2014	LR*5.2*421	Updated for ICD-10 Remediation:	Kathy Krause, VA PM; Dave Getman, ICD-10 PM; E. Phelps, TW
	i-ii	Added Revision History	
	p. iii	Updated Preface for LR*5.2*421	
	vii-x	Updated Table of Contents	
	p. 13	Added required patches for installation of LR*5.2*421	
	p. 14	Added new routines for LR*5.2*421	
	p. 24	Added note for installation instructions	
	p. 25	Added information on HL7 message segment for ICD-10	
	p. 41	Added note to explain new prompts for ICD-9 or ICD-10 codes	
	p. 42	Revised ICD description information in Laboratory Search/Extract Parameters Input Screen and updated references to ICD in the Prompts Definitions table	
	pp. 47 , 48 , 52 , 54 , 55 , 57 , 58 , 59 , 61 , 62 , 65 , 66 , 69 , 70 , 73 , 74 , 77 , 78 , 81 , 82 , 84 , 85 , 87 , 88 , 90 , 91 , 93 , 94 , 96 , 97 , 99 , 100 , 103 , 110 , 112 , 121	Added new prompt and headings for ICD codes and changed multiple instances of ICD-9 to ICD	
	multiple pages	Changed AAC to Austin Information Technology Center (AITC) throughout manual	
08/2000	LR*5.2*260	Initial release	

(This page included for two-sided copying.)

Preface

The Veterans Health Information Systems and Architecture (VISTA) Laboratory Hepatitis C Extract and Emerging Pathogens Initiative (EPI) Technical and User Guide for patch LR*5.2*260 provides assistance for installing, implementing, and maintaining the patch LR*5.2*260.

The ICD-10 Remediation patch LR* 5.2*421 makes the following changes to the Emerging Pathogens Initiative (EPI) application:

- The following fields and screens have been updated to refer to “ICD” rather than “ICD9”:
 - Laboratory Search/Extract Parameters Input screens
 - Enter/Edit Local Pathogens screens
 - Detailed Verification Report
 - Help text
- Within the Enter/Edit Local Pathogens and Laboratory Search/Extract Parameters Input screens, users are prompted to specify a code set on which to search prior to entering an ICD code. Based on this input, the system will only allow ICD-9 entry or ICD-10 entry.
- The Pathogen Inquiry option has been modified to list both ICD-9 and ICD-10 codes.
- The Generate Local Report/Spreadsheet option has been modified to include both the Diagnosis Code Set Designation and the Diagnosis Code.
- HL7 Reports that are sent to Austin Information Technology Center (AITC, formerly AAC) have been modified to include ICD-10 Codes and Descriptions, which are included in the DG1 HL7 Segments.

Recommended Users

- Veterans Health Administration (VHA) facility Information Resource Management (IRM) staff
- Laboratory Information Manager (LIM), Lab ADPACs, or experts in lab tests used by the Laboratory package
- Representative from the Microbiology section in support of the Emerging Pathogens Initiative (EPI) and the three new Hepatitis pathogens (i.e., director, supervisor, or technologist)
- Total Quality Improvement/Quality Improvement/Quality Assurance (TQI/QI/QA) staff or person at the VHA facility with similar function

Technical and User Guide Distributions

The *VISTA* Laboratory Hepatitis C Extract and EPI Technical and User Guide for patch LR*5.2*260 is available in Portable Document Format (PDF) (i.e., LR_260TUG.PDF) at the following locations:

Anonymous Software Accounts

- | | | |
|------------------|---------------|--------------------|
| • Albany | 152.127.1.5 | anonymous.software |
| • Hines | 152.129.1.110 | anonymous.software |
| • Salt Lake City | 152.131.2.1 | anonymous.software |

VISTA Laboratory Home Page

- http://vista.med.va.gov/softserv/clin_nar.row/lab/index.html

Technical and User Guide Orientation

Pre-Installation Information - This section contains information that should be recognized prior to installation Patch LR*5.2*260 Hepatitis C Extract.

Installation Instructions - This section provides information regarding the installation process for Patch LR*5.2*260 Hepatitis C Extract.

Post Installation Instruction - This section provides all the necessary information required for the IRM and LIM personnel to implement the Laboratory Search/Extract software application.

EPI and Hepatitis Pathogens User Guide - This user guide provides the necessary information for implementing and maintaining the EPI and Hepatitis pathogens search/extract criteria.

Appendix A - This section provides instructions for editing/printing files, using input screens, linking data, and a Workload and Suffixes Codes Request Form.

Appendix B - This section provides helpful hints and examples regarding for EPI and Hepatitis pathogens preferred methods, transmissions, and data validation suggestions.

Appendix C - This section contain a copy of VHA DIRECTIVE 2000-019 for the Installation of Clinical Reminders 1.5 Software and Laboratory LR*5.2*260 Hepatitis C Extract patch.

Screen Dialogue

Screen Captures - The computer dialogue appears in courier font, no larger than 10 points. **Example:** Courier font 10 points

User Response - User entry response appears in boldface type Courier font, no larger than 10 points. **Example:** **Boldface type**

Return Symbol - User response to computer dialogue is followed by the **<RET>** symbol that appears in Courier font, no larger than 10 points, and bolded. **Example:** **<RET>**

Tab Symbol - User response to computer dialogue is followed by the symbol that appears in Courier font, no larger than 10 points, and bolded. **Example:** **<Tab>**

Related Manuals

Review the following guides and manuals prior to installing and implementing the Laboratory Hepatitis C Extract patch LR*5.2*260.

- **VISTA** Laboratory Search/Extract Patch LR*5.2*175 Technical and User Guide
- Hepatitis C Extract Installation and Setup Guide for PXR*1.5*1, LR*5.2*260, PSJ*7*5*48, PSO*7*45
- Clinical Reminders V. 1.5 Installation Guide
- Clinical Reminders V. 1.5 Manager Manual
- Kernel V. 8.0 Systems Manual

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Overview

Emerging Pathogens Initiative (EPI)

The Veterans Health Administration (VHA) Headquarters Infectious Disease Program Office Emerging Pathogens Initiative is to identify with new antibiotic-resistant and otherwise problematic pathogens within the Veterans Health Administration (VHA) facilities. Using this objective information, plans may be formulated on a national level for intervention strategies and resource needs. Results of aggregate data may also be shared with appropriate public health authorities for planning on the national level for the non-VA and private health care sectors.

The VHA Headquarters Infectious Disease Program Office previously assisted with identifying the following 14 emerging pathogens for patient seeking care in a VHA facility and to report the data to the AITC database. This was accomplished by the **VISTA** Laboratory Emerging Pathogens Initiative (EPI) Patch LR*5.2.132 and Laboratory Search/Extract patch LR*5.2*175 software:

<i>Candida</i>	<i>Legionella</i>
<i>Clostridium difficile</i>	Leishmaniasis
Creutzfeldt-Jakob Disease	Malaria
<i>Cryptosporidium</i>	Pen- Res Pneumococcus
Dengue	<i>Streptococcus</i> -Group A
<i>E. coli</i> O157:H7	Tuberculosis
<i>Hepatitis C Antibody Pos</i>	<i>Vanc-Res Enterococcus</i>

The Under Secretary for Health (USH) published an information letter on standards for evaluation and testing for Hepatitis C Virus in June 1998 (IL-10-98-013-- Hepatitis C: Standard for Provider Evaluation and Testing at <http://vaww.va.gov/publ/direc/health/infolet/109813.doc>). The VHA policy outlines HCV background, infection, its growth as a national problem, transmission, and antibody development. The USH information letter directed that “all patients will be evaluated with respect to risk factors” for HCV. Clinicians are required to record this assessment in the patients’ medical records. Based on risk factors, antibody testing should be used according to an algorithm included in the policy letter. According to the VHA Chief Consultant for its Acute Care Strategic Health Care Group, the USH intends that each patient seeking care in a VHA facility will be screened for HCV risk factors. VISN officials were advised of this.

Hepatitis C Assessment for Risk

The DVA Headquarters Infectious Disease Program Office is to support the tracking of assessment of risk for hepatitis C infection for patients seeking care in VHA facilities. This will be accomplished through the EPI. Further, 3 new emerging pathogen entities (Hepatitis A Antibody POS, Hepatitis B POS, Hepatitis C Antibody NEG), along with the already existing Hepatitis C Antibody POS will be added to EPI Lab Search/Extract activities to give a more comprehensive estimate of hepatitis overall in the VHA.

Associated VISTA Software Applications

The VISTA Laboratory LR*5.2*260 Hepatitis C Extract, PXR*1.5*1 Hepatitis C Extract, PSJ*7*48 Hepatitis C Extract, and PSO*7*45 Hepatitis C Extract patches were developed in a combined effort to support the tracking of assessment of risk for hepatitis C infection. This data, along with the three **new** Hepatitis pathogens data will automatically be provided without any additional individual data entry at the VHA facility level. Patch LR*5.2*260 searches, extracts, and processes the three **new** Hepatitis pathogens and the existing Hepatitis C Antibody POS defined data criteria from several VISTA databases. Laboratory Patch LR*5.2*260 automatically transmits the data to AITC for processing and coupling with denominator data related workload. The VAHQ Infectious Disease Program Office data retrieval and analysis can then be accomplished.

VISTA BLOOD BANK SOFTWARE

The VISTA Laboratory LR*5.2*260 Hepatitis C Extract patch **does not** contain any changes to the VISTA Blood Bank Software as defined by VHA DIRECTIVE 99-053 titled VISTA BLOOD BANK SOFTWARE.

Austin Information Technology Center Database Processing

The Austin Information Technology Center (AITC) creates two file structures, both in Statistical Analysis System (SAS) file format. These two file structures are used as a source of data for the VHA Headquarters Infectious Disease Program Office. The data is available to the VHAQ Infectious Diseases Program Office to be used for analysis and reporting. The two file structures are referred to as the “Numerator Files” and “Denominator File” because of their planned utilization.

Numerator Files:

The Numerator files contain accumulation of data sent by all VHA facilities. The Numerator file information is specific to unique patients with a VHA Headquarters Infectious Diseases Program Office designated emerging pathogen. Emerging pathogen data entries are flagged through the *VISTA* Laboratory Search/Extract software process. Numerator files data are collected and transmitted to AITC monthly by VHA facilities.

Denominator File:

The Denominator file provides the VHA Headquarters Infectious Diseases Program Office total and unique counts of patients each VHA facility. The individual files that these data elements are extracted from are the National Patient Care (NPC), Inpatient Treatment File (PTF), VHA Work Measurement (VWM), and Cost Distribution Report (CDR) systems.

The data elements are:

- * Unique SSN served (inpatient and outpatient together)
- * Total # of discharges
- * Total unique SSN discharges
- * Inpatient hospital days
- * Inpatient ICU days
- * Unique SSN encounters for both inpatient and outpatient

Unique and total counts are available for the individual months, current month, and previous eleven months for a year's set of totals, current month, and previous three month periods for a quarter's set of totals.

EPI Data Transmission

Emerging Pathogens (as defined by VAHQ) act as triggers for data acquisition for the LR*5.2*260 patch. The software then retrieves relevant, predetermined, and patient-specific data for transmission to the AITC database repository. Once at that location, the data are analyzed using Statistical Analysis System (SAS)-based statistical software. VAHQ Reports may then be generated for appropriate use and distribution at the national level.

With the installation of the new LR*5.2*260 patch, automated data transmissions will occur. Receipt of this transmission at the AITC queue will trigger a confirmation message back to the originating site to “confirm” that data has been sent. Then at the next processing cycle (25th of the month), a processing/error report will also be generated and sent back to the originating site. This processing/error report will serve as the ultimate “confirmation” that data has been accepted. If there is a fatal error in any segment of the message, the entire message will be rejected and must be resent manually. Warning codes/errors are accepted into the data set, but serve to remind the originating site that a correction of the process generating the error may be needed.

NOTE: The daily NCH data transmissions are no longer necessary and the NCHP program office has requested that we terminate the transmissions. This will be done during the post-init phase and does not require any user intervention.

AITC Transmission Reports

EPI Confirmation Mailman Message

An EPI Confirmation mailman message is sent from the AITC, upon receipt of the VHA facilities EPI monthly transmission via the EPI-REPORT mail group. The EPI-REPORT mail group members are notified that the original EPI and Hepatitis pathogens HL7 format mailman message data transmission has been received by AITC for processing.

NOTE: This EPI Confirmation mailman message ONLY means that the sending VHA facility data transmission has been received by the AITC for processing.

EPI Processing Report Mailman Message

The EPI Processing Report mailman message itemizes all transmissions received by AITC, document the records status as either being accepted or rejected (with the reason code identified). Examples of the “Tables of Rejects and Errors and/or Warning Codes” are located in the Appendix - B section of this guide.

Enhancements

The **VISTA** Laboratory Hepatitis C Extract patch LR*5.2*260 is an enhancement to the Laboratory Emerging Pathogens Initiative (EPI) patch LR*5.2*132 and Laboratory Search/Extract Patch LR*5.2*175 software application. The enhancements support the tracking of assessment for risk for Hepatitis C infection and three new Hepatitis pathogens entities (i.e., Hepatitis A Antibody POS, Hepatitis B POS, Hepatitis C Antibody NEG).

NOTE: The daily NCH data transmissions are no longer necessary. The National Center for Health Promotion (NCHP) program office has requested that we terminate the transmissions. The NCH CHOLESTEROL and NCH PAP SMEAR entries will be inactivated in the LAB SEARCH/EXTRACT file (#69.5). This is done during the post-init phase and does not require any user intervention.

1. Patch LR*5.2*260 **automatically** extracts information about the three **new** emerging pathogens entities (Hepatitis A Antibody POS, Hepatitis B POS, Hepatitis C Antibody NEG). This is done without the necessity of any manual data entry once the Lab Search/Extract Parameter Setup [LREPI PARAMETER SETUP] option parameter descriptions has been set up for the three **new** Hepatitis pathogens.
2. Patch LR*5.2*260 **automatically** searches, extracts, and processes EPI and the three **new** Hepatitis pathogens data along with information about assessment of risk for infection with Hepatitis C, pharmacy-based information and other laboratory-based information, from the following **VISTA** software applications, files, and routines:

VISTA Software Applications	VISTA Files and Routines
Laboratory Version 5.2	LAB DATA file (#63) (i.e., containing verified lab test data results)
PIMS Version 5.3	PATIENT file (#2) and PTF file (#45)
Social Work Version 3.0	Routine - \$\$ HOMELESS^SOWKHIRM
Clinical Reminders Version 1.5	Routine - D PATS^PXRMAXX

3. Patch LR*5.2*260 exports the **new** LREPI REMINDER LINK file (#69.51). This **new** file points to the Clinical Reminders V. 1.5 software application, REMINDER DEFINITION file (#811.9), NAME field (#.01) data entries (i.e., VA-NATIONAL EPI LAB EXTRACT, VA-NATIONAL EPI RX EXTRACT, VA-HEP C RISK ASSESSMENT) used by the three **new** Hepatitis A Antibody POS, Hepatitis B POS, Hepatitis C Antibody NEG and the existing Hepatitis C Antibody POS pathogens. Entries in the **new** LREPI REMINDER LINK file (#69.51) are used to determine which Clinical Reminders data.

New LREPI REMINDER LINK file (#69.51) points to the following file and field entries:		
REMINDER DEFINITION file (#811.9)	NAME field (#.01)	Clinical Reminders data entries used for Hepatitis pathogens
		VA-NATIONAL EPI LAB EXTRACT
		VA-NATIONAL EPI RX EXTRACT
		VA-HEP C RISK ASSESSMENT

4. Patch LR*5.2*260 **automatically** exports data entries to seven fields of the LAB SEARCH/EXTRACT file (#69.5), for the three **new** Hepatitis A Antibody POS, Hepatitis B POS, and Hepatitis C Antibody NEG pathogens **ONLY**. The following chart list the seven fields and data entries that are **automatically** exported by this patch:

LAB SEARCH/EXTRACT file (#69.5), fields automatically being exported with data:	Data Entries
NAME field (#.01)	Hepatitis A Antibody POS, Hepatitis B POS, and Hepatitis C Antibody NEG
REFERENCE NUMBER field (#69.5, .05)	Hepatitis A Antibody POS- Ref #16 , Hepatitis B POS- Ref #17 , and Hepatitis C Antibody NEG- Ref #15
ACTIVE field (#69.5, 1)	NO
CYCLE field (69.5, 10)	Monthly
LAG DAYS field (#69.5, 10.5)	15
PROTOCOL field (#69.5, 12)	LREPI
Follow PTF field (#69.5, 13)	YES

5. Patch LR*5.2*260 **automatically** exports the three **new** Hepatitis pathogen entries in LAB SEARCH/EXTRACT file (#69.5), LAB TEST field (#2).

The table below lists the three **new** Hepatitis pathogens the and existing Hepatitis C Antibody POS emerging pathogen and the Lab Search/Extract parameter setup entries. The LAB SEARCH/EXTRACT parameter (second column) is an example as other sites may have different names for tests. Also the second column does not use the indicator mechanism of whether the result CONTAINS the POS or is EQUAL TO the POS, etc)

Example:

LAB SEARCH/EXTRACT file (#69.5) Hepatitis pathogens entries	LAB SEARCH/EXTRACT parameter setup required lab tests for each Hepatitis pathogens
Hepatitis A Antibody NEG	HEP A ANTIBODY-TOTAL REACTIVE HEP A ANTIBODY(IgM) POS HEPATITIS A AB(IGG)D/C(2/99) POS HEPATITIS A AB(IGG)D/C(2/99) Pos HEPATITIS A AB(IGG)D/C(2/99) P HEPATITIS A AB(IGG)D/C(2/99) p HEP A ANTIBODY-TOTAL R
Hepatitis B Antibody NEG	HEP B SURFACE Ag POS HEP B SURFACE AB POS HEP B CORE AB(IgM) POS HEP Be ANTIGEN POS HEP Be ANTIGEN Pos HEP Be ANTIGEN p HEP Be ANTIGEN P
Hepatitis C Antibody NEG	HEP C ANTIBODY NEG HEP C ANTIBODY SEE COMMENTS HEP C ANTIBODY * HEP C ANTIBODY #
Hepatitis C Antibody POS	Hepatitis C Antibody POS

NOTE: LAB SEARCH/EXTRACT file (#69.5) contains the previous EPI pathogens and the three **new** Hepatitis pathogens defined search and extract criteria. This file should **ONLY** be edited using the Lab Search/Extract Parameter Setup [LREPI PARAMETER SETUP] option.

6. Patch LR*5.2*260 **automatically** searches, extracts, and processes all previous and newly EPI-defined data within the VHA facility on the 15th of each month.

7. The new Patch LR*5.2*260 has been enhanced to **automatically** transmit EPI-related data to the AITC via HL7 format mailman messages each time the option is run. This will occur from either automated runs of data or manual runs of the data {Lab Search/Extract Manual Run (Enhanced) [LREPI ENHANCED MANUAL RUN]}.

NOTES:

Transmissions to AITC after 6:00 pm are processed the next day.

Please DO NOT run the Lab Search/Extract Manual Run (Enhanced) [LREPI ENHANCED MANUAL RUN] option to transmit EPI and Hepatitis pathogens data on Wednesdays of PAY ROLL weeks. These transmissions may cause a delay in processing the PAY ROLL data.

8. Patch LR*5.2*260 **automatically** adds two **new** segments to the HL7 transmissions. The new segments are:

ABBREVIATED NAME: ZXE - FULL NAME: Pharmacy Prescription Order.
This segment will report Pharmacy data consisting of the Drug Name, NDC, and Days Supply.

ABBREVIATED NAME: DSP - FULL NAME: Display Data
This segment will report Clinical Reminders Hepatitis C Risk Assessment Data, along with associated laboratory tests and results of SGOT, SGPT and bilirubin.

Pre-Installation Information

IRM Staff

An IRM staff is required for reviewing mail groups and menu assignments.

Laboratory Staff

It is **highly recommended** that the following person (s) jointly participate in reviewing the parameter descriptions:

- Laboratory Information Manager (LIM)
- Representative from the Microbiology section for the Emerging Pathogens Initiative (i.e., director, supervisor, or technologist)
- Total Quality Improvement/Quality Improvement/Quality Assurance (TQI/QI/QA) staff (or person at the facility with similar function)

Hardware and Operating System Requirements

VISTA software operates on two hardware platforms. The hardware platforms are listed in the mini-computer category, which provides multi-tasking and multi-user capabilities. The hardware platforms systems used are:

Digital Equipment Corporation (DEC) Alpha Series

Digital Equipment Corporation (DEC) Alpha series is using the DEC Open Virtual Memory System (VMS), Version 6.1 or greater, operating system. This platform uses the DEC System Mumps (DSM), Version 6.3 or greater, of American National Standards Institutes (ANSI) of Massachusetts General Hospital Utility Multi-Programming System (MUMPS) also known as 'M' language. MUMPS is a Federal Information Processing Standard (FIPS) language.

Personal Computer (PC) System

Personal Computer (PC) System with 486 or Pentium computer processor chip is using the Microsoft Disk Operating System (MS-DOS). The platform uses Open-M, of the American National Standards Institutes (ANSI) of Massachusetts General Hospital Utility Multi-Programming System (MUMPS) also known as 'M' language. MUMPS is a Federal Information Processing Standard (FIPS) language.

System Performance Capacity

LR*5.2*260 is an informational patch. There are no changes in the performance of the system.

Installation Time

Installation time is less than 2 minutes during off peak hours and less than 5 minutes during peak hours.

Users on the System

Users may remain on system and no options need to be placed out of service.

Namespace

The Laboratory LR*5.2*260 Hepatitis C Extract patch namespace is Laboratory's LR.

Database Integration Agreements (DBIAs)

The following DBIAs were approved for Laboratory LR*5.2*260 Hepatitis C Extract patch:

Reference to ^PSDRUG supported by IA #221-A
Reference to ^DGPT supported by IA #418
Reference to ^ORD supported by IA #872
Reference to ^DD supported by IA #999
Reference to ^ICD9 supported by IA #10082
Reference to ^XLFSTR supported by IA #10104
Reference to ^PXD(811.9 supported by IA #1256
Reference to ^FIDATA^PXRМ supported by IA #3134
Reference to ^PATS^PXRМXX supported by IA #3134
Reference to ^DIC(21 supported by IA #2504

VISTA Software Requirements

The following software applications are **must** be installed prior to the installation of Laboratory Hepatitis C Extract patch LR*5.2*260:

Software Applications	Versions (or Greater)
VA FileMan	21 (with patches installed)
Kernel	8.0 (with patches installed)
Laboratory	5.2 (with patches installed)
PIMS	5.3 (with patches installed)
HL7	1.6 (with patches installed)
Social Work	3.0 (with patches installed)
MailMan	7.1 (with patches installed)
Clinical Reminders	1.5 (with patches installed)

Required Patches

Prior to the installation of Laboratory Hepatitis C Extract patch LR*5.2*260, the following patches **MUST** be installed:

Software Applications	Patches
Laboratory V. 5.2	LR*5.2*175 LR*5.2*242
Clinical Reminders V. 1.5	(u) PXR*1.5*1

In addition, prior to installation of patch LR*5.2*421, the following patches must be installed:

Software Applications	Patches
Laboratory V. 5.2	LR*5.2*315 LR*5.2*422 LR*5.2*429
Lexicon Utility	LEX*2*80
Global Coding System	ICD*18*57

Health Level Seven (HL7)

Laboratory Hepatitis C Extract patch LR*5.2*260 uses the **VISTA** HL7 V. 1.6 software application to transmit EPI data to the AITC, formerly AAC.

Protocols

LREPI: This event driver protocol defines the associated parameters required for building HL7 messages that are used to transmit EPI data to the AITC, formerly AAC.

LREPI CLIENT: This subscriber protocol defines the parameter required by the HL7 application that determines where to send the HL7 formatted message containing the emerging pathogens data.

Domain

The Q-EPI-MED.GOV domain is used for transmitting EPI data to AITC.

Mail Groups

EPI mail group - is used by the VHA facilities to transmit EPI HL7 format mailman messages to AITC and for AITC to transmit EPI Confirmation mailman messages back to the sending VHA facilities once the EPI HL7 format mailman messages data transmission has been received by AITC.

EPI-Report mail group – is used to receive the Emerging Pathogens Verification Report and the EPI Processing Report mailman messages sent from AITC. The members of this mail group will assist in the EPI data validation and corrections process.

Backup Routines

It is highly recommended that a backup of the transport global be performed before installing Patch LR*5.2*260.

Routine List

LREPI	LREPI4	LREPIRP
LREPI1	LREPIAK	LREPIXDG
LREPI1A	LREPICD	LR260 (will be deleted during install)
LREPI2	LREPILK	LR421P
LREPI3	LREPIPH	

LAB SEARCH/EXTRACT file (#69.5)

The LAB SEARCH/EXTRACT file (#69.5), LAB TEST field (#2) was edited to add the three **new**, “Hepatitis A Antibody POS”, “Hepatitis B POS”, and “Hepatitis C Antibody NEG”) pathogens. This file contains search criteria used by the

Laboratory Search/Exact software. This file should ONLY be edited using the Lab Search/Extract Parameter Setup [LREPI PARAMETER SETUP] option.

New LREPI REMINDER LINK file (#69.51)

The **new** LREPI REMINDER LINK file (#69.51) points to the Clinical Reminders V. 1.5 software application, REMINDER DEFINITION file (#811.9), NAME field (#.01) data entries (i.e., VA-NATIONAL EPI LAB EXTRACT, VA-NATIONAL EPI RX EXTRACT, and VA-HEP C RISK ASSESSMENT) used by the three **new** Hepatitis A Antibody POS, Hepatitis B POS, Hepatitis C Antibody NEG, and the existing Hepatitis C Antibody POS pathogens. Entries in the **new** LREPI REMINDER LINK file (#69.51) is used to determine which Clinical Reminders data entries are used to generate data for the Hepatitis emerging pathogens.

Example:

```
STANDARD DATA DICTIONARY #69.51 -- LREPI REMINDER LINK FILE    07/20/00 PAGE 1
STORED IN ^LAB(69.51, (3 ENTRIES)    SITE: Dallas ISC - Development Account
UCI: VAH,DEV
```

DATA ELEMENT	NAME TITLE	GLOBAL LOCATION	DATA TYPE
-----------------	---------------	--------------------	--------------

This file holds a pointer to the REMINDER DEFINITION (#811.9) file for use by the Emerging Pathogens Initiative (EPI). The entries in this file are used to determine which Clinical Reminders will be used to generate data for the Hepatitis C registry.

```
DD ACCESS: @
RD ACCESS:
WR ACCESS: #
DEL ACCESS: #
LAYGO ACCESS: #
AUDIT ACCESS:
```

```
CROSS
REFERENCED BY: REMINDER(B)
```

```
CREATED ON: JUN 2,2000 by LABUSER, ONE
```

```
69.51,.01    REMINDER    0;1 POINTER TO REMINDER DEFINITION FILE
                (# 811.9) (Required)
```

```
POINTER TO CLINICAL REMINDER
LAST EDITED:    JUN 02, 2000
HELP-PROMPT:    Select an entry from the REMINDER DEFINITION
                (#811.9) file.
DESCRIPTION:    This field holds a pointer to the REMINDER
                DEFINITION (#811.9) file. These entries will
                be used to determine which Clinical Reminders
                will be used to generate data for the
                Hepatitis C registry.
```

Pre-Installation Information

```
CROSS-REFERENCE: 69.51^B
                  1)= S ^LAB(69.51,"B",$E(X,1,30),DA)=" "
                  2)= K ^LAB(69.51,"B",$E(X,1,30),DA)
```

FILES POINTED TO	FIELDS
REMINDER DEFINITION (#811.9)	REMINDER (#.01)
INPUT TEMPLATE(S):	
PRINT TEMPLATE(S):	
SORT TEMPLATE(S):	
FORM(S)/BLOCK(S):	

Routine Summary

Example:

ROUTINE SUMMARY

=====

The following routines are distributed and installed with Clinical Reminders patch PXRM*1.5*1.

The second line of each routine now looks like:

```
<tab>;;5.2;LAB SERVICE;**[patch list]**;;Sep 27, 1994
```

CHECK^XTSUMBLD Results

Routine Name	Before Patch	After Patch	Patch List
-----	-----	-----	-----
LR260	NEW	10238627	260
LREPI	11741568	14217525	132,175,260
LREPI1	10215540	10654552	132,157,175,260
LREPI1A	5536163	5834647	175,260
LREPI2	5729687	7199135	132,157,175,242,260
LREPI3	3617464	5462995	132,175,260
LREPI4	1715994	1903453	132,175,260
LREPIAK	2866307	3640656	175,260
LREPIPH	NEW	5818757	260
LREPIRP	6008472	5973015	132,157,175,260
LREPISRV	NEW	12552990	260

Installation Process

Laboratory Hepatitis C Extract patch LR*5.2*260 is an informational patch only. The routines referenced in this patch are distributed and installed with Clinical Reminders V. 1.5 patch PXR*1.5*1.

NOTE: See the Hepatitis C Extract Installation and Setup Guide for an example of the combined installation process for PXR*1.5*1 Hepatitis C Extract, LR*5.2*260 Hepatitis C Extract, PSO*7*45 Hepatitis C Extract, PSJ*7*5*48 patches.

NOTE: The daily NCH data transmissions are no longer necessary. The National Center for Health Promotion (NCHP) program office has requested that we terminate the transmissions. The NCH CHOLESTEROL and NCH PAP SMEAR entries will be inactivated in the LAB SEARCH/EXTRACT file (#69.5). This is done during the post-init phase and does not require any user intervention.

(This page included for two-sided copying.)

Post Installation Instructions

The post installation instructions **should** be followed as recommended. This will ensure a successful implementation of the software.

IRM Staff

Step 1. DSM/Alpha and Open M Sites may now re-enable journaling. If using a mapped system, rebuild the map set now.

Step 2. Verify that the Lower Level Protocol of the HL7 V. 1.6 background job for EPI is running.

Select Systems Manager Menu Option: **HL7 Main<RET>** Menu

- 1 V1.5 OPTIONS ...
- 2 V1.6 OPTIONS ...
- 3 Activate/Inactivate Application
- 4 Print/Display Menu ...
- 5 Purge Message Text File Entries

Select HL7 Main Menu Option: **2<RET>** V1.6 OPTIONS

- 1 Communications Server ...
- 2 Interface Workbench
- 3 Message Requeuer

Select V1.6 OPTIONS Option: **1<RET>** Communications Server

- 1 Edit Communication Server parameters
- 2 Manage incoming & outgoing filers ...
- 3 Monitor incoming & outgoing filers
- 4 Start LLP
- 5 Stop LLP
- 6 Systems Link Monitor
- 7 Logical Link Queue Management ...
- 8 Report

Select Communications Server Option: **4<RET>** Start LLP

This option is used to launch the lower level protocol for the appropriate device. Please select the node with which you want to communicate

Select HL LOGICAL LINK NODE: **EPI-LAB<RET>**

The LLP was last shutdown on JAN 30, 1997 12:06:19.

Select one of the following:

- F FOREGROUND
- B BACKGROUND
- Q QUIT

Method for running the receiver: **B//<RET>** ACKGROUND

Job was queued as 131225.

Step 3. Verify that the Lab Search/Extract Primary Menu [LREPI SEARCH EXTRACT MENU] is assigned to designate users.

NOTE: It is highly recommended that the Laboratory Information Manager (LIM), a representative from the Microbiology section (director, supervisor, or technologist) and a Total Quality Improvement/Quality Improvement/Quality Assurance (TQI/QI/QA) staff (or person at the facility with similar function) be assigned the Lab Search/Extract Primary Menu [LREPI SEARCH EXTRACT MENU]. These will be the individual(s) responsible for initially setting the Lab Search/Extract parameters descriptions and doing periodic reviews of the parameters descriptions to assure they are current.

NOTE: Any change in the EPI Lab Search/Extract parameter set-up for the four hepatitis pathogens (Hepatitis A Antibody POS, Hepatitis B POS, Hepatitis C Antibody NEG, or Hepatitis C Antibody POS) **must** have a corresponding change in the Clinical Reminders VA-National EPI Lab Extract Reminders logic.

Step 4. Verify that the Lab Search/Extract Nightly Task [LREPI NIGHTLY TASK] option is schedule to run each night. This option will build HL7 messages and send them to the defined locations specified by the LREPI protocol.

Step 5. PLEASE DO NOT PERFORM THIS STEP UNTIL SPECIFICALLY REQUESTED TO DO SO BY THE VHA CIO HEP-C IMPLEMENTATION TEAM. After the Hepatitis Extract Reminder definitions and Lab Search/Extract parameter description setups for the three **new** Hepatitis pathogens have been completed by the LIM staff or designate user. EPI and Hepatitis pathogens data for your VHA facility will be REVIEWED by the VHA CIO HEP-C IMPLEMENTATION TEAM. At this time you will be asked to add XXX@Q-EPI.MED.VA.GOV to the MEMBERS – REMOTE field (#12) of the MAIL GROUP file (#3.8) for the EPI mail group.

Example:

```
Select VA FileMan 22.0

Select OPTION: 1<RET>ENTER OR EDIT FILE ENTRIES

INPUT TO WHAT FILE: MAIL GROUP//<RET>
EDIT WHICH FIELD: ALL// MEMBERS - REMOTE      (multiple)
  EDIT WHICH MEMBERS - REMOTE SUB-FIELD: ALL//<RET>
THEN EDIT FIELD:<RET>

Select MAIL GROUP NAME: EPI<RET>
  1   EPI
  2   EPI-REPORT
CHOOSE 1-2: 1   EPI<RET>
Select REMOTE MEMBER: S.HL V16 SERVER@DEV// XXX@Q-EPI.MED.VA.GOV<RET>
  Are you adding 'XXX@Q-EPI.MED.VA.GOV' as a new REMOTE MEMBER (the
  2ND for this MAIL GROUP)? No// Y<RET>(Yes)
```

LIM Staff

NOTE: It is highly recommended that the Laboratory Information Manager (LIM), a representative from the Microbiology section (director, supervisor, or technologist) and a Total Quality Improvement/Quality Improvement/Quality Assurance (TQI/QI/QA) staff (or person at the facility with similar function) be assigned the Lab Search/Extract Primary Menu [LREPI SEARCH EXTRACT MENU]. These will be the individual(s) responsible for initially setting the Lab Search/Extract parameters descriptions and doing periodic reviews of the parameters descriptions to assure they are current.

Step 1. Review the three **new** Hepatitis A Antibody POS, Hepatitis B POS, and Hepatitis C Antibody NEG pathogens descriptions and input screens examples **prior** to setting up the Lab Search/Extract parameters. (*Descriptions and input screens examples are contained in the EPI and Hepatitis Pathogens User Guide section of this guide*).

Step 2. Use the Lab Search/Extract Parameter Setup [LREPI PARAMETER SETUP] option to setup the three **new** Hepatitis A Antibody POS, Hepatitis B POS, and Hepatitis C Antibody NEG pathogens parameter descriptions (i.e., as specified by the VAHQ Infectious Disease Program Office). (*See the EPI and Hepatitis Pathogens User Guide section in this guide for examples on setting up the parameters*).

NOTE: Take this opportunity to review the already existing Hepatitis C POS parameter set-up to assure that it is up-to-date and correct. Again, if there is any changes in any of the four hepatitis pathogens in the Lab Search/Extract parameter set up a concomitant change in the findings **must** occur in the Clinical Reminders.

NOTE: LAG DAYS **must** be set at **15** for all EPI-defined pathogens, including three **new** Hepatitis pathogens.

Step 3. Upon receipt of the VHA facilities EPI and Hepatitis pathogens HL7 format mailman message monthly transmission to AITC, individual EPI Confirmation mailman messages are sent by AITC to the sending VHA facilities EPI mail group. Members of this mail group are being notified that EPI and Hepatitis pathogens HL7 format mailman message data transmission has been received by AITC for processing. *(See the EPI and Hepatitis Pathogens User Guide Appendix-B section of this guide for examples of the EPI Confirmation mailman messages).*

NOTE: EPI Confirmation mailman messages ONLY means that the sending VHA facility data transmission has been received by AITC for processing.

Step 4. EPI-REPORT mail group members will receive an Emerging Pathogens Verification Report mailman message (i.e., in a human readable format) on the 15th of each month. The report should assist in validating the accuracy of the EPI data transmission to AITC. *(See the EPI and Hepatitis Pathogens User Guide Appendix-B section of this guide for examples of the Verification Report mailman messages).*

Step 5. After validating the Emerging Pathogens Verification Report mailman message for accuracy, make data corrections as deemed necessary to the associated VISTA software applications data fields entries (e.g., complete social security numbers, valid Date of Births, Period of Services, etc.).

Step 6. Use the Lab Search/Extract Manual Run (Enhanced) [LREPI ENHANCED MANUAL RUN] option to generate and **automatically** transmit EPI corrections to the AITC via HL7 format mailman messages. This option may be **manually** initiated as often as necessary. EPI and the three **new** Hepatitis pathogens data transmissions to AITC will occur each time the option is run. *(See the EPI and Hepatitis Pathogens User Guide Appendix-B section of this guide for an example on how to run the option).*

NOTE: EPI and EPI-REPORT mail members should be advised to expect a significant increase in the amount of data acquired with the new version of EPI Laboratory Search/Extract coming across in the HL7 mailman messages and Verification Report.

NOTE: Please DO NOT transmit EPI and Hepatitis pathogens data on Wednesdays of PAY ROLL weeks. These transmissions may cause a delay in processing PAY ROLL data.

Step 7. EPI-REPORT mail group members will receive an EPI Processing Report mailman message at the end of AITC processing cycle (i.e., the 25th of each month). The EPI Processing Report mailman message confirms that EPI and Hepatitis emerging pathogens data has been processed and lists any errors and/or warning codes requiring corrections. The EPI Processing Report mailman message will ultimately determine whether EPI and Hepatitis pathogens data has been accepted by the AITC to be processed and placed into the EPI Statistical Analysis System (SAS) files. *(See the EPI and Hepatitis Pathogens User Guide Appendix-B section of this guide for the EPI Processing Report mailman message example).*

Step 8. Review the Table of Reject of Errors and/or Warning Codes definitions and make corrections as needed. *(See the EPI and Hepatitis Pathogens User Guide Appendix-B section of this guide for examples).*

NOTE: Use the Lab Search/Extract Manual Run (Enhanced) [LREPI ENHANCED MANUAL RUN] option to **manually** transmit the EPI and Hepatitis pathogens data corrections to the AITC. *(See the EPI and Hepatitis Pathogens User Guide Appendix-B section of this guide for examples).*

NOTE: For patch LR*5.2*421 installation instructions, please refer to the ICD-10 Release Notes for LR*5.2*421.

Health Level Seven (HL7) Protocol

The **VISTA** Laboratory Hepatitis C Extract patch LR*5.2*260 uses Laboratory, PIMS, Pharmacy, Clinical Reminders, and Social Work databases for the EPI and Hepatitis C search/extract criteria. The **VISTA** HL7 software is used to transmit the EPI and Hepatitis C data to the AITC database.

3. General Specifications

3.1 Communication Protocol

The electronic **VISTA** MailMan software application is used as the communications protocol for sending the EPI HL7 mailman messages between **VISTA** database and AITC database.

3.2 Application Processing Rules

The HL7 protocol itself describes the basic rules for application processing by the sending and receiving systems. The HL7 Version 2.2 protocol is used. The Observational Results Unsolicited (ORU) message is sent using the HL7 batch protocol.

3.3 Message

The following HL7 mail message is used to support the exchange of data:

ORU Observational Results Unsolicited

3.4 Segments

The following HL7 segments are used to support the exchange of data:

DG1	Diagnosis	OBX	Observation Results
DSP	Display Data	PID	Patient Identification
MSH	Message Header	PV1	Patient Visit
NTE	Notes and Comments	ZXE	Pharmacy Prescription Order
OBR	Observation Request		

Patch LR*5.2*421 updates the DG1 segment of HL7 messages to the AITC to include an ICD-9 or ICD-10 code set indicator.

Example:

```
DG1|1||A90.~DENGUE FEVER [CLASSICAL DENGUE]~I10|20121023183419-0400||PR
DG1|2||A91.~DENGUE HEMORRHAGIC FEVER~I10|20121023183419-0400||
DG1|3||A93.8~OTHER SPECIFIED ARTHROPOD-BORNE VIRAL FEVERS~I10|20121023183419-0400||
```

3.5 Fields

The following HL7 fields are used to support the exchange of data for each of the segments listed in the 3.4 Segments:

SEGMENT	FIELD SEQUENCE	Data Type/ Length HL/7	FIELD ELEMENT NAME	USER/HL7 DEFINED	Used By See Note #1
DG1	1	4/SI	Set ID-Diagnosis (Sequence #)	HL7	EPI/NCH
	3	60/CE	Diagnosis Code (Code(id) ^Text (St.) ^ Name of coding system (st)	HL7	EPI/NCH
	4	19/TS	Admission Date	HL7	EPI
	6	2/IS	Diagnosis Type (PR=DXLS)	HL7	EPI
MSH	1	1/ST	Field Separator	HL7	EPI/NCH
	2	4/ST	Encoding Characters	HL7	EPI/NCH
	3	180/HD	Sending Application	HL7	EPI/NCH
	4	180/HD	Sending Facility	HL7	EPI/NCH
	5	180/HD	Receiving Application	HL7	EPI/NCH
	6	180/HD	Receiving Facility	HL7	EPI/NCH
	7	19/TS	Date/Time of Message	HL7	EPI/NCH
	8	40/SY	Security	HL7	EPI/NCH
	9	7/CM	Message Type	HL7	EPI/NCH
	10	20/ST	Message Control ID	HL7	EPI/NCH
	11	3/PT	Processing ID	HL7	EPI/NCH
	12	8/ID	Version ID	HL7	EPI/NCH
OBR	1	4/SI	Set ID-Observation Request (Seq #)	HL7	EPI/NCH
	4	200/CE	Universal Service ID (identifier ~ text ~ name of coding system ~ alt id ~ alt text ~ alt coding system)	HL7	EPI/NCH
	7	19/TS	Observation Date/Time	HL7	EPI/NCH
	15	300/CM	Specimen Source (Specimen source code (CE) ~~ text (TX))	HL7 (Table 0070)	EPI/NCH
	26	400/CM	Parent Results (OBX observation id of parent ^OBX sub ID	HL7	EPI/NCH
NTE	1	4/SI	Set ID (seq. #)	HL7	EPI/NCH
	3	64K/FT	Comment (Four formats exist for this segment, see Note #2)	HL7	EPI/NCH
OBX	1	4/SI	Set Id-Observational Simple (seq. #)	HL7	EPI/NCH
	2	2/ID	Value Type	HL7	EPI/NCH
	3	80/CE	Observation Identifier (identifier ~ text ~ name of coding system ~ alt id ~ alt text ^ alt coding system)	HL7	EPI/NCH

SEGMENT	FIELD SEQUENCE	Data Type/ Length	FIELD ELEMENT NAME	USER/HL7	Used By
	NUMBER	HL/7		DEFINED	See Note #1
	4	20/ST	Sub Id	HL7	EPI/NCH
	5		Observation Value (Result)	HL7	EPI/NCH
	6	60/CE	Units (Units)	HL7	EPI/NCH
	8	10/ID	Abnormal Flags	HL7 (Table 0078)	EPI/NCH
	14	60/CE	Date/Time of the Observation (Verified Date/Time)	HL7	EPI/NCH
PID	1	4/SI	Set ID - Patient ID	HL7	EPI/NCH
	2	16/CK	Patient ID (External ID)	HL7	EPI/NCH
	3	20/CM	Patient ID (Internal ID)	HL7	EPI/NCH
	5	48/PN	Patient Name	HL7	EPI/NCH
	7	19/TS	Date of Birth	HL7	EPI/NCH
	8	1/ID	Sex	HL7 (Table 0001)	EPI/NCH
	10	1/ID	Race	HL7 (Table VA07)	EPI/NCH
	11	106/AD	Address (Homeless{where applicable}~Zip Code)	HL7	EPI/NCH
	19	16/ST	SSN	HL7	EPI/NCH
	27	60/CE	Veteran's Military Status	HL7 (Table Va011)	EPI/NCH
PV1	1	4/SI	Set ID - Patient Visit	HL7	EPI/NCH
	2	1/ID	Patient Class (I=Inpatient,O=Outpatient)	HL7	EPI/NCH
	36	3/ID	Discharge Disposition (Type of Disposition {Code}~Type of Disposition {Text}~Source ID {VA45=VA File 45})	HL7	EPI/NCH
	44	19/TS	Admit Date/Time (Event Date/Time)	HL7	EPI/NCH
	45	19/TS	Discharge Date/Time	HL7	EPI/NCH
DSP	1	2/ID	Set ID	HL7	EPI
	3	80/FT	Date~Text Term~Resolved Term~Result~Sourceid	USER	EPI
	5	2/ID	Result ID (linking DSP and ZXE)	HL7	EPI
ZXE	1	20/FT	NDC	USER	EPI
	2	75/FT	Drug Name~Coding System	USER	EPI
	3	4/NM	Days Supply	USER	EPI
	4	19/TS	Release Date/Time	USER	EPI
	5	19/TS	Fill Date/Time	USER	EPI
	6	19/TS	Stop Date/Time	USER	EPI
	7	2/ID	Result ID (linking DSP and ZXE)	USER	EPI

Note #1 – This software extracts data for two databases, EPI (Emerging Pathogens Initiative) and NCH (National Center for Health). Items not marked with NCH will not be transmitted during that run.

Note #2 – The NTE segment is present in four forms. EPI only items tagged with (epi).

- a. NTE | | manual/automatic indicator (Null for automatic, R for Manual)~REPORTING DATE FROM from date TO to date~message number~~software version number (blank for original system/V2 for new system(epi)~Negative Input Indicator (null if input is present, N if negative)
- b. NTE | sequence number | reference number from field .05 (reference number) in file 69.5 (LAB SEARCH/EXTRACT)
- c. NTE | | Totals indicator (T if NTE describes totals for run)~National Lab Test Code~Test Name from files 60 (Lab Test) or file 61.2 (Etiology Field)~Total number of tests performed
- d. NTE | | Totals indicator (T if NTE describes totals for run)~National Lab Test Code~PATIENTS WITH “_Test Name from files 60 (Lab Test) or file 61.2 (Etiology Field)~Number of unique patients receiving this test

Definitions from Austin

Field Name	Start	End	Length	Properties	
DG1 SEGMENT					
SET-ID	94	97	4	alphanumeric	
DIAG-CODING-METHOD	98	99	2	alphanumeric	
DIAG-CODE	100	106	7	alphanumeric	
DIAG-TEXT	107	146	40	alphanumeric	
DIAG-CODING-SYT	147	156	10	alphanumeric	
FILLER	157	467	311	alphanumeric	
NTE-SEGMENT					
SET-ID	94	97	4	alphanumeric	
ACTION-IND	98	99	2	alphanumeric	valid total indicator T
NATIONAL-LAB-TEST-NUM	100	109	10	alphanumeric	
BACTERIA	110	144	35	alphanumeric	
TOTAL-COUNT	145	149	5	alphanumeric	
FILLER	150	467	318	alphanumeric	
NTE-SEGMENT (alternate type)					
SET-ID	94	97	4	alphanumeric	
ACTION-IND	98	99	2	alphanumeric	
FILLER	100	119	20	alphanumeric	
FROM-DATE	120	127	8	alphanumeric	
FILLER	128	131	4	alphanumeric	
TO-DATE	132	139	8	alphanumeric	
MSG-SEQ-NUM	140	142	3	alphanumeric	
NEGATIVE-INPUT-IND	143	143	1	alphanumeric	
FILLER	144	467	324	alphanumeric	
OBR-SEGMENT					
SET-ID	94	97	4	alphanumeric	
PATHOGEN-NAME	98	132	35	alphanumeric	
UNIV-SERVICE-ID	133	142	10	alphanumeric	
UNIV-SERVICE-TEXT	143	172	30	alphanumeric	
UNIV-SERVICE-CODE	173	187	15	alphanumeric	
ALT-UNIV-SERVICE-ID	188	202	15	alphanumeric	
ALT-UNIV-SERVICE-TEXT	203	232	30	alphanumeric	
ALT-UNIV-SERVICE-CODE	233	247	15	alphanumeric	
OBSER-DATE	248	255	8	yyyymmdd	

Field Name	Start	End	Length	Properties	
OBSER-TIME	256	261	6	hhmmss	
OBSER-DATE-A	262	269	8	alphanumeric	
SPECIMEN-CODE	270	273	4	alphanumeric	
FILLER	274	274	1	alphanumeric	
SPECIMEN-CODE-TEXT	275	304	30	alphanumeric	
ACCESSION-NUM	305	324	20	alphanumeric	
PARENT-OBSER-ID	335	334	10	alphanumeric	
PARENT-OBSER-SUB-ID	355	340	6	alphanumeric	
PARENT-TEST-SYS	361	350	10	alphanumeric	
PARENT-LAB-NUM	371	360	10	alphanumeric	
FILLER	381	458	98	alphanumeric	
OBX-SEGMENT					
OBR-SET-ID	94	97	4	alphanumeric	
OBX-SET-ID	98	101	4	alphanumeric	
VALUE-TYPE	102	103	2	alphanumeric	
OBSERVATION-ID	104	113	10	alphanumeric	
OBSERVATION-TEXT	114	143	30	alphanumeric	
OBSERVATION-CODE	144	158	15	alphanumeric	
OBSERVATION-ID-ALT	159	168	10	alphanumeric	
OBSERVATION-TEXT-ALT	169	198	30	alphanumeric	
OBSERVATION-CODE-ALT	199	213	15	alphanumeric	
OBSERVATION-SUB-ID	214	219	6	alphanumeric	
OBSERVATION-NAT-LAB	220	229	10	alphanumeric	
OBSERVATION-VALUE	230	274	45	alphanumeric	
OBSERVATION-UNITS	275	289	15	alphanumeric	
OBSERVATION-REF-RANGE	290	304	15	alphanumeric	
ABNORMAL-FLAGS	305	314	10	alphanumeric	
FINAL-RESULT-DATE	315	322	8	yyyymmdd	
FILLER	323	450	128	alphanumeric	

Field Name	Start	End	Length	Properties	
PID-SEGMENT					
SET-ID	94	97	4	alphanumeric	
PATIENT-EXTERNAL-ID	98	114	17	alphanumeric	
PATIENT-INTERNAL-ID	115	135	21	alphanumeric	
PATIENT-NAME	136	220	85	alphanumeric	
PATIENT-BIRTH-DATE	221	228	8	yyyymmdd	
PATIENT-SEX	229	229	1	alphanumeric	
PATIENT-RACE	230	230	1	alphanumeric	
PATIENT-ADDRESS	231	231	1	alphanumeric	valid patient address H
ZIP	232	240	9	alphanumeric	
FILLER	241	241	1	alphanumeric	
PATIENT-SSN	242	250	9	alphanumeric	
PATIENT-PSEUDO	251	251	1	alphanumeric	valid pseudo space or P
PATIENT-VETERAN-STATUS	252	253	2	alphanumeric	
FILLER	254	450	197	alphanumeric	
PV1-SEGMENT					
SET-ID	94	97	4	alphanumeric	
PATIENT-CLASS	98	98	1	alphanumeric	valid patient class I or O or U
DISCHARGE-DISPOSITION	99	133	35	alphanumeric	
ADMIT-DATE	134	141	8	yyyymmdd	
ADMIT-TIME	142	147	6	hhmmss	
DISCHARGE-DATE	148	155	8	yyyymmdd	
DISCHARGE-TIME	156	161	6	hhmmss	
FILLER	162	450	289	alphanumeric	

4.0 Transaction Specifications

4.1 General

The **VISTA** software sends an Observational Result Unsolicited (ORU) result type HL7 message whenever one or more of the defined emerging pathogen initiatives are identified.

4.2 Specific Transaction

A. Identified Encounter

When EPI data are identified an EPI Observational Result Unsolicited (ORU) message is sent to the AITC. The EPI ORU message consist of the following segments:

Example: EPI ORU Message

ORU OBSERVATIONAL RESULT UNSOLICITED

MSH Message Header

NTE Notes and Comments

PID Patient Identification

PV1 Patient Visit

NTE Notes and Comments

DG1 Diagnosis

DSP Display Data

ZXE Pharmacy Prescription

OBR Observation Report

OBX Results

```
MSH |~|&|EPI-XXX|170|EPI-XXX|170|19961018113521||ORU~R01|107|P|2.2|||||USA
NTE |REPORTING DATE FROM 19850101 TO 19961018
PID |1|000-00-0008~0~M10|5~5~M10||LABPATIENT~EIGHT||19220912|M||7|||||||052167946
PV1 |1|O|||||||||||||||||||||||||||||||||19950315151907
NTE |1|Vanc-Res Enterococcus
DG1 |1|I9|451.19^DEEP PHLEBITIS-LEG NEC^I9
DG1 |2|I9|511.9^PLEURAL EFFUSION NOS^I9
DG1 |3|I9|670.02^MAJOR PUERP INF-DEL P/P^I9
DG1 |4|I9|331.0^ALZHEIMER'S DISEASE^I9
DG1 |5|I9|500.^COAL WORKERS' PNEUMOCON^I9
OBR |1||^CHEMISTRY TEST^VANLT|||19950315151907||||||SER^^SERUM
OBX |1|ST|84330.0000^Glucose Quant^VANLT^260^GLUCOSE1^VA60||25|mg/dL|70-125|L*
NTE |2|2^Hepatitis C antibody
OBR |2||^CHEMISTRY TEST^VANLT|||19950315151907||||||SER^^SERUM
OBX |1|ST|84330.0000^Glucose Quant^VANLT^260^GLUCOSE1^VA60||25|mg/dL|70-125|L*
PID |2|000-00-0009~8~M10|7~7~M10||LABPATIENT~NINE||19591229|F||7|||||||023456666
PV1 |1|O|||||||||||||||||||||||||||||||||19950315152721
NTE |1|1^Vanc-Res Enterococcus
OBR |1||87999.0000^MICRO CULTURE^VANLT|||198612100835||||||^BLOOD
OBX |1|CE|87993.0000^BACTERIOLOGY CULTURE^VANLT|1|^ESCHERICHIA COLI
OBR |2|^ANTIBIOTIC MIC^VANLT|||198612100835||||||^BLOOD||||||87993.0000^1
OBX |1|ST|81812.0000^Neomycin^VANLT^18^NEOMYCIN^VA62.06||||R
OBX |2|ST|^35^BACTRCN^VA62.06||||R
OBX |3|ST|81852.0000^Penicillin^VANLT^23^PENICLN^VA62.06||||R
OBX |4|ST|81676.0000^Clindamycin^VANLT^3^CLINDAM^VA62.06||||S
```

Table VA011 - Period of Service

Value	Description
0	KOREAN
1	WORLD WAR I
2	WORLD WAR II
3	SPANISH AMERICAN
4	PRE-KOREAN
5	POST-KOREAN
6	OPERATION DESERT SHIELD
7	VIETNAM ERA
8	POST-VIETNAM
9	OTHER OR NONE
A	ARMY--ACTIVE DUTY
B	NAVY, MARINE--ACTIVE DUTY
C	AIR FORCE--ACTIVE DUTY
D	COAST GUARD--ACTIVE DUTY
E	RETIRED, UNIFORMED FORCES
F	MEDICAL REMEDIAL ENLIST
G	MERCHANT SEAMEN--USPHS
H	OTHER USPHS BENEFICIARIES
I	OBSERVATION/EXAMINATION
J	OFFICE OF WORKERS COMP.
K	JOB CORPS/PEACE CORPS
L	RAILROAD RETIREMENT
M	BENEFICIARIES-FOREIGN GOV
N	HUMANITARIAN (NON-VET)
O	CHAMPUS RESTORE
P	OTHER REIMBURS. (NON-VET)
Q	OTHER FEDERAL - DEPENDENT
R	DONORS (NON-VET)
S	SPECIAL STUDIES (NON-VET)
T	OTHER NON-VETERANS
U	CHAMPVA--SPOUSE, CHILD
V	CHAMPUS
W	CZECHOSLOVAKIA/POLAND SVC
X	PERSIAN GULF WAR
Y	CAV/NPS
Z	MERCHANT MARINE

Table 0070 - Specimen Source Codes

Abbreviations	Descriptions	Abbreviations	Descriptions	Abbreviations	Descriptions
ABS	Abscess	FLU	Body fluid, unsp	SER	Serum
AMN	Amniotic fluid	GAS	Gas	SKN	Skin
ASP	Aspirate	GAST	Gastric fluid/contents	SKM	Skeletal muscle
BPH	Basophils	GEN	Genital	SPRM	Spermatozoa
BIFL	Bile fluid	GENC	Genital cervix	SPT	Sputum
BBL	Blood bag	GENV	Genital vaginal	SPTT	Sputum tracheal aspirate
BLDC	Blood capillary	HAR	Hair	STON	Stone (use CALC)
BPU	Blood product unit	IHG	Inhaled Gas	STL	Stool = Fecal
BLDV	Blood venous	IT	Intubation tube	SWT	Sweat
BON	Bone	ISLT	Isolate	SNV	Synovial fluid (Joint fluid)
BRTH	Breath (use EXHLD)	LAM	Lamella	TEAR	Tears
BRO	Bronchial	WBC	Leukocytes	THRT	Throat
BRN	Burn	LN	Line	THRB	Thrombocyte (platelet)
CALC	Calculus (=Stone)	LNA	Line arterial	TISS	Tissue
CDM	Cardiac muscle	LNV	Line venous	TISG	Tissue gall bladder
CNL	Cannula	LIQ	Liquid NOS	TLGI	Tissue large intestine
CTP	Catheter tip	LYM	Lymphocytes	TLNG	Tissue lung
CSF	Cerebral spinal fluid	MAC	Macrophages	TISPL	Tissue placenta
CVM	Cervical mucus	MAR	Marrow	TSMI	Tissue small intestine
CVX	Cervix	MEC	Meconium	TISU	Tissue ulcer
COL	Colostrum	MBLD	Menstrual blood	TUB	Tube NOS
CBLD	Cord blood	MLK	Milk	ULC	Ulcer
CNJT	Conjunctiva	MILK	Breast milk	UMB	Umbilical blood
CUR	Curettage	NAIL	Nail	UMED	Unknown medicine
CYST	Cyst	NOS	Nose (nasal passage)	URTH	Urethra
DIAF	Dialysis fluid	ORH	Other	UR	Urine
DOSE	Dose med or substance	PAFL	Pancreatic fluid	URC	Urine clean catch
DRN	Drain	PAT	Patient	URT	Urine catheter
DUFL	Duodenal fluid	PRT	Peritoneal fluid ascite	URNS	Urine sediment
EAR	Ear	PLC	Placenta	USUB	Unknown substance
EARW	Ear wax (cerumen)	PLAS	Plasma	VOM	Vomit
ELT	Electrode	PLB	Plasma bag	BLD	Whole blood
ENDC	Endocardium	PLR	Pleural fluid (thoracentesis fld)	BDY	Whole body
ENDM	Endometrium	PMN	Polymorphonuclear neutrophils	WAT	Water
EOS	Eosinophils	PPP	Platelet poor plasma	WICK	Wick
RBC	Erythrocytes	PRP	Platelet rich plasma	WND	Wound
EYE	Eye	PUS	Pus	WNDA	Wound abscess
EXHLD	Exhaled gas (breath)	RT	Route of medicine	WNDE	Wound exudate
FIB	Fibroblasts	SAL	Saliva	WNDD	Wound drainage
FLT	Filter	SEM	Seminal fluid	XXX	To be specified in another part of the message
FIST	Fistula				

Table VA07 - Race

Value	Description
1	HISPANIC, WHITE
2	HISPANIC, BLACK
3	AMERICAN INDIAN OR ALASKA NATIVE
4	BLACK, NOT OF HISPANIC ORIGIN
5	ASIAN OR PACIFIC ISLANDER
6	WHITE NOT OF HISPANIC ORIGIN
7	UNKNOWN

Table 0001 - Sex

Value	Description
F	FEMALE
M	MALE
O	OTHER

Table 0078 - Abnormal flags

Value	Description
L	Below low normal
H	Above high normal
LL	Below lower panic limits
HH	Above upper panic limits
For microbiology sensitivities only	
S	Sensitive
R	Resistant
I	Intermediate
MS	Moderately sensitive
VS	Very sensitive

Table Specimen Source ID Code

Value	Description
Problem List	1
Encounter Dx	2
Discharge DX	3

Table Hepatitis Risk Assessment Resolutions

Value	Description
Declined Hep C Risk Assessment	1
No Risk Factors for Hep C	2
Prev Positive Test for Hep C	3
Risk Factor for Hepatitis C	4
Hep C Virus Antibody Positive	5
Hep C Virus Antibody Negative	6
Hepatitis C Infection	7

NOTE: Term other than Hepatitis C National Risk Assessment Clinical Reminders resolution term 00

LABORATORY HEPATITIS C EXTRACT AND EPI USER GUIDE

(This page included for two-sided copying.)

Laboratory Hepatitis C Extract and EPI User Guide

The Laboratory Hepatitis C Extract and EPI User Guide provides all the necessary information, instructions, illustrations, and examples required for the EPI coordinators, Laboratory personnel, and other users to implement and maintain the following 17 EPI parameter descriptions.

Candida
Clostridium difficile
Creutzfeldt-Jakob Disease
Cryptosporidium
Dengue
E. coli O157:H7
Hepatitis A Antibody POS
Hepatitis B POS
Hepatitis C Antibody NEG

Hepatitis C Antibody POS
Legionella
Leishmaniasis
Malaria
Pen- Res Pneumococcus
Streptococcus-Group A
Tuberculosis
Vanc-Res Enterococcus

NOTE: It is **highly recommended** that the following person(s) jointly participate in the review and parameter descriptions setup process for the 17 EPI descriptions:

- ⇒ Laboratory Information Manager (LIM)
- ⇒ Total Quality Improvement/Quality Improvement/Quality Assurance (TQI/QI/QA) staff (e.g., or person at the facility with similar function)
- ⇒ Representative from the Microbiology (i.e., director, supervisor, or technologist)

The 17 emerging pathogens will require an ongoing review process (i.e., as specified by the VAHQ Infectious Disease Program Office). The person(s) participating in the ongoing review process is responsible for ensuring the following requirements are kept current.

- Periodic reviews of the ICD codes.
- Periodic reviews of the Lab Search/Extract Parameter Setup [LREPI PARAMETER SETUP] option for the defined EPI parameter description setups. Remember that if the parameter set up needs to be changed for any of the four hepatitis entities, that a concomitant change needs to be made in the corresponding Reminders logic.
- Annual review of the 17 Emerging Pathogens descriptions (as specified by the VAHQ Infectious Disease Program Office).

Lab Search/Extract Primary [LREPI SEARCH EXTRACT MENU] Menu

NOTE: The Lab Search/Extract Primary [LREPI SEARCH EXTRACT MENU] Menu options are using VA FileMan screens displays, referred to as ScreenMan. For detailed instructions on how to use the screens please review the VA FileMan V. 21.0 User Manual, Section 6 ScreenMan.

Lab Search/Extract Primary Menu [LREPI SEARCH EXTRACT MENU]: This is the primary menu containing five options. There are no locks or security keys associated with the menu or options.

Lab Search/Extract Manual Run (Enhanced) [LREPI ENHANCE MANUAL RUN] option: This option will **automatically** transmit EPI and the three **new** Hepatitis pathogens data corrections to the AITC, via HL7 format mailman messages each time the option is run.

NOTES:

Lab Search/Extract transmissions to AITC after 6:00 pm are processed the next day.

Please DO NOT use the Lab Search/Extract Manual Run (Enhanced) [LREPI ENHANCED MANUAL RUN] option to transmit EPI and Hepatitis pathogens data on Wednesdays of PAY ROLL weeks. These transmissions may cause a delay in processing the PAY ROLL data.

- **Lab Search/Extract Parameter Setup [LREPI PARAMETER SETUP] option:** This option allows the users to setup the EPI and Hepatitis pathogens parameter descriptions search/extract criteria. Periodic reviews of the Lab Search/Extract Parameter Setup [LREPI PARAMETER SETUP] option for the defined EPI parameter description setups. **Note:** Remember that if the parameter set up needs to be changed for any of the four hepatitis entities, that a concomitant change needs to be made in the corresponding Reminders logic.

Antimicrobial Link Update [LREPILK] option: This option allows the user to link the ANTIMICROBIAL SUSCEPTIBILITY file (#62.06) data entries with the WKLD CODE file (#64) data entries.

NOTE: Please see Appendix B section of this guide for instructions on “How to Link Antimicrobial Entries to Workload Code Entries” using the Antimicrobial Link Update [LREPILK] option.

Lab Search/Extract Protocol Edit [LREPI PROTOCOL EDIT] option: Use this option to edit the LAB SEARCH/EXTRACT PROTOCOL file (#69.4).

Lab Search/Extract Nightly Task [LREPI NIGHTLY TASK] option: This option **must** be scheduled to run each night by TaskMan. This option will build a HL7 message and send it to the defined locations specified by the EPI and Hepatitis emerging pathogens protocols. This is a stand-alone option.

NOTE: Patch LR*5.2*421 adds prompts to the Enter/Edit Local Pathogens and Laboratory Search/Extract Parameters Input screens for users to specify a code set on which to search prior to entering an ICD code. Based on this input, the system only allows either ICD-9 entry or ICD-10 entry.

Laboratory Search/Extract Parameters Input Screen Prompts Definitions

Laboratory Search/Extract Parameters Input Screen Prompts	Laboratory Search/Extract Parameters Input Screen Prompt Definitions
Laboratory Test (s)	Consider these synonymous with, chemistry, serology, hematology, and “blood/serum” tests. Results anticipated to be found here would have had a test done under the chemistry/hematology accession areas, even if physically performed in microbiology and other areas. Select tests from the LABORATORY TEST file (#60).
Indicator	Select the code that will determine how to match lab results. ‘1’ FOR Use Reference Ranges ‘2’ FOR Contains ‘3’ FOR Greater Than ‘4’ FOR Less Than ‘5’ FOR Equal To
Value	Positive, etc. Answer must be 1-15 characters in length. This is a Free Text field.
ICD-9	ICD-9 standardized code used nationwide in federal and non-federal/private health care facilities. Select from the ICD DIAGNOSIS file (#80).
ICD-10	ICD-10 standardized code used nationwide in federal and non-federal/private health care facilities. Select from the ICD DIAGNOSIS file (#80).
ICD Description	Title of ICD diagnosis
Selected Etiology	Consider synonymous with organism, final microbial diagnosis/isolate. Select from the ETIOLOGY FIELD file (#61.2).
Selected SNOMED codes	Answer with SNOMED CODES You may enter a new SNOMED CODE, if you wish. Answer must be 1-15 characters in length.
Antimicrobial Susceptibility	Enter the Antimicrobial that will be used in screening out sensitive Etiologies (e.g., “Vancomycin” for Vancomycin Resistant Enterococcus). Select from the ANTIMICROBIAL SUSCEPTIBILITY file (#62.6).
NLT Code	Displays the associated NLT code if linked. If no NLT Code is displayed use the Antimicrobial Link Update option.
NLT Description	Displays the Description of the linked NLT code.
Topography Selection	Enter a date to screen out patients born before the date entered. Examples of Valid Dates: JAN 20 1957 or 20 JAN 57 or 1/20/57 or 012057 T (for TODAY), T+1 (for TOMORROW), T+2, T+7, etc. T-1 (for YESTERDAY), T-3W (for 3 WEEKS AGO), etc.
Include	Selection of Topography screens all others out except the ones selected. For “ALL” leave blank. Not to be used in conjunction with the exclude Topography selection. Select from the TOPOGRAPHY file (#61).

Laboratory Search/Extract Parameters Input Screen Prompts	Laboratory Search/Extract Parameters Input Screen Prompt Definitions
Exclude	Select the Topography to screen out. Not to be used in conjunction with the Include Topography selection. Select from the TOPOGRAPHY file (#61).
First Encounter:	Limits the output to the first encounter for the patient. Otherwise list all encounters. Choose: '1' FOR YES '0' FOR NO
Follow PTF:	Indicates if the PTF record will be followed until a discharge has been entered. Choose: '1' FOR YES '0' FOR NO
Before Date Of Birth:	Enter a date to screen out patients born before the date entered. Examples of Valid Dates: JAN 20 1957 or 20 JAN 57 or 1/20/57 or 012057 T (for TODAY), T+1 (for TOMORROW), T+2, T+7, etc. T-1 (for YESTERDAY), T-3W (for 3 WEEKS AGO), etc.
After Date Of Birth:	A birthrate to screen patients (i.e., patients DOB after 1/1/1950).
Select SEX:	FOR FUTURE USE ONLY.
Run Date:	Date that the last Auto Search/Extract processed.
Protocol:	Defines the protocol used to define the output messages. Select from the LAB SEARCH/EXTRACT PROTOCOL file (#69.4).
Run Cycle:	Enter the date that the last Auto Search/Extract processed.
Lag Days:	Defines the Lag Days parameter as 15 for all 17 emerging pathogens.
General Description:	To review or edit the General Description prompt use the <Tab> key.

Lab Search/Extract Parameter Setup [LREPI PARAMETER SETUP] option

The following information **must** be adhered to as recommended to ensure a successful implementation and utilization of the software.

NOTE: It is highly recommended that the Laboratory Information Manager (LIM), a representative from the Microbiology section (director, supervisor, or technologist) and a Total Quality Improvement/Quality Improvement/Quality Assurance (TQI/QI/QA) staff (or person at the facility with similar function) be assigned the Lab Search/Extract Primary Menu [LREPI SEARCH EXTRACT MENU]. These will be the individual(s) responsible for initially setting the Lab Search/Extract parameters descriptions and doing periodic reviews of the parameters descriptions to assure they are current.

The Lab Search/Extract Parameter Setup [LREPI PARAMETER SETUP] option is used to setup local parameters for the 17 emerging pathogens. Each emerging pathogens descriptions **must** be reviewed **prior** to setting up the Lab Search/Extract parameters.

NOTES:

There are a number of different ways that sites have chosen to enter results into the **VISTA** database. As long as the results are in a retrievable format (straight from the **VISTA** database without additional manual input needed), how it is entered is **not** of significance to the Emerging Pathogen Initiative. However, two preferred methods make it easy to capture the data. Please reference the Helpful Hints section of this guide for the two preferred methods.

Site-specific spelling or alternate spelling for data entries **must** be consistent to guarantee accurate data capture.

The Lab Search/Extract Parameter Setup [LREPI PARAMETER SETUP] option, Lag Day parameter **MUST** be defined as **15** for ALL 17 emerging pathogen.

NOTES: If a lab test needs to be entered in the parameter set up for a particular lab search/extract pathogen name (e.g. because there is more than one test result that may meet the definition), the second and subsequent tests must be placed in quotes (“ ”). Even though the “ ” marks are used to enter the data, they don't appear in the final product. This process can be done unlimited times for one set-up.

The Lab Search/Extract Parameter Setup [LREPI PARAMETER SETUP] option input screen examples displays how to setup EPI parameters (i.e., including the three **new** Hepatitis A Antibody POS, Hepatitis B POS, and Hepatitis C Antibody NEG) pathogens. Several of the Lab Search/Extract Parameter Setup [LREPI PARAMETER SETUP] option input screen examples display partially pre-populated entries. The ETIOLOGY FIELD file (#61.2) site-specific data entries are used to partially pre-populate the fields in the LAB SEARCH/EXTRACT file (#69.5). However, further data entries are required for site-specific data. Additional data entries can be added or deleted to meet your site-specific needs.

The table below lists the three **new** Hepatitis pathogens the and existing Hepatitis C Antibody POS emerging pathogen and the Lab Search/Extract parameter setup entries. The LAB SEARCH/EXTRACT parameter (second column) is an example as other sites may have different names for tests. Also the second column does not use the indicator mechanism of whether the result CONTAINS the POS or is EQUAL TO the POS, etc)

LAB SEARCH/EXTRACT file (#69.5) Hepatitis emerging pathogens entries	LAB SEARCH/EXTRACT parameter setup entries for each Hepatitis emerging pathogens
Hepatitis A Antibody NEG	HEP A ANTIBODY-TOTAL REACTIVE HEP A ANTIBODY(IgM) POS HEPATITIS A AB(IGG)D/C(2/99) POS HEPATITIS A AB(IGG)D/C(2/99) Pos HEPATITIS A AB(IGG)D/C(2/99) P HEPATITIS A AB(IGG)D/C(2/99) p HEP A ANTIBODY-TOTAL R
Hepatitis B Antibody NEG	HEP B SURFACE Ag POS HEP B SURFACE AB POS HEP B CORE AB(IgM) POS HEP Be ANTIGEN POS HEP Be ANTIGEN Pos HEP Be ANTIGEN p HEP Be ANTIGEN P
Hepatitis C Antibody NEG	HEP C ANTIBODY NEG HEP C ANTIBODY SEE COMMENTS HEP C ANTIBODY * HEP C ANTIBODY #
Hepatitis C Antibody POS	Hepatitis C Antibody POS

Candida (Reference #8)

Fungal infections are rising in significance especially in severely ill patients. The same is true for bloodstream infections acquired in the hospital, especially those associated with intravenous lines. Fungal bloodstream infections are increasing in prevalence.

As a marker of bloodstream infections, the fungus *Candida* (and *Torulopsis*) has been chosen as an initial indicator organism. This organism may **not** be a prevalent or significant entity at your site; however, its presence is more likely to be indicative of serious or true infection than other organisms. The fungus *Candida* (and *Torulopsis*) may commonly be isolated from the blood in association with IV lines. Additionally, this yeast is more likely to be associated with nosocomial acquisition than other organisms (i.e., *Staphylococcus aureus* and coagulase negative *Staphylococcus*), which can cause a number of community acquired syndromes **not** at all related to IV lines.

All episodes of *Candida* (*Torulopsis*, yeast) isolation from blood or a blood source (central line, IV catheter tip, etc.) are being tracked. The **VISTA** Laboratory Search/Extract software has provided a partial pre-populated list of (etiologies/organisms) that fit the description for *Candida* (*Torulopsis*, yeast) to choose. These (etiologies/organisms) should be used, in addition to any site specific (etiologies/organisms) that may also fit the description.

Example: Lab Search/Extract Parameter Setup for CANDIDA emerging pathogen

```

                                Lab Search/Extract Primary Menu
ENH Lab EPI Manual Run (Enhanced)
VR Print Detailed Verification Report
LO Local Pathogen Menu ...
PI Pathogen Inquiry
UP Lab EPI Parameter Setup
    Lab EPI Protocol Edit
LK Antimicrobial Link Update

Select Lab Search/Extract Primary menu Option: UP<RET> Lab Search/Extract
Parameter Setup

Select LAB SEARCH/EXTRACT NAME: ?<RET>
Answer with LAB SEARCH/EXTRACT NAME, or REFERENCE NUMBER
Do you want the entire 16-Entry LAB SEARCH/EXTRACT List? Y (Yes)<RET>
Choose from:
    CANDIDA
    CLOSTRIDIUM DIFFICILE
    CREUTZFELDT-JAKOB DISEASE
    CRYPTOSPORIDIUM
    DENGUE
    E. COLI 0157:H7
    HEPATITIS A ANTIBODY POS
    HEPATITIS B POS
    HEPATITIS C ANTIBODY NEG
    HEPATITIS C ANTIBODY POS
    LEGIONELLA
    LEISHMANIASIS
    MALARIA
    NCH CHOLESTEROL
    NCH PAP SMEAR
    PEN-RES PNEUMOCOCCUS
    STREPTOCOCCUS GROUP A
    TUBERCULOSIS
    VANC-RES ENTEROCOCCUS

Select LAB SEARCH/EXTRACT NAME: Candida<RET>
```

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN			Page 1 of 5
NAME: Candida		ACTIVE: YES	
Laboratory Test(s)	Indicator	Value	
<RET>			
Department ICD Coding System [ICD-9 or ICD-10]? (9/10):<RET>			
ICD Code	Cd Set	ICD Description	
<RET>			
Exit	Save	Next Page	Refresh
COMMAND: N<RET>		Press <PF1>H for help	Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN			Page 2 of 5
NAME: CANDIDA		ACTIVE: YES	
Selected Etiology	Selected Snomed Codes		
Examples: CANDIDA			
CANDIDA GUILLIERMONDII			
CANDIDA KRUSEI			
CANDIDA PARAPSILOSIS			
CANDIDA PSEUDOTROPICALIS			
CANDIDA STELLATOIDEA			
CANDIDA TROPICALIS			
CANDIDA, NOS			
<RET>			
<p>Note: During the post Init, the ETIOLOGY FIELD file (#61.2) was searched to pre-populate the Etiology field (#3) in the EMERGING PATHOGENS file (#69.5). Listed above are examples of etiology entries which may have been populated from your site's file. Additional etiologies may be added or deleted at the <u>Selected Etiology</u> prompt to meet your site specific needs.</p>			
<p>Note: If spelling differences occur within your ETIOLOGY FIELD file (#61.2), be consistent with your local file and spell the results here, as it is spelled in your file (even if it is spelled differently in the example). We are concerned more importantly with data <u>recovery</u>.</p>			
Antimicrobial Susceptibility	NLT Code	NLT Description	
<RET>			
Exit	Save	Next Page	Refresh
COMMAND: N<RET>		Press <PF1>H for help	Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 3 of 5
NAME: Candida	ACTIVE:	YES
<p style="text-align: center;">Topography Selection</p> <div style="display: flex; justify-content: space-between;"> <div> <p>Include</p> <p>Blood<RET></p> <p>Bloodstream<RET></p> <p>Catheter Tip<RET></p> </div> <div> <p>Exclude</p> <p><RET></p> </div> </div> <p>Note: These are only suggestions. Please add accordingly to your site definition.</p>		
Exit	Save	Next Page Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 4 of 5
NAME: Candida	ACTIVE:	YES
<p>FIRST ENCOUNTER:<RET> Follow PTF:YES<RET></p> <p>BEFORE DATE OF BIRTH:<RET> AFTER DATE OF BIRTH:<RET></p> <p>Select SEX:<RET></p>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help Insert
Save changes before leaving form (Y/N)? Y<RET>		

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 5 of 5
NAME:Candida	ACTIVE:	YES
<p>Run Date:<RET> Protocol:LREPI<RET></p> <p>Run Cycle:MONTHLY<RET> Lag Days:15<RET></p> <p>General Description:<TAB></p>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help Insert

Clostridium difficile (Reference #4)

Save changes before leaving form (Y/N)?Y<RET>

Disease associated with the presence of *Clostridium difficile* enterotoxin A can cause significant morbidity, as well as mortality. It is of importance, as its predominant acquisition seems to occur nosocomially. Presence of Clostridial toxin (either enterotoxin A or cytotoxin L) by assay (whether it be EIA, latex agglutination, cytotoxicity of cell culture \pm neutralization, or culture of organism with subsequent colony testing) is the best indicator that an inflammatory diarrheal disease is due to presence of *Clostridium difficile*.

Laboratory Services are quite varied as to how they identify the presence of *Clostridium difficile*. Some labs are set up to identify *C. difficile* as the final microbiological (bacterial) etiology of a culture, even if a culture method was not used. Other labs use a final etiology of “see comment” and then enter the results in a free text format. Still others enter the text under a hematology or chemistry format where a reference range and “positive” and “negative” result values can be entered. Wherever the facility lab places the results which are used to demonstrate the presence of toxin-producing *C. difficile*, we need to be able to track them (that means it **must** occur as a retrievable “positive” or “negative” result, or as a “bacterial etiology”). Results in a “Comments” or “Free-text” section are **not** acceptable.

There are a number of different ways that sites have chosen to enter *Clostridium difficile* toxin assay results into the **VISTA** database. As long as the toxin assay results are in a retrievable format (straight from the **VISTA** database without additional manual input needed), how it is entered is **not** of significance to the Emerging Pathogen Initiative. However, there are two preferred methods that make it easy to capture the data. Please reference the Appendix-B section of this guide for the two methods.

Example: Lab Search/Extract Parameter Setup for CLOSTRIDIUM DIFFICILE emerging pathogen

```

                                Lab Search/Extract Primary Menu

ENH Lab EPI Manual Run (Enhanced)
VR Print Detailed Verification Report
LO Local Pathogen Menu ...
PI Pathogen Inquiry
UP Lab EPI Parameter Setup
  Lab EPI Protocol Edit
LK Antimicrobial Link Update

Select Lab Search/Extract Primary menu Option: UP<RET> Lab Search/Extract
Parameter Setup

Select LAB SEARCH/EXTRACT NAME: ?<RET>
  Answer with LAB SEARCH/EXTRACT NAME, or REFERENCE NUMBER
  Do you want the entire 16-Entry LAB SEARCH/EXTRACT List? Y (Yes)<RET>
Choose from:
  CANDIDA
  CLOSTRIDIUM DIFFICILE
  CREUTZFELDT-JAKOB DISEASE
  CRYPTOSPORIDIUM
  DENGUE
  E. COLI 0157:H7
  HEPATITIS A ANTIBODY POS
  HEPATITIS B POS
  HEPATITIS C ANTIBODY NEG
  HEPATITIS C ANTIBODY POS
  LEGIONELLA
  LEISHMANIASIS
  MALARIA
  NCH CHOLESTEROL
  NCH PAP SMEAR
  PEN-RES PNEUMOCOCCUS
  STREPTOCOCCUS GROUP A
  TUBERCULOSIS
  VANC-RES ENTEROCOCCUS

Select LAB SEARCH/EXTRACT NAME: CLOSTRIDIUM DIFFICILE <RET>

```

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 1 of 5
NAME: CLOSTRIDIUM DIFFICILE	ACTIVE:	YES
Laboratory Test(s) Clostridium<RET> difficile toxin	Indicator Contains<RET>	Value Pos<RET>
Note: This example is only a suggestion. Please add accordingly to your site definition.		
ICD Coding System [ICD-9 or ICD-10]? (9/10):<RET>		
ICD Code <RET>	Cd Set	ICD Description
Exit	Save	Next Page
Refresh		
COMMAND: N<RET>		Press <PF1>H for help
Insert		

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 2 of 5
NAME: CLOSTRIDIUM DIFFICILE	ACTIVE:	YES
Selected Etiology Clostridium difficile toxin positive<RET>	Selected Snomed Codes	
Note: This is only a suggestion. Please add accordingly to your site definition.		
Antimicrobial Susceptibility <RET>	NLT Code	NLT Description
Exit	Save	Next Page
Refres		
COMMAND: N<RET>		Press <PF1>H for help
Insert		

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 3 of 5
NAME: CLOSTRIDIUM DIFFICILE	ACTIVE:	YES
Topography Selection		
Include <RET>	Exclude <RET>	
Exit	Save	Next Page Refresh
COMMAND: N<RET>	Press <PF1>H for help Insert	

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 4 of 5
NAME: CLOSTRIDIUM DIFFICILE	ACTIVE:	YES
First Encounter:<RET>	Follow PTF: YES<RET>	
BEFORE DATE OF BIRTH:<RET>	AFTER DATE OF BIRTH:<RET>	
Selected SEX:<RET>		
Exit	Save	Refresh
COMMAND: E<RET>	Press <PF1>H for help	

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 5 of 5
NAME: CLOSTRIDIUM DIFFICILE	ACTIVE:	YES
Run Date:<RET>	Protocol:LREPI<RET>	
Run Cycle:MONTHLY<RET>	Lag Days:15<RET>	
General Description:<TAB>		
Exit	Save	Refresh
COMMAND: E<RET>	Press <PF1>H for help Insert	
Save changes before leaving form (Y/N)?Y<RET>		

Creutzfeldt-Jakob Disease (CJD) (Reference #13)

Creutzfeldt-Jakob Disease (CJD) disease is a rare illness associated with prions. The DVA has chosen to follow this entity because of historic problems with certain blood products used in the private and public health care sectors. The data will be one of a number of ways used to identify changes in trends of incidence of this illness. This task is remarkably complex because of the long incubation period of CJD. There are no specific tests for diagnosis other than central nervous system histology combined with clinical presentation. As such, this entity is followed through ICD coding.

Example: Lab Search/Extract Parameter Setup for CREUTZFELDT-JAKOB DISEASE emerging pathogen

```

                                Lab Search/Extract Primary Menu

ENH Lab EPI Manual Run (Enhanced)
VR Print Detailed Verification Report
LO Local Pathogen Menu ...
PI Pathogen Inquiry
UP Lab EPI Parameter Setup
    Lab EPI Protocol Edit
LK Antimicrobial Link Update

Select Lab Search/Extract Primary menu Option: UP<RET> Lab Search/Extract
Parameter Setup

Select LAB SEARCH/EXTRACT NAME: ?<RET>
Answer with LAB SEARCH/EXTRACT NAME, or REFERENCE NUMBER
Do you want the entire 16-Entry LAB SEARCH/EXTRACT List? Y (Yes)<RET>
Choose from:
    CANDIDA
    CLOSTRIDIUM DIFFICILE
    CREUTZFELDT-JAKOB DISEASE
    CRYPTOSPORIDIUM
    DENGUE
    E. COLI 0157:H7
    HEPATITIS A ANTIBODY POS
    HEPATITIS B POS
    HEPATITIS C ANTIBODY NEG
    HEPATITIS C ANTIBODY POS
    LEGIONELLA
    LEISHMANIASIS
    MALARIA
    NCH CHOLESTEROL
    NCH PAP SMEAR
    PEN-RES PNEUMOCOCCUS
    STREPTOCOCCUS GROUP A
    TUBERCULOSIS
    VANC-RES ENTEROCOCCUS

Select LAB SEARCH/EXTRACT NAME: CREUTZFELDT-JAKOB DISEASE <RET>

```

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 1 of 5
NAME: CREUTZFELDT-JAKOB DISEASE		ACTIVE: YES
Laboratory Test(s)	Indicator	Value
<RET>		
ICD Coding System [ICD-9 or ICD-10]? (9/10): 9<RET>		
ICD Code	Cd Set	ICD Description
046.1	ICD-9	JAKOB-CREUTZFELDT DIS
<RET>		
Exit	Save	Next Page
Refresh		
COMMAND: N<RET>		Press <PF1>H for help
		Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 2 of 5
NAME: CREUTZFELDT-JAKOB DISEASE		ACTIVE: YES
Selected Etiology	Selected Snomed Codes<RET>	
Antimicrobial Susceptibility	NLT Code	NLT Description
<RET>		
Exit	Save	Next Page
Refresh		
COMMAND: N<RET>		Press <PF1>H for help
		Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 3 of 5
NAME: CREUTZFELDT-JAKOB DISEASE		ACTIVE: YES
Topography Selection		
Include	Exclude	
<RET>	<RET>	
Exit	Save	Next Page
Refresh		
COMMAND: N<RET>		Press <PF1>H for help
		Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 4 of 5
NAME: CREUTZFELDT-JAKOB DISEASE		ACTIVE: YES
<hr/>		
First Encounter: <RET>	Follow PTF: YES<RET>	
BEFORE DATE OF BIRTH: <RET>	AFTER DATE OF BIRTH: <RET>	
Select SEX: <RET>		
<hr/>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 5 of 5
NAME: CREUTZFELDT-JAKOB DISEASE		ACTIVE: YES
<hr/>		
Run Date:<RET>	Protocol:LREPI<RET>	
Run Cycle:MONTHLY<RET>	Lag Days:15<RET>	
General Description:<TAB>		
<hr/>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help Insert
Save changes before leaving form (Y/N)?Y<RET>		

Cryptosporidium (Reference #9)

The parasite *Cryptosporidium parvum* is a cause of water-borne diarrheal disease. It has gained recent prominence after evaluation of the outbreak in the greater Milwaukee area in 1993 which is estimated to have affected <400,000 persons. In addition to affecting HIV-infected persons and young children, information exists which demonstrates that the chronically ill, elderly are also a higher risk group than the general population. Microbiology laboratory data (parasitology for most laboratories) as well as ICD coding is used to track this disease, both are narrowly defined parameters.

NOTE: Microsporidiosis is a similar disease, however, the EPI does **not** currently wish to follow this disease process. Microsporidian etiologies should **not** be entered.

NOTE: If a lab test needs to be entered in the parameter set up for a particular lab search/extract pathogen name (e.g. because there is more than one test result that may meet the definition), the second and subsequent tests must be placed in quotes (“”). Even though the “” marks are used to enter the data, they don't appear in the final product. This process can be done unlimited times for one set-up.

Example: Lab Search/Extract Parameter Setup for CRYPTOSPORIDIUM
emerging pathogen

```

                                Lab Search/Extract Primary Menu

ENH Lab EPI Manual Run (Enhanced)
VR Print Detailed Verification Report
LO Local Pathogen Menu ...
PI Pathogen Inquiry
UP Lab EPI Parameter Setup
   Lab EPI Protocol Edit
LK Antimicrobial Link Update

Select Lab Search/Extract Primary menu Option: UP<RET> Lab Search/Extract
Parameter Setup

Select LAB SEARCH/EXTRACT NAME: ?<RET>
  Answer with LAB SEARCH/EXTRACT NAME, or REFERENCE NUMBER
  Do you want the entire 16-Entry LAB SEARCH/EXTRACT List? Y (Yes)<RET>
Choose from:
  CANDIDA
  CLOSTRIDIUM DIFFICILE
  CREUTZFELDT-JAKOB DISEASE
  CRYPTOSPORIDIUM
  DENGUE
  E. COLI 0157:H7
  HEPATITIS A ANTIBODY POS
  HEPATITIS B POS
  HEPATITIS C ANTIBODY NEG
  HEPATITIS C ANTIBODY POS
  LEGIONELLA
  LEISHMANIASIS
  MALARIA
  NCH CHOLESTEROL
  NCH PAP SMEAR
  PEN-RES PNEUMOCOCCUS
  STREPTOCOCCUS GROUP A
  TUBERCULOSIS
  VANC-RES ENTEROCOCCUS

  Select LAB SEARCH/EXTRACT NAME: CRYPTOSPORIDIUM <RET>
```

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN			Page 1 of 5
NAME: CRYPTOSPORIDIUM		ACTIVE: YES	
Laboratory Test(s)	Indicator	Value	
<RET>			
ICD Coding System [ICD-9 or ICD-10]? (9/10):9<RET>			
ICD Code	Cd Set	ICD Description	
007.8	ICD-9	PROTOZOAL INTEST DIS N	
<RET>			
Exit	Save	Next Page	Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert	

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN			Page 2 of 5
NAME: CRYPTOSPORIDIUM		ACTIVE: YES	
Selected Etiology	Selected Snomed Codes		
Cryptosporidium<RET>			
Note: If Cryptosporidium is reported under parasitology, add Cryptosporidium species at the Etiology prompt.			
Antimicrobial Susceptibility	NLT Code	NLT Description	
<RET>			
Exit	Save	Next Page	Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert	

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN			Page 3 of 5
NAME: CRYPTOSPORIDIUM		ACTIVE: YES	
Topography Selection			
Include	Exclude		
<RET>	<RET>		
Exit	Save	Next Page	Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert	

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 4 of 5
NAME: CRYPTOSPORIDIUM		ACTIVE: YES
<hr/>		
First Encounter:<RET>	Follow PTF: YES<RET>	
BEFORE DATE OF BIRTH:<RET>	AFTER DATE OF BIRTH:<RET>	
Select SEX:<RET>		
<hr/>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 5 of 5
NAME: CRYPTOSPORIDIUM		ACTIVE: YES
<hr/>		
Run Date:	Protocol: LREPI<RET>	
Run Cycle:MONTHLY<RET>	Lag Days:15<RET>	
General Description:<TAB>		
<hr/>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help
Insert		
Save changes before leaving form (Y/N)?Y<RET>		

Dengue (Reference #12)

The mosquito-borne disease of Dengue Hemorrhagic Fever is a rare but re-emerging infection, especially in the Caribbean. The VA has seen cases of Dengue Hemorrhagic Fever over the last several years. Most of these cases have been in Dengue endemic areas served by the VA. However, as our society becomes more mobile, and the area of Dengue endemncity expands, more cases are likely to occur. Because microbiologic culture is not routinely done and serology can be difficult to track, initially ICD coded diagnoses are used to track this entity.

Example: Lab Search/Extract Parameter Setup for DENGUE emerging pathogen

```

                                Lab Search/Extract Primary Menu

ENH Lab EPI Manual Run (Enhanced)
VR Print Detailed Verification Report
LO Local Pathogen Menu ...
PI Pathogen Inquiry
UP Lab EPI Parameter Setup
   Lab EPI Protocol Edit
LK Antimicrobial Link Update

Select Lab Search/Extract Primary menu Option: UP<RET> Lab Search/Extract
Parameter Setup

Select LAB SEARCH/EXTRACT NAME: ?<RET>
  Answer with LAB SEARCH/EXTRACT NAME, or REFERENCE NUMBER
  Do you want the entire 16-Entry LAB SEARCH/EXTRACT List? Y (Yes)<RET>
Choose from:
  CANDIDA
  CLOSTRIDIUM DIFFICILE
  CREUTZFELDT-JAKOB DISEASE
  CRYPTOSPORIDIUM
  DENGUE
  E. COLI 0157:H7
  HEPATITIS A ANTIBODY POS
  HEPATITIS B POS
  HEPATITIS C ANTIBODY NEG
  HEPATITIS C ANTIBODY POS
  LEGIONELLA
  LEISHMANIASIS
  MALARIA
  NCH CHOLESTEROL
  NCH PAP SMEAR
  PEN-RES PNEUMOCOCCUS
  STREPTOCOCCUS GROUP A
  TUBERCULOSIS
  VANC-RES ENTEROCOCCUS

Select LAB SEARCH/EXTRACT NAME: DENGUE <RET>

```

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 1 of 5
NAME: DENGUE		ACTIVE: YES
<hr/>		
Laboratory Test(s)	Indicator	Value
<RET>		
ICD Coding System [ICD-9 or ICD-10]? (9/10): 9<RET>		
ICD Code	Cd Set	ICD Description
061.	ICD-9	DENGUE
065.4	ICD-9	MOSQUITO-BORNE HEM FEVER
<RET>		
<hr/>		
Exit	Save	Next Page Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 2 of 5
NAME: DENGUE		ACTIVE: YES
<hr/>		
Etiology	Selected Snomed Codes	
<RET>		
Antimicrobial Susceptibility	NLT Code	NLT Description
<RET>		
<hr/>		
Exit	Save	Next Page Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN				Page 3 of 5
NAME: DENGUE		ACTIVE: YES		
<hr/>				
Topography Selection				
Include		Exclude		
<RET>		<RET>		
<hr/>				
Exit	Save	Next Page	Refresh	
COMMAND: N<RET>		Press <PF1>H for help Insert		

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN				Page 4 of 5
NAME: DENGUE		ACTIVE: YES		
<hr/>				
First Encounter: <RET>		Follow PTF: YES <RET>		
BEFORE DATE OF BIRTH:<RET>		AFTER DATE OF BIRTH:<RET>		
Select SEX:<RET>				
<hr/>				
Exit	Save	Refresh		
COMMAND: E<RET>		Press <PF1>H for help		

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN				Page 5 of 5
NAME: DENGUE		ACTIVE	YES	
<hr/>				
Run Date:<RET>		Protocol:LREPI<RET>		
Run Cycle:MONTHLY<RET>		Lag Days:15<RET>		
General Description:<TAB>				
<hr/>				
Exit	Save	Refresh		
COMMAND: E<RET>		Press <PF1>H for help Insert		
Save changes before leaving form (Y/N)?Y<RET>				

E. coli O157:H7 (Reference #10)

Escherichia coli serotype O157 (*E. coli* O157) has gained prominence as a food-borne illness with potentially life threatening complications coming from the associated Hemolytic Uremic Syndrome. Not all sites routinely culture for the presence of *E. coli* O157 in stool specimens submitted for culture. In addition, *E. coli* O157 is not a microbiologic (bacterial) etiology pre-existing in the most recent - national microbiology lab package. In order to nationally track cultures positive for this organism, each site will need to make an etiology specific for *E-coli* O157 (e.g. *Escherichia coli* O157, *E. coli* O157, *E. coli* serotype O157, etc.). Some sites have already done this and will **not** need to generate a new entry.

NOTE: Entering *Escherichia coli* or *E. coli* from the bacterial etiology and then entering “serotype O157” or “O157”, under the “Comments” or “Free Text” section is **not** acceptable, as it will **not** allow the data to be retrieved nationally.

All subsequent positive cultures for this organism **must** then be entered under the new etiology.

Other serotypes of *E. coli* will also cause disease, but we will not currently track these as O157 causes by far, the majority of cases of interest for the national database.

The EPI criteria is dependent on your site. If your site already has an etiology that will select positive cultures for *E. coli* O157, then enter that etiology. However, if your site had to enter a new etiology to accommodate the EPI criteria, be sure to enter this new etiology here.

NOTE: If a lab test needs to be entered in the parameter set up for a particular lab search/extract pathogen name (e.g. because there is more than one test result that may meet the definition), the second and subsequent tests must be placed in quotes (“ ”). Even though the “ ” marks are used to enter the data, they don't appear in the final product. This process can be done unlimited times for one set-up.

Example: Lab Search/Extract Parameter Setup for E. COLI 0157:H7

```

                                Lab Search/Extract Primary Menu

ENH Lab EPI Manual Run (Enhanced)
VR Print Detailed Verification Report
LO Local Pathogen Menu ...
PI Pathogen Inquiry
UP Lab EPI Parameter Setup
   Lab EPI Protocol Edit
LK Antimicrobial Link Update

Select Lab Search/Extract Primary menu Option: UP<RET> Lab Search/Extract
Parameter Setup

Select LAB SEARCH/EXTRACT NAME: ?<RET>
  Answer with LAB SEARCH/EXTRACT NAME, or REFERENCE NUMBER
  Do you want the entire 16-Entry LAB SEARCH/EXTRACT List? Y (Yes)<RET>
Choose from:
  CANDIDA
  CLOSTRIDIUM DIFFICILE
  CREUTZFELDT-JAKOB DISEASE
  CRYPTOSPORIDIUM
  DENGUE
  E. COLI 0157:H7
  HEPATITIS A ANTIBODY POS
  HEPATITIS B POS
  HEPATITIS C ANTIBODY NEG
  HEPATITIS C ANTIBODY POS
  LEGIONELLA
  LEISHMANIASIS
  MALARIA
  NCH CHOLESTEROL
  NCH PAP SMEAR
  PEN-RES PNEUMOCOCCUS
  STREPTOCOCCUS GROUP A
  TUBERCULOSIS
  VANC-RES ENTEROCOCCUS

Select LAB SEARCH/EXTRACT NAME: E. COLI 0157:H7 <RET>

```

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN			Page 1 of 5
NAME: E. COLI 0157:H7		ACTIVE: YES	
Laboratory Test(s)	Indicator	Value	
<RET>			
ICD Coding System [ICD-9 or ICD-10]? (9/10):9<RET>			
ICD Code	Cd Set	ICD Description	
<RET>			
Exit	Save	Next Page	Refresh
COMMAND: N<RET>			Press <PF1>H for help

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN			Page 2 of 5
NAME: E. COLI 0157:H7		ACTIVE: YES	
Selected Etiology			
Example: Escherichia coli 0157 <RET>			
Note: Entering <i>Escherichia coli</i> or <i>E. coli</i> from the bacterial etiology and then entering "serotype 0157" or "0157", under the Comments section or in free text is not acceptable as it will not allow the data to be retrieved nationally).			
Antimicrobial Susceptibility	NLT Code	NLT Description	
<RET>			
Exit	Save	Next Page	Refresh
COMMAND: N<RET>			Press <PF1>H for help

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 3 of 5
NAME: E. COLI 0157:H7		ACTIVE: YES
<hr/> <p style="text-align: center;">Topography Selection</p>		
Include <RET>	Exclude <RET>	
<hr/>		
Exit	Save	Next Page Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 4 of 5
NAME: E. COLI 0157:H7		ACTIVE: YES
<hr/>		
First Encounter:<RET>	Follow PTF: YES <RET>	
BEFORE DATE OF BIRTH:<RET>	AFTER DATE OF BIRTH:<RET>	
Select SEX:<RET>		
<hr/>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 5 of 5
NAME: E. COLI 0157:H7		ACTIVE YES
<hr/>		
Run Date:<RET>	Protocol: LREPI <RET>	
Run Cycle: MONTHLY <RET>	Lag Days: 15 <RET>	
General Description:<TAB>		
<hr/>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help Insert
Save changes before leaving form (Y/N)? Y <RET>		

Hepatitis A Antibody Positive (Reference #16)

One of the goals of the Healthy People 2000 and 2010 initiatives of the Department of Health and Human Services is to decrease certain infectious diseases, especially those that are vaccine preventable. Acute infection with Hepatitis A is one such disease that has specific objectives present in the Healthy People objectives.

The purpose of surveillance for this disease is to record all cases as diagnosed by the laboratory. A positive laboratory test for the presence of Hepatitis A virus is needed. Usually this criterion is met by presence of antibodies to the Hepatitis A virus. In particular, the IgM antibody against hepatitis A is the test most commonly used for determining acute hepatitis A infection. There are other antibody tests available for Hepatitis A. These tests usually indicate past infection with hepatitis A (or in some circumstances may indicate evidence of previous vaccination); usually the IgG antibody against Hepatitis A, OR the Total antibody against Hepatitis A (a test that does not discriminate between IgM or IgG, but can show evidence of exposure) are the tests done for this purpose.

What we are looking for is evidence of presence of ANY antibody to Hepatitis A, whether it is recorded as “weakly positive,” “strongly positive,” “positive,” or “present.” If other phrases are used to describe a test result, one should be able to differentiate responses upon entry into the program. As an example, the words “present” and “not present” might be used to designate “positive” vs. “negative”, however, they would not allow retrieval of only the positive cases as both phrases contain the word, “present.” Also, numerical values of results (e.g. at titer value) are not readily useable. Therefore, parameters for this are to be laboratory based and should include all tests for antibodies against hepatitis A (see examples above).

Also, some institutions will use ICD-9 coding and problem lists as a means to abstract data on this disease. DO NOT use these methods for this particular program. We are only abstracting laboratory confirmed cases of antibodies against Hepatitis A.

NOTE: If a lab test needs to be entered in the parameter set up for a particular lab search/extract pathogen name (e.g. because there is more than one test result that may meet the definition), the second and subsequent tests must be placed in quotes (“ ”). Even though the “ ” marks are used to enter the data, they don't appear in the final product. This process can be done unlimited times for one set-up.

Example: Lab Search/Extract Parameter Setup HEPATITIS A ANTIBODY POS pathogen

```

                                Lab Search/Extract Primary Menu

ENH Lab EPI Manual Run (Enhanced)
VR Print Detailed Verification Report
LO Local Pathogen Menu ...
PI Pathogen Inquiry
UP Lab EPI Parameter Setup
    Lab EPI Protocol Edit
LK Antimicrobial Link Update

Select Lab Search/Extract Primary menu Option: UP<RET> Lab Search/Extract
Parameter Setup

Select LAB SEARCH/EXTRACT NAME: ?<RET>
Answer with LAB SEARCH/EXTRACT NAME, or REFERENCE NUMBER
Do you want the entire 16-Entry LAB SEARCH/EXTRACT List? Y (Yes)<RET>
Choose from:
    CANDIDA
    CLOSTRIDIUM DIFFICILE
    CREUTZFELDT-JAKOB DISEASE
    CRYPTOSPORIDIUM
    DENGUE
    E. COLI 0157:H7
    HEPATITIS A ANTIBODY POS
    HEPATITIS B POS
    HEPATITIS C ANTIBODY NEG
    HEPATITIS C ANTIBODY POS
    LEGIONELLA
    LEISHMANIASIS
    MALARIA
    NCH CHOLESTEROL
    NCH PAP SMEAR
    PEN-RES PNEUMOCOCCUS
    STREPTOCOCCUS GROUP A
    TUBERCULOSIS
    VANC-RES ENTEROCOCCUS

Select LAB SEARCH/EXTRACT NAME: HEPATITIS A ANTIBODY POS <RET>

```

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 1 of 5
NAME: HEPATITIS A ANTIBODY POS		ACTIVE: NO

Laboratory Test(s)	Indicator	Value
HEP A ANTIBODY-TOTAL<RET>	Equal To<RET>	REACTIVE<RET>
HEP A ANTIBODY(IgM)<RET>	Contains<RET>	POS<RET>
HEPATITIS A AB(IGG)D/C(2/99)<RET>	Contains<RET>	POS<RET>
"HEPATITIS A AB(IGG)D/C(2/99)"<RET>	Contains<RET>	Pos<RET>
"HEPATITIS A AB(IGG)D/C(2/99)"<RET>	Contains<RET>	P<RET>
"HEPATITIS A AB(IGG)D/C(2/99)"<RET>	Contains<RET>	p<RET>
"HEP A ANTIBODY-TOTAL"<RET>	Equal To<RET>	R<RET>

Note: Enter the appropriate test for your site, and how the results are reported.

ICD Coding System [ICD-9 or ICD-10]? (9/10):<RET>

ICD Code	Cd Set	ICD Description
<RET>		

Exit Save Next Page Refresh

COMMAND: N<RET> Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 2 of 5
NAME: HEPATITIS A ANTIBODY POS		ACTIVE: NO

Selected Etiology	Selected Snomed Codes
<RET>	

Antimicrobial Susceptibility	NLT Code	NLT Description
<RET>		

Exit Save Next Page Refresh

COMMAND: N<RET> Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 3 of 5
NAME: HEPATITIS A ANTIBODY POS		ACTIVE: NO
<hr/> <p style="text-align: center;">Topography Selection</p>		
Include <RET>	Exclude <RET>	
<hr/>		
Exit	Save	Next Page Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 4 of 5
NAME: HEPATITIS A ANTIBODY POS		ACTIVE: NO
<hr/>		
First Encounter:<RET>	Follow PTF: YES<RET>	
BEFORE DATE OF BIRTH:<RET>	AFTER DATE OF BIRTH:<RET>	
Select SEX:<RET>		
<hr/>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 5 of 5
NAME: HEPATITIS A ANTIBODY POS		ACTIVE NO
<hr/>		
Run Date:<RET>	Protocol: LREPI<RET>	
Run Cycle: MONTHLY<RET>	Lag Days: 15<RET>	
General Description:<TAB>		
<hr/>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help
Save changes before leaving form (Y/N)? Y<RET>		

Hepatitis B Positive (Reference #17)

One of the goals of the Healthy People 2000 and 2010 initiatives of the Department of Health and Human Services is to decrease certain infectious diseases, especially those that are vaccine preventable. Acute and chronic infection with Hepatitis B is one such disease that has specific objectives present in the Healthy People objectives.

Both acute and chronic diseases have significant morbidity and can contribute to mortality. Further, infection with hepatitis B can complicate the medical course of persons with other liver ailments. As such, surveillance for both acute and chronic disease is important. In order for the VHA to do surveillance for these diseases, we are looking for laboratory evidence of infection with hepatitis B. This laboratory evidence of infection includes the following standard serological markers:

1. Presence of the Hepatitis B surface antigen
2. Presence of antibodies against the Hepatitis B core antigen (in particular, the IgM antibody)
3. Presence of antibodies against the Hepatitis B surface antigen
4. Presence of the hepatitis B e antigen.

These are not all of the tests that can be done for hepatitis B, but they are the ones likely to pick up acute cases (new) or those chronic cases that are likely to be infectious to other persons. Please list only those tests at your facility that are in keeping with what we are looking for—acute cases, or those cases likely to be infectious to others.

NOTE: There are advanced PCR based tests that can measure amount of virus in the bloodstream; these are not done at all sites and have not yet been FDA approved. As such, these PCR tests should not be used for case determination.

NOTE: If a lab test needs to be entered in the parameter set up for a particular lab search/extract pathogen name (e.g. because there is more than one test result that may meet the definition), the second and subsequent tests must be placed in quotes (“ ”). Even though the “ ” marks are used to enter the data, they don't appear in the final product. This process can be done unlimited times for one set-up.

Example: Lab Search/Extract Parameter Setup for HEPATITIS B POS pathogen

```

                                Lab Search/Extract Primary Menu

ENH Lab EPI Manual Run (Enhanced)
VR Print Detailed Verification Report
LO Local Pathogen Menu ...
PI Pathogen Inquiry
UP Lab EPI Parameter Setup
    Lab EPI Protocol Edit
LK Antimicrobial Link Update

Select Lab Search/Extract Primary menu Option: UP<RET> Lab Search/Extract
Parameter Setup

Select LAB SEARCH/EXTRACT NAME: ?<RET>
    Answer with LAB SEARCH/EXTRACT NAME, or REFERENCE NUMBER
    Do you want the entire 16-Entry LAB SEARCH/EXTRACT List? Y (Yes)<RET>
Choose from:
    CANDIDA
    CLOSTRIDIUM DIFFICILE
    CREUTZFELDT-JAKOB DISEASE
    CRYPTOSPORIDIUM
    DENGUE
    E. COLI 0157:H7
    HEPATITIS A ANTIBODY POS
    HEPATITIS B POS
    HEPATITIS C ANTIBODY NEG
    HEPATITIS C ANTIBODY POS
    LEGIONELLA
    LEISHMANIASIS
    MALARIA
    NCH CHOLESTEROL
    NCH PAP SMEAR
    PEN-RES PNEUMOCOCCUS
    STREPTOCOCCUS GROUP A
    TUBERCULOSIS
    VANC-RES ENTEROCOCCUS

Select LAB SEARCH/EXTRACT NAME: HEPATITIS B POS<RET>

```

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 1 of 5
NAME: HEPATITIS B POS		ACTIVE: NO

Laboratory Test(s)	Indicator	Value
HEP B SURFACE Ag<RET>	Contains<RET>	POS<RET>
HEP B SURFACE AB<RET>	Contains<RET>	POS<RET>
HEP B CORE AB(IgM)<RET>	Contains<RET>	POS<RET>
HEP Be ANTIGEN<RET>	Contains<RET>	POS<RET>
"HEP Be ANTIGEN"<RET>	Contains<RET>	Pos<RET>
"HEP Be ANTIGEN"<RET>	Contains<RET>	p<RET>
"HEP Be ANTIGEN"<RET>	Contains<RET>	P<RET>

Note: Enter the appropriate test for your site, and how the results are reported.

ICD Coding System [ICD-9 or ICD-10]? (9/10):<RET>

ICD Code	Cd Set	ICD Description
<RET>		

Exit Save Next Page Refresh

COMMAND: N<RET> Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 2 of 5
NAME: HEPATITIS B POS		ACTIVE: NO

Selected Etiology	Selected Snomed Codes
<RET>	

Antimicrobial Susceptibility	NLT Code	NLT Description
<RET>		

Exit Save Next Page Refresh

COMMAND: N<RET> Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 3 of 5
NAME: HEPATITIS B POS		ACTIVE: NO
<hr/> <p style="text-align: center;">Topography Selection</p>		
Include <RET>	Exclude <RET>	
<hr/>		
Exit	Save	Next Page Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 4 of 5
NAME: HEPATITIS B POS		ACTIVE: NO
<hr/>		
First Encounter:<RET>	Follow PTF: YES<RET>	
BEFORE DATE OF BIRTH:<RET>	AFTER DATE OF BIRTH:<RET>	
Select SEX:<RET>		
<hr/>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 5 of 5
NAME: HEPATITIS B POS		ACTIVE NO
<hr/>		
Run Date:<RET>	Protocol: LREPI<RET>	
Run Cycle: MONTHLY<RET>	Lag Days: 15<RET>	
General Description:<TAB>		
<hr/>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help
Save changes before leaving form (Y/N)? Y<RET>		

Not Positive for Hepatitis C Antibody OR Hepatitis C Antibody Neg (Reference #15)

The first version of the EPI gathered data on persons who were positive for antibody against Hepatitis C. This version will continue to gather such data. However, there are many cases, and it is important to try to find out what differences there are in those persons who are positive for Hepatitis C antibody as opposed to those who do not have Hepatitis C antibody present. Therefore, please review those results that you have designated to be placed into the Hepatitis C Antibody Positive portion of the EPI. Be sure that they truly meet the definition, as noted in Lab Search/Extract Patch LR*5.2*175 Technical and User Guide (distributed August 1998).

All the results of Hepatitis C antibody testing that are not considered “positive” should be reported in this area. Therefore, all of the hepatitis C results that your facility reports should be mapped to either the hepatitis C Antibody Positive file or the Not Positive for Hepatitis C Antibody File. Not positive terms may include “negative,” “indeterminant,” “indeterminate,” “undetectable.” As with the Hepatitis C Antibody Positive component, be sure that phrases that truly differentiate results are used (e.g. the results of “present” and “not present” are not truly differentiated by computer retrieval as both contain the word “present”).

NOTE: There are PCR based tests utilized for Hepatitis C. These tests are not used at all facilities and are not yet FDA approved for identification of hepatitis C disease. As such, they should not be used for reporting purposes with this iteration of EPI.

NOTE: If a lab test needs to be entered in the parameter set up for a particular lab search/extract pathogen name (e.g. because there is more than one test result that may meet the definition), the second and subsequent tests must be placed in quotes (“ ”). Even though the “ ” marks are used to enter the data, they don't appear in the final product. This process can be done unlimited times for one set-up.

**Example: Lab Search/Extract Parameter Setup for HEPATITIS C ANTIBODY
NEG pathogen**

```

                                Lab Search/Extract Primary Menu

ENH Lab EPI Manual Run (Enhanced)
VR Print Detailed Verification Report
LO Local Pathogen Menu ...
PI Pathogen Inquiry
UP Lab EPI Parameter Setup
   Lab EPI Protocol Edit
LK Antimicrobial Link Update

Select Lab Search/Extract Primary menu Option: UP<RET> Lab Search/Extract
Parameter Setup

Select LAB SEARCH/EXTRACT NAME: ?<RET>
  Answer with LAB SEARCH/EXTRACT NAME, or REFERENCE NUMBER
  Do you want the entire 16-Entry LAB SEARCH/EXTRACT List? Y (Yes)<RET>
Choose from:
  CANDIDA
  CLOSTRIDIUM DIFFICILE
  CREUTZFELDT-JAKOB DISEASE
  CRYPTOSPORIDIUM
  DENGUE
  E. COLI 0157:H7
  HEPATITIS A ANTIBODY POS
  HEPATITIS B POS
  HEPATITIS C ANTIBODY NEG
  HEPATITIS C ANTIBODY POS
  LEGIONELLA
  LEISHMANIASIS
  MALARIA
  NCH CHOLESTEROL
  NCH PAP SMEAR
  PEN-RES PNEUMOCOCCUS
  STREPTOCOCCUS GROUP A
  TUBERCULOSIS
  VANC-RES ENTEROCOCCUS

Select LAB SEARCH/EXTRACT NAME: HEPATITIS C ANTIBODY NEG<RET>

```

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN			Page 1 of 5
NAME: HEPATITIS C ANTIBODY NEG		ACTIVE: NO	
Laboratory Test(s)	Indicator	Value	
HEP C ANTIBODY<RET>	Contains<RET>	NEG<RET>	
"HEP C ANTIBODY"<RET>	Contains<RET>	SEE COMMENTS<RET>	
"HEP C ANTIBODY"<RET>	Contains<RET>	*<RET>	
"HEP C ANTIBODY"<RET>	Contains<RET>	#<RET>	
Note: Enter the appropriate test for your site, and how the results are reported.			
ICD Coding System [ICD-9 or ICD-10]? (9/10):<RET>			
ICD Code	Cd Set	ICD Description	
<RET>			
Exit	Save	Next Page	Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert	

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN			Page 2 of 5
NAME: HEPATITIS C ANTIBODY NEG		ACTIVE: NO	
Selected Etiology		Selected Snomed Codes	
<RET>			
Antimicrobial Susceptibility	NLT Code	NLT Description	
<RET>			
Exit	Save	Next Page	Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert	

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 3 of 5
NAME: HEPATITIS C ANTIBODY Neg		ACTIVE: NO
<hr/> <p style="text-align: center;">Topography Selection</p>		
Include <RET>	Exclude <RET>	
<hr/>		
Exit	Save	Next Page Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 4 of 5
NAME: HEPATITIS C ANTIBODY NEG		ACTIVE: NO
<hr/>		
First Encounter:<RET>	Follow PTF: YES<RET>	
BEFORE DATE OF BIRTH:<RET>	AFTER DATE OF BIRTH:<RET>	
Select SEX:<RET>		
<hr/>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 5 of 5
NAME: HEPATITIS C ANTIBODY NEG		ACTIVE NO
<hr/>		
Run Date:<RET>	Protocol: LREPI<RET>	
Run Cycle: MONTHLY<RET>	Lag Days: 15<RET>	
General Description:<TAB>		
<hr/>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help
Save changes before leaving form (Y/N)? Y<RET>		

Hepatitis C Antibody Positive (Reference #2)

Hepatitis C is much more prevalent than originally thought at least in certain key patient sub-populations. As new and more sensitive assays come into use, we seem to find more evidence of this pathogen. We are looking for evidence of exposure to Hepatitis C in patients as demonstrated by Hepatitis C antibody positivity. The need for confirmatory testing or demonstration of active disease is not currently necessary in gathering data for this program. Different facilities may use different assays for this test. What we are looking for is evidence of presence of antibody to Hepatitis C, whether it be recorded as “weakly positive”, “strongly positive”, “positive”, or “present”. If other phrases are used to describe a test result, one should be able to differentiate the results upon entry into the program. As an example, the words, “present” and “not present” would not allow retrieval of only positive cases as both phrases contain the word, “present”.

NOTE: There are PCR based tests utilized for Hepatitis C. These tests are not used at all facilities and are not yet FDA approved for identification of hepatitis C disease. As such, they should not be used for reporting purposes with this iteration of EPI.

Example: Lab Search/Extract Parameter Setup for Hepatitis C Antibody POS pathogen.

```

                                Lab Search/Extract Primary Menu

ENH Lab EPI Manual Run (Enhanced)
VR Print Detailed Verification Report
LO Local Pathogen Menu ...
PI Pathogen Inquiry
UP Lab EPI Parameter Setup
    Lab EPI Protocol Edit
LK Antimicrobial Link Update

Select Lab Search/Extract Primary menu Option: UP<RET> Lab Search/Extract
Parameter Setup

Select LAB SEARCH/EXTRACT NAME: ?<RET>
    Answer with LAB SEARCH/EXTRACT NAME, or REFERENCE NUMBER
    Do you want the entire 16-Entry LAB SEARCH/EXTRACT List? Y (Yes)<RET>
Choose from:
    CANDIDA
    CLOSTRIDIUM DIFFICILE
    CREUTZFELDT-JAKOB DISEASE
    CRYPTOSPORIDIUM
    DENGUE
    E. COLI 0157:H7
    HEPATITIS A ANTIBODY POS
    HEPATITIS B POS
    HEPATITIS C ANTIBODY NEG
    HEPATITIS C ANTIBODY POS
    LEGIONELLA
    LEISHMANIASIS
    MALARIA
    NCH CHOLESTEROL
    NCH PAP SMEAR
    PEN-RES PNEUMOCOCCUS
    STREPTOCOCCUS GROUP A
    TUBERCULOSIS
    VANC-RES ENTEROCOCCUS

Select LAB SEARCH/EXTRACT NAME: HEPATITIS C ANTIBODY POS <RET>

```

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN			Page 1 of 5
NAME: HEPATITIS C ANTIBODY POS		ACTIVE: YES	
Laboratory Test(s)	Indicator	Value	
HEPATITIS C ANTIBODY<RET>	Contains<RET>	POS<RET>	
Note: Enter the appropriate test for your site, and how the results are reported.			
ICD Coding System [ICD-9 or ICD-10]? (9/10):<RET>			
ICD Code	Cd Set	ICD Description	
<RET>			
Exit	Save	Next Page	Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert	

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN			Page 2 of 5
NAME: HEPATITIS C ANTIBODY POS		ACTIVE: YES	
Selected Etiology		Selected Snomed Codes	
<RET>			
Antimicrobial Susceptibility	NLT Code	NLT Description	
<RET>			
Exit	Save	Next Page	Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert	

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 3 of 5
NAME: HEPATITIS C ANTIBODY POS		ACTIVE: YES
<p style="text-align: center;">Topography Selection</p> <div style="display: flex; justify-content: space-around;"> <div> Include <RET> </div> <div> Exclude <RET> </div> </div>		
Exit	Save	Next Page Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 4 of 5
NAME: HEPATITIS C ANTIBODY POS		ACTIVE: YES
<div style="display: flex; justify-content: space-between;"> <div>First Encounter:<RET></div> <div>Follow PTF: YES<RET></div> </div> <div style="display: flex; justify-content: space-between;"> <div>BEFORE DATE OF BIRTH:<RET></div> <div>AFTER DATE OF BIRTH:<RET></div> </div> <div>Select SEX:<RET></div>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 5 of 5
NAME: HEPATITIS C ANTIBODY POS		ACTIVE YES
<div style="display: flex; justify-content: space-between;"> <div>Run Date:<RET></div> <div>Protocol: LREPI<RET></div> </div> <div style="display: flex; justify-content: space-between;"> <div>Run Cycle: MONTHLY<RET></div> <div>Lag Days: 15<RET></div> </div> <div>General Description:<TAB></div>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help
Save changes before leaving form (Y/N)? Y<RET>		

Legionella (Reference #7)

Since the American Legion Convention in Philadelphia in the 1970's, Legionnaires' Disease has been an illness of keen interest to the DVA. Because diagnosis is complex, we have chosen to review for presence of *Legionella* in culture and in ICD DIAGNOSIS file (#80). We will not look at *Legionella* direct fluorescent antibody positivity because of the potential high false positivity of this test. Likewise, serology is not easy to interpret or easily extracted from the VISTA database for our purposes and will **not** be included as a marker in this first iteration of the EPI program. Because it is not yet approved, the newer test of *Legionella* urinary antigen will not be used either. The Selected Etiology screen display has been partially pre-populated.

```

                                Lab Search/Extract Primary Menu

ENH Lab EPI Manual Run (Enhanced)
VR Print Detailed Verification Report
LO Local Pathogen Menu ...
PI Pathogen Inquiry
UP Lab EPI Parameter Setup
    Lab EPI Protocol Edit
LK Antimicrobial Link Update

Select Lab Search/Extract Primary menu Option: UP<RET> Lab Search/Extract
Parameter Setup

Select LAB SEARCH/EXTRACT NAME: ?<RET>
Answer with LAB SEARCH/EXTRACT NAME, or REFERENCE NUMBER
Do you want the entire 16-Entry LAB SEARCH/EXTRACT List? Y (Yes)<RET>
Choose from:
CANDIDA
CLOSTRIDIUM DIFFICILE
CREUTZFELDT-JAKOB DISEASE
CRYPTOSPORIDIUM
DENGUE
E. COLI 0157:H7
HEPATITIS A ANTIBODY POS
HEPATITIS B POS
HEPATITIS C ANTIBODY NEG
HEPATITIS C ANTIBODY POS
LEGIONELLA
LEISHMANIASIS
MALARIA
NCH CHOLESTEROL
NCH PAP SMEAR
PEN-RES PNEUMOCOCCUS
STREPTOCOCCUS GROUP A
TUBERCULOSIS
VANC-RES ENTEROCOCCUS

Select LAB SEARCH/EXTRACT NAME: LEGIONELLA<RET>

```


LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN Page 1 of 5

NAME: LEGIONELLA ACTIVE: YES

Laboratory Test(s)	Indicator	Value
<RET>		
ICD Coding System [ICD-9 or ICD-10]? (9/10): 9<RET>		
ICD Code	Cd Set	ICD Description
482.80	ICD-9	LEGIONNAIRIE'S DISEASE
482.84	ICD-9	LEGIONNAIRIE'S DISEASE
<RET>		

Exit Save Next Page Refresh

COMMAND: N<RET> Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN Page 2 of 5

NAME: LEGIONELLA ACTIVE: YES

Selected Etiology

Examples: LEGIONELLA BOZEMANII
 LEGIONELLA DUMOFFII
 LEGIONELLA GORMANII
 LEGIONELLA JORDANIS
 LEGIONELLA LONGBEACHAE
 LEGIONELLA MICDADEI
 LEGIONELLA OAKRIDGENSIS
 LEGIONELLA PNEUMOPHILIA
 LEGIONELLA SP
 LEGIONELLA WADSWORTHII

<RET>

Note: During the post Init, the ETIOLOGY FIELD file (#61.2) was searched to pre-populate the Etiology field (#3) in the EMERGING PATHOGENS file (#69.5). Listed above are examples of etiology entries which may have been populated from your site's file. Additional etiologies may be added or deleted at the Selected Etiology prompt to meet your site-specific needs.

Note: If spelling differences occur within your ETIOLOGY FIELD file (#61.2) be consistent with your local file and spell the results here, as it is spelled in your file (even if it is spelled differently in the example). We are concerned more importantly with data recovery.

Antimicrobial Susceptibility	NLT Code	NLT Description
<RET>		

Exit Save Next Page Refresh

COMMAND: N<RET> Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 3 of 5
NAME: LEGIONELLA	ACTIVE: YES	
<hr/>		
Topography Selection		
Include <RET>	Exclude <RET>	
<hr/>		
Exit	Save	Next Page Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 4 of 5
NAME: LEGIONELLA	ACTIVE: YES	
<hr/>		
First Encounter:<RET>	Follow PTF: YES<RET>	
BEFORE DATE OF BIRTH:<RET>	AFTER DATE OF BIRTH:<RET>	
Select SEX:<RET>		
<hr/>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 5 of 5
NAME: E. LEGIONELLA	ACTIVE YES	
<hr/>		
Run Date:<RET>	Protocol:LREPI<RET>	
Run Cycle:MONTHLY<RET>	Lag Days:15<RET>	
General Description:<TAB>		
<hr/>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help Insert
Save changes before leaving form (Y/N)?Y<RET>		

Leishmaniasis (Reference #14)

Leishmaniasis is a significant tropical disease that can cause serious complications. It is of interest to the Department of Veterans Affairs as Leishmania has caused illness among military personnel for many years. In addition, the Persian Gulf War occurred in an area of the world where the parasite is endemic. Because no simple, straightforward serology exists and no standard culture techniques exist, we have chosen to follow this entity through ICD diagnosis codes.

Example:

```

                                Lab Search/Extract Primary Menu

ENH Lab EPI Manual Run (Enhanced)
VR Print Detailed Verification Report
LO Local Pathogen Menu ...
PI Pathogen Inquiry
UP Lab EPI Parameter Setup
    Lab EPI Protocol Edit
LK Antimicrobial Link Update

Select Lab Search/Extract Primary menu Option: UP<RET> Lab Search/Extract
Parameter Setup

Select LAB SEARCH/EXTRACT NAME: ?<RET>
Answer with LAB SEARCH/EXTRACT NAME, or REFERENCE NUMBER
Do you want the entire 16-Entry LAB SEARCH/EXTRACT List? Y (Yes)<RET>
Choose from:
CANDIDA
CLOSTRIDIUM DIFFICILE
CREUTZFELDT-JAKOB DISEASE
CRYPTOSPORIDIUM
DENGUE
E. COLI 0157:H7
HEPATITIS A ANTIBODY POS
HEPATITIS B POS
HEPATITIS C ANTIBODY NEG
HEPATITIS C ANTIBODY POS
LEGIONELLA
LEISHMANIASIS
MALARIA
NCH CHOLESTEROL
NCH PAP SMEAR
PEN-RES PNEUMOCOCCUS
STREPTOCOCCUS GROUP A
TUBERCULOSIS
VANC-RES ENTEROCOCCUS

Select LAB SEARCH/EXTRACT NAME: LEISHMANIASIS <RET>

```

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN			Page 1 of 5
NAME: LEISHMANIASIS		ACTIVE: YES	
Laboratory Test(s)	Indicator	Value	
<RET>			
ICD Coding System [ICD-9 or ICD-10]? (9/10):9<RET>			
ICD Code	Cd Set	ICD Description	
085.0	ICD-9	VISCERAL LEISHMANIASIS	
085.1	ICD-9	CUTAN LEISHMANIAS URBAN	
085.2	ICD-9	CUTAN LEISHMANIAS ASIAN	
085.3	ICD-9	CUTAN LEISHMANIAS ETHIOP	
085.4	ICD-9	CUTAN LEISHMANIAS AMER	
085.5	ICD-9	MUCOCUTAN LEISHMANIASIS	
085.9	ICD-9	LEISHMANIASIS NOS	
<RET>			
Exit	Save	Next Page	Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert	

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN			Page 2 of 5
NAME: LEISHMANIASIS		ACTIVE: YES	
Selected Etiology	Selected Snomed Codes		
<RET>			
Antimicrobial Susceptibility	NLT Code	NLT Description	
<RET>			
Exit	Save	Next Page	Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert	

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 3 of 5
NAME: LEISHMANIASIS		ACTIVE: YES
<hr/> <p style="text-align: center;">Topography Selection</p>		
Include <RET>	Exclude <RET>	
<hr/>		
Exit	Save	Next Page Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 4 of 5
NAME: LEISHMANIASIS		ACTIVE: YES
<hr/>		
First Encounter:<RET>	FOLLOW PTF: YES<RET>	
BEFORE DATE OF BIRTH:<RET>	AFTER DATE OF BIRTH:<RET>	
Select SEX:<RET>		
<hr/>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 5 of 5
NAME: E. LEISHMANIASIS		ACTIVE YES
<hr/>		
Run Date:<RET>	Protocol: LREPI<RET>	
Run Cycle: MONTHLY<RET>	Lag Days: 15<RET>	
General Description:<TAB>		
<hr/>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help Insert
Save changes before leaving form (Y/N)? Y<RET>		

Malaria (Reference #11)

The plasmodial parasite is responsible for the blood-borne disease of malaria. Malaria can cause acute as well as chronic, relapsing disease. Occasionally, U.S. troops are deployed in malaria endemic areas. This placement could potentially put troops at risk for acquiring this disease. For the Emerging Pathogens Initiative program, we are interested in tracking patients with malaria, either acute or chronic, relapsing, and in either inpatient or outpatient status. No standardized serologic test allows for easy identification. Since not all sites consistently code and record malarial parasites seen histologically or on blood smears (not all of these interpretations are done through the Pathology and Laboratory Service), we have currently decided to track malaria based on ICD coding.

Example:

```

                                Lab Search/Extract Primary Menu

ENH Lab EPI Manual Run (Enhanced)
VR Print Detailed Verification Report
LO Local Pathogen Menu ...
PI Pathogen Inquiry
UP Lab EPI Parameter Setup
    Lab EPI Protocol Edit
LK Antimicrobial Link Update

Select Lab Search/Extract Primary menu Option: UP<RET> Lab Search/Extract
Parameter Setup

Select LAB SEARCH/EXTRACT NAME: ?<RET>
  Answer with LAB SEARCH/EXTRACT NAME, or REFERENCE NUMBER
  Do you want the entire 16-Entry LAB SEARCH/EXTRACT List? Y (Yes)<RET>
Choose from:
  CANDIDA
  CLOSTRIDIUM DIFFICILE
  CREUTZFELDT-JAKOB DISEASE
  CRYPTOSPORIDIUM
  DENGUE
  E. COLI 0157:H7
  HEPATITIS A ANTIBODY POS
  HEPATITIS B POS
  HEPATITIS C ANTIBODY NEG
  HEPATITIS C ANTIBODY POS
  LEGIONELLA
  LEISHMANIASIS
  MALARIA
  NCH CHOLESTEROL
  NCH PAP SMEAR
  PEN-RES PNEUMOCOCCUS
  STREPTOCOCCUS GROUP A
  TUBERCULOSIS
  VANC-RES ENTEROCOCCUS

Select LAB SEARCH/EXTRACT NAME: MALARIA<RET>

```

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 1 of 5
NAME: MALARIA		ACTIVE: YES
<div style="display: flex; justify-content: space-between;"> Laboratory Test(s) Indicator Value </div>		
<RET>		
ICD Coding System [ICD-9 or ICD-10]? (9/10): 9<RET>		
ICD Code	Cd Set	ICD Description
084.0	ICD-9	FALCIPARUM MALARIA
084.1	ICD-9	VIVAX MALARIA
084.2	ICD-9	QUARTAN MALARIA
084.3	ICD-9	OVALE MALARIA
084.4	ICD-9	MALARIA NEC
084.5	ICD-9	MIXED MALARIA
084.6	ICD-9	MALARIA NOS
084.7	ICD-9	INDUCED MALARIA
084.8	ICD-9	BLACKWATER FEVER
084.9	ICD-9	MALARIA COMPLICATED NEC
<RET>		
<div style="display: flex; justify-content: space-between;"> Exit Save Next Page Refresh </div>		
COMMAND: N<RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 2 of 5
NAME: MALARIA		ACTIVE: YES
<div style="display: flex; justify-content: space-between;"> Selected Etiology Selected Snomed Codes </div>		
<RET>		
Antimicrobial Susceptibility	NLT Code	NLT Description
<RET>		
<div style="display: flex; justify-content: space-between;"> Exit Save Next Page Refresh </div>		
COMMAND: N<RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 3 of 5
NAME: MALARIA		ACTIVE: YES
<hr/> <p style="text-align: center;">Topography Selection</p>		
Include <RET>	Exclude <RET>	
<hr/>		
Exit	Save	Next Page Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 4 of 5
NAME: MALARIA		ACTIVE: YES
<hr/>		
First Encounter:<RET>	FOLLOW PTF: YES<RET>	
BEFORE DATE OF BIRTH:<RET>	AFTER DATE OF BIRTH:<RET>	
Selected SEX:<RET>		
<hr/>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 5 of 5
NAME: MALARIA		ACTIVE YES
<hr/>		
Run Date:<RET>	Protocol: LREPI<RET>	
Run Cycle: MONTHLY<RET>	Lag Days: 15<RET>	
General Description:<TAB>		
<hr/>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help
Save changes before leaving form (Y/N)? Y<RET>		

Penicillin- Resistant Pneumococcus (Reference #3)

The emergence of antibiotic resistance in microbial agents is of great interest and concern for health care. Penicillin (PCN) was once the mainstay of therapy for *Streptococcus pneumoniae* infections but resistance to this agent is becoming more prominent. Different therapeutic strategies need to be developed once the prevalence of PCN-resistant *S. pneumoniae* reaches a critical threshold in a community. In order to monitor this, we are looking for the presence of any resistance in the pneumococci (either “moderate/intermediate” or “frank/high” level resistance). As such, any *S. pneumoniae* which is not fully susceptible to PCN on PCN susceptibility testing should be recorded.

Example:

```

                                Lab Search/Extract Primary Menu
ENH Lab EPI Manual Run (Enhanced)
VR Print Detailed Verification Report
LO Local Pathogen Menu ...
PI Pathogen Inquiry
UP Lab EPI Parameter Setup
  Lab EPI Protocol Edit
LK Antimicrobial Link Update

Select Lab Search/Extract Primary menu Option: UP<RET> Lab Search/Extract
Parameter Setup

Select LAB SEARCH/EXTRACT NAME: ?<RET>
Answer with LAB SEARCH/EXTRACT NAME, or REFERENCE NUMBER
Do you want the entire 16-Entry LAB SEARCH/EXTRACT List? Y (Yes)<RET>
Choose from:
  CANDIDA
  CLOSTRIDIUM DIFFICILE
  CREUTZFELDT-JAKOB DISEASE
  CRYPTOSPORIDIUM
  DENGUE
  E. COLI 0157:H7
  HEPATITIS A ANTIBODY POS
  HEPATITIS B POS
  HEPATITIS C ANTIBODY NEG
  HEPATITIS C ANTIBODY POS
  LEGIONELLA
  LEISHMANIASIS
  MALARIA
  NCH CHOLESTEROL
  NCH PAP SMEAR
  PEN-RES PNEUMOCOCCUS
  STREPTOCOCCUS GROUP A
  TUBERCULOSIS
  VANC-RES ENTEROCOCCUS

Select LAB SEARCH/EXTRACT NAME: PEN-RES PNEUMOCOCCUS <RET>
```

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 1 of 5
NAME: PEN-RES PNEUMOCOCCUS		ACTIVE: YES
Laboratory Test(s)	Indicator	Value
<RET>		
ICD Coding System [ICD-9 or ICD-10]? (9/10):<RET>		
ICD Code	Cd Set	ICD Description
<RET>		
Exit	Save	Next Page Refresh
COMMAND: <RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 2 of 5
NAME: PEN-RES PNEUMOCOCCUS		ACTIVE: YES
Selected Etiology	Selected Snomed Codes	
NOTE: You may enter a new ETIOLOGY, if you wish. STREPTOCOCCUS PNEUMONIAE 12 Are you adding 'STREPTOCOCCUS PNEUMONIAE' as a new ETIOLOGY (the 1ST for this EMERGING PATHOGENS)?Y<RET>		
Antimicrobial Susceptibility	NLT Code	NLT Description
Penicillin<RET> Are you adding ' Penicillin ' as a new Antimicrobial Susceptibility (the 1ST for this EMERGING PATHOGENS)?Y <RET>		
Exit	Save	Next Page Refresh
COMMAND: <RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 3 of 5
NAME: PEN-RES PNEUMOCOCCUS		ACTIVE: YES
Topography Selection		
Include <RET>	Exclude <RET>	
Exit	Save	Next Page Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 4 of 5
NAME: PEN-RES PNEUMOCOCCUS		ACTIVE: YES
First Encounter:<RET>	FOLLOW PTF: YES<RET>	
BEFORE DATE OF BIRTH:<RET>	AFTER DATE OF BIRTH:<RET>	
Selected SEX:<RET>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 5 of 5
NAME: PEN-RES PNEUMOCOCCUS		ACTIVE YES
Run Date:<RET>	Protocol: LREPI<RET>	
Run Cycle: MONTHLY<RET>	Lag Days: 15<RET>	
General Description:<TAB>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help
Insert		
Save changes before leaving form (Y/N)? Y<RET>		

Streptococcus-Group A (Reference #6)

Streptococcus-Group A can be associated with or cause significant disease such as severe fasciitis and streptococcal toxic shock syndrome. We are especially interested to find out how much severe/deep seated disease the VA is experiencing, but other disease entities are of interest also. To this end, we are looking for all episodes of culture positivity for *Streptococcus*-Group A, regardless of site and regardless of inpatient or outpatient status of the person from whom the specimen is obtained. We are aware that some sites may use rapid screenings for *Streptococcus*-Group A, especially from pharyngeal sources. These rapid screens may be difficult to capture, so we are not asking for them on this first iteration of the EPI program.

Example:

```

                                Lab Search/Extract Primary Menu
ENH Lab EPI Manual Run (Enhanced)
VR Print Detailed Verification Report
LO Local Pathogen Menu ...
PI Pathogen Inquiry
UP Lab EPI Parameter Setup
    Lab EPI Protocol Edit
LK Antimicrobial Link Update

Select Lab Search/Extract Primary menu Option: UP<RET> Lab Search/Extract
Parameter Setup

Select LAB SEARCH/EXTRACT NAME: ?<RET>
    Answer with LAB SEARCH/EXTRACT NAME, or REFERENCE NUMBER
    Do you want the entire 16-Entry LAB SEARCH/EXTRACT List? Y (Yes)<RET>
Choose from:
    CANDIDA
    CLOSTRIDIUM DIFFICILE
    CREUTZFELDT-JAKOB DISEASE
    CRYPTOSPORIDIUM
    DENGUE
    E. COLI 0157:H7
    HEPATITIS A ANTIBODY POS
    HEPATITIS B POS
    HEPATITIS C ANTIBODY NEG
    HEPATITIS C ANTIBODY POS
    LEGIONELLA
    LEISHMANIASIS
    MALARIA
    NCH CHOLESTEROL
    NCH PAP SMEAR
    PEN-RES PNEUMOCOCCUS
    STREPTOCOCCUS GROUP A
    TUBERCULOSIS
    VANC-RES ENTEROCOCCUS

Select LAB SEARCH/EXTRACT NAME: STREPTOCOCCUS-GROUP A <RET>
```

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 1 of 5
NAME: STREPTOCOCCUS-GROUP A		ACTIVE: YES
Laboratory Test(s)	Indicator	Value
<RET>		
ICD Coding System [ICD-9 or ICD-10]? (9/10):<RET>		
ICD Code	Cd Set	ICD Description
<RET>		
Exit	Save	Next Page Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 2 of 5
NAME: STREPTOCOCCUS-GROUP A		ACTIVE: YES
Selected Etiology	Selected Snomed Codes	
STREPTOCOCCUS-GROUP A<RET>		
Antimicrobial Susceptibility	NLT Code	NLT Description
<RET>		
Exit	Save	Next Page Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 3 of 5
NAME: STREPTOCOCCUS-GROUP A		ACTIVE: YES
Topography Selection		
Include	Exclude	
<RET>		
Exit	Save	Next Page Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 4 of 5
NAME: STREPTOCOCCUS-GROUP A		ACTIVE: YES
<hr/>		
First Encounter:<RET>	FOLLOW PTF: YES<RET>	
BEFORE DATE OF BIRTH:<RET>	AFTER DATE OF BIRTH:<RET>	
Select SEX:<RET>		
<hr/>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 5 of 5
NAME: STREPTOCOCCUS-GROUP A		ACTIVE YES
<hr/>		
Run Date:<RET>	Protocol: LREPI<RET>	
Run Cycle: MONTHLY<RET>	Lag Days: 15<RET>	
General Description:<TAB>		
<hr/>		
Exit	Save	Refresh
COMMAND: E<RET>	Press <PF1>H for help	Insert
Save changes before leaving form (Y/N)? Y<RET>		

Tuberculosis (Reference #5)

Mycobacterium tuberculosis infection is an important public health concern. Recent increases in incidence of disease, and occurrence of multiply-drug resistant strains in outbreak situations along with the increased susceptibility of HIV-infected persons for this disease has generated renewed interest in this entity. Since the national data show that 80-85% of all reported active tuberculosis cases are culture positive (with acid fast bacilli smear-only positive cases increasing the reporting by 2-5% more) we have decided to use culture positivity for *Mycobacterium tuberculosis* to track tuberculosis infections in the current iteration of the EPI software application. Information regarding susceptibility will be tracked as well. For the national EPI program, there will be no need to enter specific antimycobacterial agents to be tracked; it will be done automatically. ICD coding is complex and confusing for many cases of tuberculosis and therefore will **not** be used.

```

                                Lab Search/Extract Primary Menu

ENH Lab EPI Manual Run (Enhanced)
VR Print Detailed Verification Report
LO Local Pathogen Menu ...
PI Pathogen Inquiry
UP Lab EPI Parameter Setup
    Lab EPI Protocol Edit
LK Antimicrobial Link Update

Select Lab Search/Extract Primary menu Option: UP<RET> Lab Search/Extract
Parameter Setup

Select LAB SEARCH/EXTRACT NAME: ?<RET>
  Answer with LAB SEARCH/EXTRACT NAME, or REFERENCE NUMBER
  Do you want the entire 16-Entry LAB SEARCH/EXTRACT List? Y (Yes)<RET>
Choose from:
  CANDIDA
  CLOSTRIDIUM DIFFICILE
  CREUTZFELDT-JAKOB DISEASE
  CRYPTOSPORIDIUM
  DENGUE
  E. COLI 0157:H7
  HEPATITIS A ANTIBODY POS
  HEPATITIS B POS
  HEPATITIS C ANTIBODY NEG
  HEPATITIS C ANTIBODY POS
  LEGIONELLA
  LEISHMANIASIS
  MALARIA
  NCH CHOLESTEROL
  NCH PAP SMEAR
  PEN-RES PNEUMOCOCCUS
  STREPTOCOCCUS GROUP A
  TUBERCULOSIS
  VANC-RES ENTEROCOCCUS
Select LAB SEARCH/EXTRACT NAME: TUBERCULOSIS<RET>

```

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 1 of 5
NAME: TUBERCULOSIS		ACTIVE: YES
Laboratory Test(s)	Indicator	Value
<RET>		
ICD Coding System [ICD-9 or ICD-10]? (9/10):<RET>		
ICD Code	Cd Set	ICD Description
<RET>		
Exit	Save	Next Page Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 2 of 5
NAME: TUBERCULOSIS		ACTIVE: YES
Selected Etiology	Selected Snomed Codes	
Mycobacterium tuberculosis<RET>		
Antimicrobial Susceptibility	NLT Code	NLT Description
<RET>		
Exit	Save	Next Page Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 3 of 5
NAME: TUBERCULOSIS		ACTIVE: YES
Topography Selection		
Include	Exclude	
<RET>		
Exit	Save	Next Page Refresh
COMMAND: N<RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 4 of 5
NAME: TUBERCULOSIS		ACTIVE: YES
<hr/>		
First Encounter:<RET>	FOLLOW PTF: YES<RET>	
BEFORE DATE OF BIRTH:<RET>	AFTER DATE OF BIRTH:<RET>	
Select SEX:<RET>		
<hr/>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 5 of 5
NAME: TUBERCULOSIS		ACTIVE YES
<hr/>		
Run Date:<RET>	Protocol: LREPI<RET>	
Run Cycle: MONTHLY<RET>	Lag Days: 15<RET>	
General Description:<TAB>		
<hr/>		
Exit	Save	Refresh
COMMAND: E<RET>		Press <PF1>H for help
Insert		
Save changes before leaving form (Y/N)? Y<RET>		

Vancomycin-Resistant Enterococcus (VRE) (Reference #1)

Vancomycin-Resistant Enterococcus (VRE) is a pathogen of increasing importance. Not only can it cause significant disease, but also it can be spread within facilities. It is important to capture all positive cultures for VRE (not just disease). As such, all positive cultures for VRE will be reported.

Note: This includes cultures positive for prevalence and surveillance review, including specimens of stool and rectal swabs.

Vancomycin-resistant *Enterococcus faecalis* and *E. faecium* are most common, but we wish to look at all vancomycin resistant enterococci whether speciated or not. Therefore, it is important to be sure to list all the places in the Micro Lab package where *Enterococcus* are found, either as *Enterococcus*, *E. (sp.)*, Group D-*Streptococcus*, *E. faecalis*, *E. faecium*, *E. durans*, *E. gallinarum*, *E. casseliflavus*, etc.

NOTE: Only a partial pre-populated Etiology list is shown in the screen display example at the Selected Etiology prompt. Please be sure to review the entire Etiology list. If you have other etiology results at your site, they can be added to this Etiology list. Again, if alternate spellings are present in your site's ETIOLOGY FIELD file (#61.2), be certain those spellings assure capture of all data points possible.

Example:

```

                                Lab Search/Extract Primary Menu
ENH Lab EPI Manual Run (Enhanced)
VR Print Detailed Verification Report
LO Local Pathogen Menu ...
PI Pathogen Inquiry
UP Lab EPI Parameter Setup
    Lab EPI Protocol Edit
LK Antimicrobial Link Update

Select Lab Search/Extract Primary menu Option: UP<RET> Lab Search/Extract
Parameter Setup

Select LAB SEARCH/EXTRACT NAME: ?<RET>
Answer with LAB SEARCH/EXTRACT NAME, or REFERENCE NUMBER
Do you want the entire 16-Entry LAB SEARCH/EXTRACT List? Y (Yes)<RET>
Choose from:
    CANDIDA
    CLOSTRIDIUM DIFFICILE
    CREUTZFELDT-JAKOB DISEASE
    CRYPTOSPORIDIUM
    DENGUE
    E. COLI 0157:H7
    HEPATITIS A ANTIBODY POS
    HEPATITIS B POS
    HEPATITIS C ANTIBODY NEG
    HEPATITIS C ANTIBODY POS
    LEGIONELLA
    LEISHMANIASIS
    MALARIA
    NCH CHOLESTEROL
    NCH PAP SMEAR
    PEN-RES PNEUMOCOCCUS
    STREPTOCOCCUS GROUP A
    TUBERCULOSIS
    VANC-RES ENTEROCOCCUS

Select LAB SEARCH/EXTRACT NAME: VANC-RES ENTEROCOCCUS <RET>

```

```

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN    Page 1 of 5
NAME: VANC-RES ENTEROCOCCUS                          ACTIVE: YES
-----
Laboratory Test(s)          Indicator          Value
<RET>
ICD Coding System [ICD-9 or ICD-10]? (9/10):<RET>
ICD Code          Cd Set          ICD Description
<RET>
-----
Exit      Save      Next Page      Refresh
COMMAND: N<RET>                                Press <PF1>H for help      Insert

```

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN		Page 2 of 5
NAME: VANC-RES ENTEROCOCCUS		ACTIVE: YES
Selected Etiology Examples: Enterococcus Enterococcus (Strept. faecalis-Group D) Streptococcus faecalis Streptococcus faecium Enterococcus avium Enterococcus avium - (Group D) Enterococcus casseliflavus Enterococcus faecalis Enterococcus gallinarum Enterococcus malodoratus Enterococcus hirae Enterococcus mundtii Enterococcus raffinosus Enterococcus sp. Enterococcus species	Selected Snomed Codes Enterococcus durans Streptococcus sp. Group D Enterococcus solitarius Enterococcus pseudoavium Enterococcus faecium Enterococcus durans	
<p><RET></p> <p>Note: During the post Init, the ETIOLOGY FIELD file (#61.2) was searched to pre-populate the Etiology field (#3) in the EMERGING PATHOGENS file (#69.5). Listed above are examples of etiology entries which may have been populated from your site's file. Additional etiologies may be added or deleted at the <u>Selected Etiology</u> prompt to meet your site specific needs.</p> <p>Note: If spelling differences occur within your ETIOLOGY FIELD file (#61.2) be consistent with your local file and spell the results here, as it is spelled in your file (even if it is spelled differently in the example). We are concerned more importantly with data <u>recovery</u>.</p>		
Antimicrobial Susceptibility VANCOMYCIN<RET>	NLT Code	NLT Description
Exit	Save	Next Page
Refresh		
COMMAND: N<RET>		Press <PF1>H for help Insert

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN				Page 3 of 5
NAME: VANC-RES ENTEROCOCCUS		ACTIVE: YES		
<hr/>				
Topography Selection				
Include			Exclude	
<RET>			<RET>	
<hr/>				
Exit	Save	Next Page	Refresh	
COMMAND: N<RET>		Press <PF1>H for help Insert		

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN				Page 4 of 5
NAME: VANC-RES ENTEROCOCCUS		ACTIVE: YES		
<hr/>				
First Encounter:<RET>			FOLLOW PTF:YES<RET>	
BEFORE DATE OF BIRTH:<RET>			AFTER DATE OF BIRTH:<RET>	
Select SEX:<RET>				
<hr/>				
Exit	Save	Refresh		
COMMAND: E<RET>		Press <PF1>H for help Insert		
Save changes before leaving form (Y/N)?Y<RET>				

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN				Page 5 of 5
NAME: VANC-RES ENTEROCOCCUS		ACTIVE YES		
<hr/>				
Run Date:<RET>			Protocol:LREPI<RET>	
Run Cycle:MONTHLY<RET>			Lag Days:15<RET>	
General Description:<TAB>				
<hr/>				
Exit	Save	Refresh		
COMMAND: E<RET>		Press <PF1>H for help Insert		
Save changes before leaving form (Y/N)?Y<RET>				

Conclusion

Once you have finished entering the information as directed by the National Infectious Diseases Program Office, these fields should **not** be changed again except for the following conditions:

1. As requested nationally via the Veterans Affairs Headquarters (VAHQ) Infectious Disease Program Office to update, modify, add, or delete data from the existing files used by the Laboratory Search/Extract software or an addition of a new entity to be tracked.
2. The yearly review must ensure that the entry is acceptable and to update the EPI files with any changes in etiology, lab tests or results parameters that may have occurred locally at the site during the previous year.

Annually the EPI national program materials should be reviewed by the VAMCs and updated. It is suggested that this review occur in February of each year. If no changes have occurred in lab practices, etiologies, sites, or results parameters leave the information as is until the next review period. If changes did occur, then enter them as appropriate in order to capture the data requested for each EPI national entity (disease/organism) to be tracked.

As entities (diseases/organisms) are no longer to be tracked nationally (“dropped from the list”), or a new entity is to be tracked (“added to the list”), revision will be forwarded to the sites to assist in updating your site files.

NOTE: Remember that if the parameter set up needs to be changed for any of the four hepatitis entities, that a concomitant change needs to be made in the corresponding Reminders logic.

APPENDIX-A

EDITING FILES, LINKING DATA, EDITING SCREENS, WORKLOAD AND SUFFIXES CODES REQUEST FORM

(This page included for two-sided copying.)

Editing/Printing Files, Screens, Linking Data, Request Form

This section contains instructions for editing files, printing, linking data, and a Workload and Suffix Code Request Form used for requesting additional Workload and Suffix Codes.

Editing TOPOGRAPHY file (#61)

Specific HL7 codes **must** be added to the TOPOGRAPHY file (#61). The HL7 Code field (#08) in this file is used to add the entries. Specific HL7 codes that **must** be added to TOPOGRAPHY file (#61) is located in the HL7 section of this guide, Table 0070 (Specimen Source Codes). The following is an example of how to add the specific HL7 codes to the TOPOGRAPHY file (#61) using VA FileMan - Enter Or Edit File Entries option.

Example: How to add specific HL7 codes to TOPOGRAPHY file (#61)

Select OPTION: **ENTER OR EDIT FILE ENTRIES<RET>**

INPUT TO WHAT FILE: TOPOGRAPHY FIELD//<RET>

EDIT WHICH FIELD: ALL// .08 HL7 CODE<RET>

THEN EDIT FIELD:<RET>

Select TOPOGRAPHY FIELD NAME: ? <RET>

Answer with TOPOGRAPHY FIELD NAME, or SNOMED CODE, or ABBREVIATION, or SYNONYM

Do you want the entire 8575-Entry TOPOGRAPHY FIELD List? **NO<RET>**

You may enter a new TOPOGRAPHY FIELD, if you wish

ANSWER MUST BE 2-80 CHARACTERS IN LENGTH

Select TOPOGRAPHY FIELD NAME: AMNIOTIC FLUID 8Y300

HL7 CODE: ? <RET>

Answer must be 2-4 characters in length.

Enter the two to four character code from the left column:

ABS	ABCs
AMN	Amniotic fluid
ASP	Aspirate
BPH	Basophils
ABLD	Blood arterial
BBL	Blood bag
BON	Bone
BRTH	Breath
BRO	Bronchial
BRN	Burn

HL7 CODE: **AMN<RET>**

Printing LAB SEARCH/EXTRACT file (#69.5) Definitions

Please use the following VA FileMan print examples to capture your local sites definitions from the LAB SEARCH/EXTRACT file (#69.5).

Example:

VA FileMan 22.0

Select OPTION: 2 PRINT FILE ENTRIES<RET>

OUTPUT FROM WHAT FILE: REMINDER TERM// LAB SEARCH<RET>

1 LAB SEARCH/EXTRACT (19 entries)

2 LAB SEARCH/EXTRACT PROTOCOL (2 entries)

CHOOSE 1-2: 1 <RET> LAB SEARCH/EXTRACT (19 entries)

SORT BY: NAME//<RET>

START WITH NAME: FIRST// HEPATITIS<RET>

GO TO NAME: LAST// HEPATITIS Z<RET>

WITHIN NAME, SORT BY:

FIRST PRINT FIELD: ? <RET>

Answer with FIELD NUMBER, or LABEL

Do you want the entire 21-Entry FIELD List? Y<RET> (Yes)

Choose from:

.01	NAME
.05	REFERENCE NUMBER
1	ACTIVE
2	LAB TEST (multiple)
3	ETIOLOGY (multiple)
4	ICD DIAGNOSIS (multiple)
5	ANTIMICROBIAL SUSCEPTIBILITY (multiple)
6	INCLUDED SITES (multiple)
7	EXCLUDED SITES (multiple)
8	SNOMED CODES (multiple)
9	RUN DATE
10	CYCLE
10.5	LAG DAYS
11	FIRST ENCOUNTER
12	PROTOCOL
13	FOLLOW PTF
14	PTF (multiple)
15	Description (word-processing)
16	SEX
17	BEFORE DATE OF BIRTH
18	AFTER DATE OF BIRTH
	^

TYPE '&' IN FRONT OF FIELD NAME TO GET TOTAL FOR THAT FIELD,

'!' TO GET COUNT, '+' TO GET TOTAL & COUNT, '#' TO GET MAX & MIN,

']' TO FORCE SAVING PRINT TEMPLATE

TYPE '[TEMPLATE NAME]' IN BRACKETS TO USE AN EXISTING PRINT TEMPLATE

YOU CAN FOLLOW FIELD NAME WITH ';' AND FORMAT SPECIFICATION(S)

FIRST PRINT FIELD: .01;C1;L30 NAME<RET>

THEN PRINT FIELD: ACTIVE;C35;L5<RET>

THEN PRINT FIELD: LAG DAYS;C45;L5<RET>

THEN PRINT FIELD: LAB TEST (multiple)<RET>

THEN PRINT LAB TEST SUB-FIELD: .01;C5;L30 LAB TEST<RET>

THEN PRINT LAB TEST SUB-FIELD: INDICATOR;C38;L15<RET>

```

THEN PRINT LAB TEST SUB-FIELD: INDICATED VALUE;C55;L23<RET>
THEN PRINT LAB TEST SUB-FIELD: <RET>
THEN PRINT FIELD: <RET>
Heading (S/C): LAB SEARCH/EXTRACT LIST Replace L With site name_L
Replace site name LAB SEARCH/EXTRACT LIST
STORE PRINT LOGIC IN TEMPLATE:
START AT PAGE: 1//
DEVICE: ;;999999 WAN Right Margin: 80//<RET>

```

```

site name LAB SEARCH/EXTRACT LIST AUG 18,2000 12:21 PAGE 1
NAME LAG
LAB TEST ACTIVE DAYS INDICATED VALUE
-----
HEPATITIS A ANTIBODY POS NO 15
  HEP A ANTIBODY-TOTAL Equal To Reactive
  HEP A ANTIBODY(IgM)
  HEP A ANTIBODY(IgM) Contains POS
  HEPATITIS A AB(IGG)D/C(2/99) Contains POS
  HEPATITIS A AB(IGG)D/C(2/99) Contains Pos
  HEPATITIS A AB(IGG)D/C(2/99) Contains p
  HEPATITIS A AB(IGG)D/C(2/99) Equal To Reactive
  HEPATITIS A AB(IGG)D/C(2/99) Contains p
  HEPATITIS A AB(IGG)D/C(2/99) Equal To Pos
HEPATITIS B POS NO 15
  HEP B SURFACE Ag Contains POS
  HEP B SURFACE AB Contains POS
  HEP B CORE AB(IgM) Contains POS
  HEP Be ANTIGEN Contains POS
  HEP Be ANTIGEN Contains Pos
  HEP Be ANTIGEN Contains p
  HEP Be ANTIGEN Contains P
HEPATITIS C ANTIBODY NEG NO 15
  HEP C ANTIBODY Contains NEG
  HEP C ANTIBODY Contains SEE COMMENT
HEPATITIS C ANTIBODY POS NO 15
  HEP C ANTIBODY Contains POS

```

NOTE: The VHA CIO HEP-C Implementation team will be comparing the HEPATITIS A, B, and C LAB SEARCH/EXTRACT setup to the hepatitis laboratory terms in the REMINDER TERM file (#811.5). They will also be reviewing the Hepatitis C Risk Assessment mappings.

How to Link Antimicrobial Entries to Workload Codes Entries

The Laboratory Search/Extract software automatically links as many of the ANTIMICROBIAL SUSCEPTIBILITY file (#62.06) data entries to the WKLD CODE file (#64) data entries that are identified in your site files. However, the ANTIMICROBIAL SUSCEPTIBILITY file (#62.06) data entries that were **not** linked (i.e. no match found) to the WKLD CODE file (#64) will require linking. The Antimicrobial Link Update [LREPILK] option contains three options that can be used to identify and link data entries that were **not** linked by the post INIT.

Antimicrobial Link Update [LREPILK] options

Examples:

Select Lab Search/Extract Primary Menu<RET>

```

    ENH Lab EPI Manual Run (Enhanced)
    VR Print Detailed Verification Report
    LO Local Pathogen Menu ...
    PI Pathogen Inquiry
    UP Lab EPI Parameter Setup
      Lab EPI Protocol Edit
    LK Antimicrobial Link Update

```

Select Lab Search/Extract Primary Menu Option: **LK <RET>** Antimicrobial Link Update

This option will allow you to link file '62.06 ANTIMICROBIAL SUSCEPTIBILITY' file with file '64 WKLD CODE'.

Select one of the following:

```

    A          AUTO
    M          MANUAL
    S          SEMI-AUTO

```

AUTO option

The AUTO option identifies and attempts to link data entries that are **not** currently linked. This option also displays linked and non-linked data entries.

Example:

Enter response: **A<RET>**UTO

AMIKACN	<----Linked---->	Amikacin
AMPICLN	<----Linked---->	Ampicillin
CLINDAM	<----Linked---->	Clindamycin
POLYMYXIN B	<----Not Linked---->	No Match Found
RIFAMPIN	<----Linked---->	Rifampin

MANUAL option

The MANUAL option will add or delete linked entries. Examples are from entries in the ANTIMICROBIAL SUSCEPTIBILITY file (#62.06).

Example: Deleting an Entry

```
Enter response: MANUAL<RET>
Select ANTIMICROBIAL SUSCEPTIBILITY NAME: PENICLIN<RET>      PENICILLIN
NATIONAL VA LAB CODE: Substance P// PEN<RET>
    1  PENFIELD AND CONE STAIN      88010.0000
    2  PENICILLIN Penicillin        81852.0000
    3  PENTAZOCINE Pentazocine      81854.0000
    4  PENTOBARBITAL Pentobarbital  81856.0000
CHOOSE 1-4: 2 Penicillin<RET>
Select ANTIMICROBIAL SUSCEPTIBILITY NAME: VANCMCN<RET>      VANCOMYCIN
NATIONAL VA LAB CODE: Shell Vial Technique// VANCOMYCIN<RET>  Vancomycin
81485.0000<RET>
Select ANTIMICROBIAL SUSCEPTIBILITY NAME: Ampicillin/sulbactam<RET>
Ampicillin/subalctam
NATIONAL VA LAB CODE: Ampicillin// @<RET>
    SURE YOU WANT TO DELETE? Y (Yes)<RET>
Select ANTIMICROBIAL SUSCEPTIBILITY NAME:
```

SEMI-AUTO option

The SEMI-AUTO option looks for entries that are not currently linked and prompts the user to select the corresponding entry in the WKLD CODE file (#64).

Example:

```
Enter response: SEMI-AUTO<RET>

AMIKACN      AMIKACIN
NATIONAL VA LAB CODE: AMIK<RET>ACIN  Amikacin      81098.0000
Continue YES/<RET>

AMPICLN      AMPICILLIN
NATIONAL VA LAB CODE: AMP<RET>
    1  AMP CYCLIC      81029.0000
    2  AMPHETAMINE Amphetamine      81528.0000
    3  AMPHOTERICIN B Amphotericin B  81530.0000
    4  AMPICILLIN Ampicillin      81532.0000
CHOOSE 1-4: 4 Ampicillin
Continue YES// <RET>

CLINDAM      CLINDAMYCIN
NATIONAL VA LAB CODE: CLINDAMYCIN  Clindamycin    81676.0000
Continue YES// <RET>

CARBCLN      CARBENICILLIN
NATIONAL VA LAB CODE:
Continue YES// NO<RET>
```

Delete Entry from Laboratory Search/Extract Parameters Input Screen

Use the tab key to move the cursor. Highlight the entry that is to be deleted, select the “@” symbol, then press enter/return. You will then receive a deletion warning asking if you are sure.

Example: Deleting an Entry

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN			Page 2 of 5
NAME: CANDIDA		ACTIVE: YES	
Selected Etiology			
CANDIDA PARAPSILOSIS <Tab>			
CANDIDA PSEUDOTROPICALIS <Tab>			
CANDIDA SKIN TEST ANTIGEN @ <Ret>			
CANDIDA STELLATOIDEA			
Antimicrobial Susceptibility	NLT Code	NLT Description	
<Tab>			
Exit	Save	Next Page	Refresh
COMMAND: Press <PF1>H for help			
WARNING: DELETIONS ARE DONE IMMEDIATELY!			
(EXITING WITHOUT SAVING WILL NOT RESTORE DELETED RECORDS.)			
Are you sure you want to delete this entire Subrecord (Y/N)? y <Ret>			

How to add an entry to the Laboratory Search/Extract Parameters Input Screen

Use the tab key to move the cursor. Highlight a blank line where the entry is to be added.

Example:

```

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN      Page 2 of 5
NAME: CANDIDA                                           ACTIVE:   YES
-----
Selected Etiology
CANDIDA
CANDIDA GUILLIERMONDII
CAN <Ret>
-----
Antimicrobial Susceptibility      NLT Code      NLT Description
<Tab>
-----
1      CAN  CANDIDA ALBICANS      4081
2      CANARYPOX VIRUS      3604
3      CANDICIDIN      7328
4      CANDIDA, NOS      4080
5      CANDIDA GUILLIERMONDII      4082
Choose 1-5 or '^' to quit: 1 <Ret>

```

```

LABORATORY SEARCH/EXTRACT PARAMETERS INPUT SCREEN      Page 2 of 5
NAME: CANDIDA                                           ACTIVE:   YES
-----
Selected Etiology
CANDIDA GUILLIERMONDII
CANDIDA KRUSEI
CANDIDA ALBICANS      <- The entry will appear after answering yes
                        to the adding a new ETIOLOGY prompt.
Antimicrobial Susceptibility      NLT Code      NLT Description
<Tab>
-----
CAN  CANDIDA ALBICANS
Are you adding 'CANDIDA ALBICANS' as a new ETIOLOGY? Y <Ret>

```

Additional Workload and Suffixes Codes Request Form

Use this form to request additional Workload and Suffixes codes.

Additional Workload and Suffixes Codes Request Form

Site Name: _____ Site Number: _____ Date: _____
Contact Person: _____ Commercial PH# _____ EXT _____
FTS Ph #: _____ EXT _____

Procedure Name _____ Lab Section _____
Abbreviations: _____

Procedure Name _____ Lab Section _____
Abbreviations: _____

Procedure Name _____ Lab Section _____
Abbreviation: _____

Method: _____ Lab Section _____
Abbreviation: _____

Method: _____ Lab Section _____
Abbreviation: _____

Method: _____ Lab Section _____
Abbreviation: _____

Instrument Name: _____ Manufacturer's Name: _____

Instrument Name: _____ Manufacturer's Name: _____

Instrument Name: _____ Manufacturer's Name: _____

Instrument Name: _____ Manufacturer's Name: _____

Submit Additional Workload and Suffixes Codes Request Form to:

Frank Stalling, P&LMS Informatics Manager

1901 North Highway 360, Suite 351

Grand Prairie, Texas 75050

FAX: 817-649-7110

APPENDIX-B

HELPFUL HINTS

Helpful Hints

This section provides helpful hints and examples for maintaining and validating EPI and the three **new** Hepatitis pathogens.

Preferred Methods for *Clostridium difficile* Data Capture

There are two preferred methods that will make it easy to capture data for *Clostridium difficile* criteria (i.e., as well as several other methods which sites may already employ).

NOTE: As long as the designated parameter results being tracked are in a retrievable field (i.e., **not** a “Free Text” or “Comment” field) the method the site chooses is an individual decision.

Preferred Method #1:

The first preferred method is to have the site define an etiology of “**Clostridium difficile toxin positive**”. This allows a topography specimen of accession area “**feces/stool**” to be accessioned through the Microbiology accession area. Then, if the stool specimen were indeed positive for *Clostridium difficile* toxin, by any of the known methods of testing, the etiology would be “**Clostridium difficile toxin positive.**” To accomplish this method would require sites to enter three new local etiologies:

- **Clostridium difficile toxin positive**
- **Clostridium difficile toxin negative**
- **Clostridium difficile toxin in determinant**

These would be different from a culture isolate being positive for *Clostridium difficile*, in that they actually are etiologies/results based on toxin testing. This leaves the etiology of *Clostridium difficile* for actual culture positive specimens for the organism *Clostridium difficile*. The Lab Search/Extract Parameter Setup [LREPI PARAMETER SETUP] option, the site parameter by which the software will capture a patient diagnosed with proven *Clostridium difficile*-associated colitis, will be by placing “**Clostridium difficile toxin positive**” etiology into the selected etiology entry screen. This has the advantage of being more consistent with other data entry practices in the Microbiology sections of most laboratories.

Preferred Method #2:

The second preferred method is having the data in retrievable form would be to enter/accession the specimen for *Clostridium difficile* toxin assay under the chemistry/serology format (regardless of where the test is physically done) with the results being a choice of “positive”, “negative”, or “indeterminate”. This would allow one to enter “*Clostridium difficile* toxin” assay as the test for the EPI software to search in the chemistry/serology format. The result would be retrievable for EPI under a chemistry/serology lab test of “*Clostridium difficile* toxin” with the indicator “contains” and the value of “pos”, as noted in the sample page. If your site does not routinely do *Clostridium difficile* toxin assay testing this way, a different method of accessioning the specimen to get it in chemistry/serology format would be needed.

However, the Chemistry/Serology format would give additional flexibility in placing interpretational guidelines for the test results in the “Comments” field. For the EPI, “positive” or “negative” results **cannot** be located in a “Free Text” or “Comments” field as these are **not** retrievable.

Some VAMCs accession the stool specimen for the *Clostridium difficile* toxin assay under the Microbiology format. An etiology is not given under the final culture result, but written into free text or comments section stating the *Clostridium difficile* toxin assay test result. This is not in a retrievable format and therefore not acceptable for the EPI criteria.

Some VAMCs still use cytotoxin assays of cell culture, which are again entered in a “Free Text” or “Comment” field. This again is not acceptable unless it is accessioned and recorded under the chemistry/serology format as a straightforward lab test result of “positive” or “negative” or “indeterminate”.

Some VAMCs choose to report *Clostridium difficile* toxin assay positivity under the Microbiology application. As an etiology/culture result of *Clostridium difficile* (even though culture, was not actually done) this is not a true measure of what is actually being tested (as most sites do not culture the organism but just run the toxin assay test). However, if your site uses this means to represent *Clostridium difficile* toxin assay positivity and there are no exceptions (such as the site reporting an actual positive culture of (*Clostridium difficile* which is toxin assay negative), then this would be acceptable though less desirable for EPI purposes.

Validating EPI Data Capture

Once the Lab Search/Extract Parameter Setup [LREPI PARAMETER SETUP] option parameter descriptions are defined, EPI HL7 format mailman messages (i.e., containing EPI and Hepatitis C EPI data) are transmitted on the 15th of each month to AITC, formerly AAC. The AITC will send an Emerging Pathogens Confirmation mailman message to the sending VHA facility via the EPI mail group on the 15th of each month.

An Emerging Pathogens Verification Report mailman message will also be generated locally; it is a summary of the transmitted EPI HL7 format mailman message (i.e., in a human readable format). This report is sent to the EPI-REPORT mail group on the 15th of each month.

The Emerging Pathogens Verification Report mailman message allows the EPI-REPORT mail group members to review EPI and the three **new** Hepatitis pathogens data transmissions to AITC, formerly AAC and make corrections (e.g., complete social security numbers, valid Date of Births, and Period of Services, etc.) as deemed necessary. The Emerging Pathogen Verification Report mailman messages should be used to compare EPI and the three **new** Hepatitis pathogens data capture to site-specific data capture. It is recommended that the Lab Search/Extract Manual Run [LREPI (EPI) MANUAL RUN] option be run to evaluate 1-3 months of data (i.e., as determined by the sites) at initial implementation of the software.

The Microbiology Laboratory personnel, Laboratory Manager, TQI/QI/QA, or other personnel (i.e., as determined by the sites) may already have data of isolated “organisms of interest”. Several of the nationally defined emerging pathogens may well corresponds. Therefore, a quick comparison can be done using the Emerging Pathogens Verification Report mailman message. This comparison also ensures that the Laboratory Search/Extract software is appropriately capturing the EPI and the three **new** Hepatitis pathogens cases and numbers.

For tests such as Hepatitis C and the three **new** Hepatitis pathogens, most LIMs should be able to generate reports (with patient names) that include “positive” tests results to use for comparison. Additionally, the Health Information Management Section at each site should be able to generate a report of ICD-9 or ICD-10 Diagnoses by date. This ICD Diagnoses by-date-report helps determine if the VHAQ Infectious Disease Program Office EPI and the three **new** Hepatitis pathogens data captures concurs with the defined EPI criterion (i.e., Cryptosporidium-007.8, Legionnaire’s disease--482.80, malaria--084, 084.0, 084.1, 084.2, 084.3, 084.4, 084.5, 084.6, 085.7, 084.8, 084.9, dengue-061, 065.4, Creutzfeldt-Jakob--046.1, and Leishmaniasis--085, 085.0, 085.1, 085.2, 085.3, 085.4, 085.5, 085.9).

Be aware that a number of these pathogens DO NOT occur at a high frequency. Sites with previously known cases of emerging pathogens, such as TB, should run the Lab Search/Extract Manual Run [LREPI (EPI) MANUAL RUN] option for the entire month to verify that the TB culture was isolated and to see if it is captured. Additionally, “test patients” known to have these lab results can also be run.

The purpose of this validation is **not** to require extra paperwork for QI monitors and long-term document files. The validation should be done at the initial implementation of the Laboratory Search/Extract software to ensure accurate data capture. Thereafter, a review should be done once every 4-6 months to ensure that Lab Search/Extract Parameter Setup [LREPI (EPI) PARAMETER UPDATE] option entries for the EPI criteria remain accurate. Parameter updates may be required if a new lab test/result is to be implemented for one of the Emerging Pathogens Initiative.

Lab Search/Extract Protocol Edit [LREPI PROTOCOL EDIT] option

The Lab Search/Extract Protocol Edit [LREPI PROTOCOL EDIT] option is used for editing the LREPI protocol. The option is located on the Lab Search/Extract Primary Menu [LREPI SEARCH EXTRACT MENU].

Example:

Protocol Parameters Setup Definition

PROTOCOL: **LREPI<RET>**

Title: Emerging Pathogens Initiative (EPI)

Message Size: **32000**

Report Mail Group: **EPI-REPORT**

Send Alert: **YES**

Send Alert To

LABUSER, TWO

EPI Mail Groups

NOTE: It is highly recommended that the “Office of the Director (00)” at each VHA facility initially designate the member(s) responsible for overseeing the EPI mail group and EPI-Report mail group.

NOTE: It is highly recommended that a TQI/QI/QA staff, Laboratory Information Manager (LIM), Microbiology director or supervisor, Infection Control Practitioners, or Hospital Epidemiologist), or individual(s) with similar functions be a member(s) of the mail groups. This member(s) is responsible for making EPI data corrections due to the numerous files from which the data is obtained (e.g., PTF, PIMS, Health Information Management, Laboratory, etc.). Once the corrections are made, it is the responsibility of the EPI mail group member(s) to re-transmit the EPI data to the AITC. These members may also be of assistance with the verification and periodic validation processes.

EPI mail group

The EPI mail group is used by the VHA facilities to transmit EPI HL7 format mailman messages to AITC and for AITC to transmit EPI Confirmation mailman messages back to the sending VHA facilities once the EPI HL7 format mailman messages data transmission has been received by AITC.

Example: EPI mail group setup

```
NAME: EPI                                     TYPE: public
  ALLOW SELF ENROLLMENT?: NO                 REFERENCE COUNT: 1220
  LAST REFERENCED: AUG 15, 2000             RESTRICTIONS: UNRESTRICTED
MEMBER: Add the local staff who will play a role in validating the HL7
messages.
DESCRIPTION: This mail group is used for the transmission of HL7 messages
  derived from the parameters defined in the EMERGING PATHOGEN file (#69.5) to
  the Austin Automation Center.
REMOTE MEMBER: S.HL V16 SERVER@ (add your site name here)
REMOTE MEMBER: XXX@Q-EPI.MED.VA.GOV
REMOTE MEMBER: LABUSER,ONE@ISC-DALLAS.VA.GOV
REMOTE MEMBER: LABUSER,THREE@ISC-SLC.VA.GOV
```

EPI-Report mail group

The EPI-Report receives the Emerging Pathogens Verification Report and the EPI Processing Report mailman messages sent from AITC. The members of this mail group will assist in EPI and the three **new** Hepatitis pathogens data validation and correction process.

Example: EPI Report mail group setup

```

OUTPUT FROM WHAT FILE: LAB SEARCH/EXTRACT// MAIL GROUP<RET>
                        (1441 entries)
Select MAIL GROUP NAME: EPI-REPORT<RET>
ANOTHER ONE:<RET>
STANDARD CAPTIONED OUTPUT? Yes//<RET>    (Yes)
Include COMPUTED fields: (N/Y/R/B): NO//<RET> - No record number (IEN), no
Computed Fields

NAME: EPI-REPORT                                TYPE: public
  ALLOW SELF ENROLLMENT?: NO                     REFERENCE COUNT: 8499
  LAST REFERENCED: AUG 15, 2000                 RESTRICTIONS: UNRESTRICTED
MEMBER: EPI,USER
DESCRIPTION: This mail group is used to deliver a formatted report taken from
the HL7 message that is created to assist in the verification of data.

```

Adding EPI Mail Groups

Add the EPI mail groups to the HL7 APPLICATION PARAMETER file (#771) using VA FileMan V. 21.0:

Example:

```

Select OPTION: ENTER OR EDIT FILE ENTRIES <RET>

INPUT TO WHAT FILE: HL7 APPLICATION PARAMETER file (#771) <RET>
                        (7 entries)
EDIT WHICH FIELD: ALL// [Enter Facility Name field]<RET>

THEN EDIT FIELD:<RET>

Select HL7 APPLICATION PARAMETER NAME: EPI <RET>                ACTIVE
FACILITY NAME: [Enter your facility name or facility number] <RET>

Select HL7 APPLICATION PARAMETER NAME: EPI-Report<RET>          ACTIVE
FACILITY NAME: [Enter your facility name or facility number] <RET>

```


Starting Lower Level Protocol for HL7 V. 1.6 Background Job

Example:

Select Systems Manager Menu Option: **HL7 Main<RET>** Menu

- 1 V1.5 OPTIONS ...
- 2 V1.6 OPTIONS ...
- 3 Activate/Inactivate Application
- 4 Print/Display Menu ...
- 5 Purge Message Text File Entries

Select HL7 Main Menu Option: **2<RET>** V1.6 OPTIONS

- 1 Communications Server ...
- 2 Interface Workbench
- 3 Message Requeuer

Select V1.6 OPTIONS Option: **1<RET>** Communications Server

- 1 Edit Communication Server parameters
- 2 Manage incoming & outgoing filers ...
- 3 Monitor incoming & outgoing filers
- 4 Start LLP
- 5 Stop LLP
- 6 Systems Link Monitor
- 7 Logical Link Queue Management
- 8 Report

Select Communications Server Option: **4<RET>** Start LLP

This option is used to launch the lower level protocol for the appropriate device. Please select the node with which you want to communicate

Select HL LOGICAL LINK NODE: **EPI<RET>**

The LLP was last shutdown on JAN 30, 1997 12:06:19.

Select one of the following:

- F FOREGROUND
- B BACKGROUND
- Q QUIT

Method for running the receiver: **B//<RET>** BACKGROUND

Job was queued as 131225.

EPI Data Cycle Process

- Patch builds global message or HL7 message transmission monthly (i.e., 15th of the month)
- Local global build used to generate Verification Report about abstracted data in HL7 messages
- HL7 messages sent to Austin Automation Center EPI queue
- Upon receipt of HL7 message, AITC returns a confirmation message (confirming that data has reached queue, but not necessarily accepted for processing)
- Processing of data at Austin Automation Center (i.e., 25th of the month) AITC returns a processing message to site with contains information about errors and processing of data (this is the message that data has been processed at the AITC with Fatal Error codes constituting rejection of the entire data set, and presence of no fatal errors on processing report indicating acceptance of data set)

EPI Data Transmission

Emerging Pathogens (as defined by VAHQ) act as triggers for data acquisition for the Laboratory Search/Extract software. The software then retrieves relevant, predetermined, and patient-specific data for transmission to the AITC database repository. Once at that location, the data are analyzed using a Statistical Analysis System (SAS)-based statistical software. VAHQ Reports may then be generated for appropriate use and distribution at the national level.

With the installation of the new LR*5.2*260, automated data transmissions will occur. Receipt of this transmission at the AITC queue will trigger a confirmation mailman message back to the originating site to “confirm” that data has been sent. Then at the next processing cycle (25th of the month), a processing/error report will also be generated and sent back to the originating site. This processing/error report will serve as the ultimate “confirmation” that data has been accepted. If there is a fatal error in any segment of the message, the entire message will be rejected and must be resent manually. Warning codes/errors are accepted into the data set, but serve to remind the originating site that a correction of the process generating the error may be needed.

Note: The daily NCH data transmissions are no longer necessary and the NCHP program office has requested that we terminate the transmissions. This will be done during the post-init phase and does not require any user intervention.

HL7 Format Mailman Message

The **VISTA** Laboratory Search/Extract software automatically processes and transmits EPI and the three **new** Hepatitis pathogens data using an HL7 format mailman message on the 15th of each month via the Q-EPI.MED.VA.GOV domain to the AITC for processing.

Example: HL7 Format Mailman Message

Subj: HL7 Message JUL 28,2000@15:56:29 from Station XXX STATION XXX [#63430]
10 Feb 97 15:56 262 Lines
From: POSTMASTER (Sender: ANYBODY) in 'IN' basket. Page 1

PID|1|000-00-
1910~1~M10|36402~8~M10|LABPATIENT19~TEN|19310912|M|6|~33496|0000019
10|0

PV1|1|I|||||||||||||||||||||||||||||||||1~REGULAR~VA45|||||20000515124929
|20000516174217

DG1|1||244.9~HYPOTHYROIDISM NOS~I9|20000515124929|

DG1|2||280.9~IRON DEFIC ANEMIA NOS~I9|20000515124929|PR

DG1|3||456.1~ESOPH VARICES W/O BLEED~I9|20000515124929|

DG1|4||456.8~VARICES OF OTHER SITES~I9|20000515124929|

DG1|5||530.2~ULCER OF ESOPHAGUS~I9|20000515124929|

DG1|6||553.3~DIAPHRAGMATIC HERNIA~I9|20000515124929|

DG1|7||571.5~CIRRHOSIS OF LIVER NOS~I9|20000515124929|

DG1|8||572.3~PORTAL HYPERTENSION~I9|20000515124929|

DG1|9||579.8~INTEST MALABSORPTION NEC~I9|20000515124929|

DG1|10||530.19~OTHER ESOPHAGITIS~I9|20000515124929|

ZXE||INTERFERON BETA-1A 30MCG/VL *R~NDC|30|20000504|20000504||1

DSP|1||20000504~INTERFERON BETA-1A~00~~|1

ZXE||INTERFERON BETA-1A 30MCG/VL *R~NDC|30|20000511|20000511||2

DSP|2||20000511~INTERFERON BETA-1A~00~~|2

DSP|1||20000501140060~HEP C VIRUS ANTIBODY POSITIVE~5~REACTIVE~|0

DSP|3||20000501140020~TRANSFERASE (AST) (SGOT)~00~52~|0

DSP|4||20000501140020~ALANINE AMINO (ALT) (SGPT)~00~93~|0

DSP|5||20000501140020~BILIRUBIN~00~0.2~|0

Appendix-B

NTE|1|17~HEPATITIS B ANTIBODY POS
 OBR|1|||81121.0000~CHEMISTRY
 TEST~VANLT|||20000503070530|||SER~~SERUM|||VIR 0503 10
 OBX|1|ST|89067.0000~HEPATITIS B SURFACE
 AB~VANLT~507~HBSAB~VA60|REACTIVE|"NEG"-|||20000511143048
 PV1|2|O|||||||||||||||||||||||||||||||||200005050650
 NTE|1|16~HEPATITIS A ANTIBODY POS
 OBR|1|||81121.0000~CHEMISTRY
 TEST~VANLT|||200005050650|||SER~~SERUM|||IMM 0505 37
 OBX|1|ST|87428.0000~HEPATITIS A~VANLT~505~HEPATITIS A ANTIBODY
 TOTAL~VA60|POS|"NEG"-|||20000509044823
 OBX|2|ST|89083.0000~HEPATITIS A IGM AB~VANLT~1336~HEPATITIS A ANTIBODY
 IGM~VA60|INDETERMINATE|"NEG"-|||20000509044823
 PV1|3|O|||||||||||||||||||||||||||||||||200005081035
 NTE|1|15~HEPATITIS C ANTIBODY NEG
 OBR|1|||81121.0000~CHEMISTRY
 TEST~VANLT|||200005081035|||SER~~SERUM|||VIR 0508 71
 OBX|1|ST|89070.0000~HEPATITIS C AB~VANLT~1354~HEP C AB~VA60|NEG|"NEG"-
 |||20000509140045
 PV1|4|I|||||||||||||||||||||||||||||||||1~REGULAR~VA45|||||20000509141603
 |20000510162649
 DG1|1||250.01~DIABETES MELLI W/O COMP TYP I~I9|20000509141603||
 DG1|2||585.~CHRONIC RENAL FAILURE~I9|20000509141603||
 DG1|3||V45.1~RENAL DIALYSIS STATUS~I9|20000509141603||
 DG1|4||787.02~NAUSEA ALONE~I9|20000509141603||
 DG1|5||789.00~ABDOM PAIN, UNSP SITE~I9|20000509141603||PR
 DG1|6||787.91~DIARRHEA~I9|20000509141603||
 NTE|1|16~HEPATITIS A ANTIBODY POS
 OBR|1|||81121.0000~CHEMISTRY
 TEST~VANLT|||200005091830|||SER~~SERUM|||IMM 0509 355
 OBX|1|ST|87428.0000~HEPATITIS A~VANLT~505~HEPATITIS A ANTIBODY
 TOTAL~VA60|POS|"NEG"-|||20000512020040
 OBX|2|ST|89083.0000~HEPATITIS A IGM AB~VANLT~1336~HEPATITIS A ANTIBODY
 IGM~VA60|INDETERMINATE|"NEG"-|||20000512020040
 PV1|5|O|||||||||||||||||||||||||||||||||20000530122010
 NTE|1|16~HEPATITIS A ANTIBODY POS

```

OBR|1|||81121.0000~CHEMISTRY
TEST~VANLT|||20000530122010|||SER~~SERUM||IMM 0530 164
OBX|1|ST|87428.0000~HEPATITIS A~VANLT~505~HEPATITIS A ANTIBODY
TOTAL~VA60||POS||"NEG"-|||20000603040054
OBX|2|ST|89083.0000~HEPATITIS A IGM AB~VANLT~1336~HEPATITIS A ANTIBODY
IGM~VA60||INDETERMINATE||"NEG"-|||20000603040054

```

EPI Confirmation Mailman Message

Upon receipt of the VHA facilities EPI and Hepatitis pathogens HL7 format mailman message monthly transmission to AITC, individual EPI Confirmation mailman messages are sent by AITC to the originating VHA facilities via the EPI mail group. Members of this mail group are being notified that EPI and Hepatitis pathogens HL7 format mailman message data transmission has been received by AITC for processing.

NOTE: EPI Confirmation mailman messages ONLY means that the originating VHA facility data transmission has been received by the AITC for processing.

Examples: EPI Confirmation Mailman Messages

```

Subj: DRM6491 EPI Confirmation [#1724877] 03 Aug 00 19:48 CST 2 lines
From: <POSTMASTER@FOC-AUSTIN.VA.GOV> In 'IN' basket. Page 1 *New*

```

```

-----
Ref: Your EPI message #20756491 with Austin ID #124368839,
is assigned confirmation number 002161938706725.

```

```

Enter message action (in IN basket): Ignore//

```

```

Subj: DRM6500 EPI Confirmation [#1724889] 03 Aug 00 19:48 CST 2 lines
From: <POSTMASTER@FOC-AUSTIN.VA.GOV> In 'IN' basket. Page 1 *New*

```

```

-----
Ref: Your EPI message #20756500 with Austin ID #124368871,
is assigned confirmation number 002161938706735.

```

```

Enter message action (in IN basket): Ignore//

```

Emerging Pathogens Verification Report Mailman Message

An Emerging Pathogens Verification Report mailman message is generated locally and sent to the EPI-REPORT mail group once the transmitted HL7 format mailman message has been built locally (i.e., on the 15th of each month). The Emerging Pathogens Verification Report mailman message is a copy of the transmitted EPI HL7 format mailman messages (i.e., in a human readable format). This report allows the EPI-REPORT mail group members to review EPI and the three **new** Hepatitis pathogens data transmissions to AITC and make corrections (e.g., complete social security numbers, valid Date of Births, and Period of Services, etc.) as deemed necessary.

NOTES:

The Lab Search/Extract Manual Run (Enhanced) [LREPI ENHANCE MANUAL RUN] option can be generated **manually** to transmit EPI and Hepatitis pathogens corrections to the AITC whenever needed. This option can be **manually** generated as often as necessary. (*See the EPI and Hepatitis Pathogens User Guide Appendix-B section of this guide for examples*).

Lab Search/Extract Transmissions to AITC after 6:00 pm are processed the next day.

Please DO NOT use the Lab Search/Extract Manual Run (Enhanced) [LREPI ENHANCED MANUAL RUN] option to transmit EPI and Hepatitis pathogens data on Wednesdays of PAY ROLL weeks. These transmissions may cause a delay in processing the PAY ROLL data.

Example: Emerging Pathogens Verification Report Mailman Message

Emerging Pathogens Verification Report [#60004] Page 1

REPORTING DATE FROM 12-01-1996 TO 12-31-1996 Message Seq # 1 Auto

LABPAIENT, ONE 000-00-0001 07-07-1913 M WORLD WAR II 45205
 Outpatient Accession Date 12-11-1996@1025

***** STREPTOCOCCUS GROUP A *****

12-11-1996@1025 BACT 96 10383 MICRO CULTURE LEG
 1 12-13-1996 STREPTOCOCCUS BETA HEMOLYTIC, GROUP A
 2 12-13-1996 STAPHYLOCOCCUS (COAGULASE NEGATIVE)

ORG # 1 12-11-1996@1025 ANTIBIOTIC MIC LEG

ORG # 2 12-11-1996@1025 ANTIBIOTIC MIC LEG

LABPATIENT, TWO 000-00-0002 01-08-1923 M WORLD WAR II 45239
 Inpatient Admission Date 12-19-1996@1125

*****4 CLOSTRIDIUM DIFFICILE *****
 12-25-1996@1415 MSER 96 418 CHEMISTRY TEST
 FECES

Clostridium Difficile Toxin 12-27-1996@1403
 POSITIVE

Can be verified using
 standard result reviews for
 "CH" subscripted tests (e.g.,
 LRRSP, LRRP3, LRSORD, LRSORA,
 LRGEN)

LABPATIENT, THREE 000-00-0003 11-05-1910 M WORLD WAR II 45255
 Inpatient Admission Date 12-03-1996@1908
 Discharge Date 12-09-1996@1151 Discharge Disposition REGULAR

250.01 DIABETES MELLI W/O COMP TYP I

276.8 HYPOPOTASSEMIA

427.31 ATRIAL FIBRILLATION

428.0 CONGESTIVE HEART FAILURE

482.30 PNEUM. UNSPEC. STREPTOCOCCUS

*****6 STREPTOCOCCUS GROUP A

PTF data can be verified
 using several different PTF
 options:
 DG PTF ICD DIAGNOSIS SEARCH
 DG PTF SUMMARY DIAG/OP
 OUTPUT
 DG PTF COMPREHENSIVE INQUIRY
 (most require DGPTFSUP key)

12-04-1996 BACT 96 10187 MICRO CULTURE SPUTUM
 1 12-06-1996 STREPTOCOCCUS BETA HEMOLYTIC, GROUP A
 2 12-06-1996 STAPHYLOCOCCUS AUREUS

ORG # 1 12-04-1996 ANTIBIOTIC MIC SPUTUM

ORG # 2 12-04-1996 ANTIBIOTIC MIC SPUTUM

Penicillin R
 Clindamycin S
 Vancomycin S
 TETRCLN S
 TRMSULF S
 Erythromycin S
 Oxacillin S

Microbiology subscripted
 organisms and
 susceptibilities can be
 reviewed using LRMIPSZ,
 LRMIPC, LRMIPLOG, LRGEN,
 LRRSP, and LRRP3.

Appendix-B

Cephalothin	S	
Ciprofloxacin	S	
AMPICILLIN-SULBACTAM	S	
LABPATIENT, FOUR 000-00-0004 02-23-1920 M PRE-KOREAN		45150
Inpatient Admission Date 11-18-1996@2213		
*****8 CANDIDA *****		
12-11-1996@0100 BLD 96 3914 MICRO CULTURE BLOOD		
1 12-15-1996 CANDIDA ALBICANS		
ORG # 1 12-11-1996@0100 ANTIBIOTIC MIC BLOOD		
LABPATIENT, FIVE 000-00-0005 12-23-1949 M VIETNAM ERA		45206
Outpatient Accession Date 12-20-1996@1309		
*****2 HEPATITIS C ANTIBODY POS *****		
12-20-1996@1309 RIA 1220 68 CHEMISTRY TEST SERUM		
Hepatitis C Ab 01-03-1997@1347 STRONG POSITIVE -		
LABPATIENT, SIX 000-00-0006 07-06-1919 M WORLD WAR II		41074
Outpatient Accession Date 12-19-1996@1007		
*****1 VANC-RES ENTEROCOCCUS *****		
12-19-1996@1007 BACT 96 10618 MICRO CULTURE URINE		
1 12-23-1996 PSEUDOMONAS AERUGINOSA		
2 12-23-1996 ENTEROCOCCUS FAECIUM		
ORG # 1 12-19-1996@1007 ANTIBIOTIC MIC URINE		
Gentamicin	S	
Cefazolin	R	
Ampicillin	R	
Tobramycin	S	
TRMSULF	R	
Amikacin	S	
Cefoxitin	R	
Cefotaxime	I	
Nitrofurantoin	R	
Cefoperazone	S	
Mezlocillin	S	

Lab Search/Extract Manual Run (Enhanced) [LREPI ENHANCED MANUAL RUN] option

The Lab Search/Extract Manual Run (Enhanced) [LREPI ENHANCED MANUAL RUN] option **automatically** transmit EPI and the three **new** Hepatitis pathogens data corrections to the AITC via HL7 format mailman messages each time the option is run.

NOTES:

Lab Search/Extract Transmissions to AITC after 6:00 p.m. are processed the next day.

Please DO NOT use the Lab Search/Extract Manual Run (Enhanced) [LREPI ENHANCED MANUAL RUN] option to transmit EPI and Hepatitis pathogens data on Wednesdays of PAY ROLL weeks. These transmissions may cause a delay in processing the PAY ROLL data.

Example: Lab Search/Extract Manual Run (Enhanced) [LREPI ENHANCED MANUAL RUN] option

```

                                Laboratory Search rerun option
Select Protocol: ?
    Answer with LAB SEARCH/EXTRACT PROTOCOL, or NUMBER
    Choose from:
    4024          LREPI          Emerging Pathogens Initiative (EPI)
    4990          LRNCH         National Center for Health
Promotion

Select Protocol: 4024  LREPI          Emerging Pathogens Initiative (EPI)
    ...OK? Yes//    (Yes)

Override Any Inactive indicators: ? NO//<RET>
Include All Search Parameters? YES//<RET>
Select Search Date: 06012000
Requested Start Time: NOW// <RET> (AUG 09, 2000@16:22:35)

```

EPI Processing Report Mailman Message

An EPI Processing Report mailman message is sent by AITC to the sending facility EPI-REPORT mail group members at the end of the AITC processing cycle (i.e., the 25th of each month). The EPI Processing Report mailman message itemizes all transmissions received by AITC, document the records status as either being accepted or rejected (with the reason code identified). The EPI Processing Report mailman message will ultimately determine whether EPI and Hepatitis pathogens data has been accepted by the AITC to be processed and placed into the EPI Statistical Analysis System (SAS) files. An example of the “Tables of Rejects and Errors and/or Warning Codes” follows the EPI Processing Report Mailman Message example.

Example: EPI Processing Report Mailman Message sent by AITC

Subj: EPI/LRK #970451447950300 [#1425971] 11 Aug 00 14:55 CST 50 Lines
 From: <POSTMASTER@FOC-AUSTIN.VA.GOV> in 'IN' basket. Page 1 **NEW**

```

2EPI0001 LRK.
437  RLEH1 STATION  437      V2  EPI PROCESSING REPORT  REPORT DATE  2000/08
437  RLEH2                                     PAGE 01..$

437  RLEH3  PROCESS DATE  SSN          ENCOUNTER DATE  MESSAGE  ERROR CODES..$
437  RLED1   20000630    000001014    200006071300    005      NO ERRORS..
437  RLED1   20000630    000001014    200006071300    008      NO ERRORS..
437  RLED1   20000630    000001015    200006230830    003      W23 ..$
437  RLED1   20000630    000001016    20000609145448    001      W23 W23 W23
W2
437  RLED1   20000630    000001017    200006141330    004      NO ERRORS..
437  RLED1   20000630    000001017    200006141330    007      NO ERRORS..
437  RLED1   20000630    000001018    200006121230    001      NO ERRORS..
437  RLED1   20000630    000001018    200006121230    001      NO ERRORS..
437  RLED1   20000630    000001019    20000605        004      W23 ..$
437  RLED1   20000630    000001019    20000605        006      W23 ..$
437  RLED1   20000630    000001020    20000616123364    001      W23 W23 W23
W2
437  RLED1   20000630    000001021    200006121030    004      NO ERRORS..
437  RLED1   20000630    000001021    200006121030    006      NO ERRORS..
437  RLED1   20000630    000001022    20000530190455    005      W23 W23 W23
W2
437  RLED1   20000630    000001023    200006051300    005      NO ERRORS..
437  RLED1   20000630    000001023    20000607124866    008      W23 W23 W23..

```

Table of Reject and Errors and/or Warning Codes

The following are Tables of Rejects and Errors and/or Warning Codes definitions used by AITC, for the EPI Processing Report Mailman Message.

Examples:

ERROR NUMBER	FIELD NAME	EDIT DESCRIPTION	ERROR MESSAGE
000 Series			
<i>Miscellaneous</i>			
001	Message Control ID	Must not be blank	Message control ID was blank
002	Batch Sending Facility	Sending Station not valid. (Refer to table AA001)	Invalid Batch Sending Facility.
003	Segment Name	PID Segment missing. Do not edit for the existence of PID when NTE segments are present.	PID Segment missing.
004	Segment Name	PV1 Segment missing. Do not edit for the existence of PV1 when NTE segments are present.	PV1 Segment missing.
005	Segment Name	Invalid Segment name.	Invalid HL7 Segment name.
006	Message Creation Date	Must a valid date.	Message Creation Date is invalid.
007	Message Creation Time	Must a valid time.	Message Creation Time is invalid.
008	Processing Period	Must a valid time.	Processing period in the NTE segment is invalid.
009	Processing Period	Historical processing for V2 of EPI (commonly known as HEP C) must be received in Austin sequentially from 1998 forward.	For V2 only - Processing into AITC must be sequential from 10/98 forward.
100 Series			
<i>NTE Totals Segment</i>			
100	Action Ind	Currently not being used.	Currently not being used.
105	Totals Total Count	Must be numeric, if Action Ind is 'T'.	NTE Totals Total Count was not numeric.
110	Negative Input Ind	Must be 'N', if Action Ind is not 'T'.	Negative Input Ind was not 'N'.

Continued

ERROR NUMBER	FIELD NAME	EDIT DESCRIPTION	ERROR MESSAGE
200 Series <i>PID Segment</i>			
200	Patient Name	Required. Must be alpha numeric. Must not be all numeric. Must not be all blanks.	Patient Name is missing, or not alphanumeric, or all numeric, or all blanks.
205	Patient Date of Birth	Not required. Must be less than the processing year.	Date of Birth is after the Date of transmission. (Also see W03, W04, and W05)
210	Patient Sex	Not required. Must be blank or match table. (Refer to table 0001)	Sex code is not blank or a valid code. (Refer to table 0001)
215	Patient Race	Not required. Must be blank or a valid code. (Refer to table VA07)	Race code is not blank or a valid code. (Refer to table VA07)
220	Patient Address	Must be blank or 'H'.	Patient Address is not blank or 'H'.
224	Patient Zip Code	Not required. Must be Blank or numeric. If numeric, first five digits must not be all zeros. If last four digits exist, then must be numeric.	Address Zip Code is missing or not numeric.
235	Social Security Number	Required. Last byte must be 'P' or blank.	Pseudo SSN is not 'P' or blank.
236	Social Security Number	Required. Must be numeric. Must be greater than zeros.	Social Security Number is missing, or not numeric, or is equal to zeros.
240	Patient Veteran Status	Must be a valid code. (Refer to table VA11)	Period of Service was invalid. (Refer to table VA11).

Continued

ERROR NUMBER	FIELD NAME	EDIT DESCRIPTION	ERROR MESSAGE
300 Series <i>OBR Segment</i>			
300	Universal Service ID	Must be a valid code. (Refer to table NLT)	Invalid Universal Service ID (Refer to table NLT)
305	Observation Date	Must be numeric date. Must be a valid date. Must be less than Processing date.	Observation Date is invalid date or after the date of transmissio.
307	Observation Time	Not required Must be blank or numeric. If numeric, must be a valid time.	Observation Time is invalid.
310	Specimen Source Code	Not required. If not blank, must be a valid code. (Refer to table SPC)	Invalid Specimen Source (Refer to table SPC) Code. (also see W07)
315	Parent Observation ID	Not required. Must be blank or a valid code. (Refer to table NLT)	Invalid Parent Observation ID (Refer to table NLT).

Continued

ERROR NUMBER	FIELD NAME	EDIT DESCRIPTION	ERROR MESSAGE
400 Series			
<i>PV1 Segment</i>			
400	Patient Class	Required. Must be 'T', 'O', or 'U'.	Patient Class is not 'T', 'O', or 'U'.
410	Discharge Date	Not required. Must be blank or a valid date. Must be less than or equal to processing date.	Discharge Date is invalid or after date of transmission.
411	Discharge Time	Not required. Time must be blank or a valid time.	Discharge Time is invalid
420	Admit Date/Time	Required. Must be numeric date. Must be less than or equal to processing date.	Admit Date is invalid or after date of transmission.
421	Admit Date/Time	Required. Time must be numeric. Must be a valid time.	Admit Time is invalid.
500 Series			
<i>DG1 Segment</i>			
500	Diagnosis Code	Required. Must be a valid code. (Refer to table AA010)	Invalid Diagnosis Code. (Refer to table 0051)
600 Series			
<i>OBX Segment</i>			
600	Observation ID.	If not blank, must be a valid code. (Refer to table NLT)	Invalid Observation Nat Lab Num. (Refer to table NLT). (Also see W09)
605	Final Result Date	Must be blank or a valid date. Must be numeric. Must be a less than or equal to the processing date.	Final Result Date is invalid or after the date of transmission.

Continued

ERROR NUMBER	FIELD NAME	EDIT DESCRIPTION	ERROR MESSAGE
W00 Series			
<i>Warnings</i>			
W03	Patient Date of Birth	Must not be all spaces.	Patient Date of Birth is all spaces. (Also see 205)
W04	Patient Date of Birth	Year must not be all zeros	Patient Date of Birth Year is all zeros. (See also 205)
W05	Patient Date of Birth	Must be a valid date.	Patient Date of Birth is not in a valid date format. (Also see 205)
W07	Specimen Source Code	Blanks in code.	Specimen Source code is blank. (See also 310)
W09	Observation Nat Lab Num	Blanks in code.	Observation Nat Lab Num is blank. (Also see 600)
W010	Date of Prescription	Must not be all spaces.	Date of Prescription is all Spaces.
W011	Date of Prescription	Year must not be all zeros.	Date of Prescription is all Zeros.
W012	Date of Prescription	Must be a valid date.	Date of Prescription is not in a valid date format.
W014	Resolve Term	Must be numeric.	Resolve Term must be numeric.
W015	Days Supply	Must be numeric or blank.	Days Supply not numeric or blank.
W016	Release Date	Must be numeric date. Must be a valid date. Must be less than processing date.	Release Date is invalid date or after the date of transmission.
W017	Fill Date	Must be numeric date. Must be a valid date. Must be less than processing date.	Fill Date is invalid date or after the date of transmission.
W018	Stop Date	Must be numeric date. Must be a valid date. Must be less than processing date.	Stop Date is invalid date or after the date of transmission.
W019	Primary Indicator	One DG1 diagnostic code must be designated as the primary code-valid starting with version 2 of the software.	No diagnostic code designated as primary.
W020	Release Date/Fill Date	At least one of the two release date or fill date must be present.	Release Date and Fill Date are both blank.
W021	DSP Nomenclature	Must not be all spaces.	DSP Nomenclature is all spaces.
W022	Resolve Term	Must be 1, 2, 3, 4, 5, 6, 7, or 0.	Invalid Resolve Term
W023	Lab Result	Must be spaces if Resolve Term is 1, 2, 3, 4,, or 7.	Lab Result is not in sync with Resolve Term.

APPENDIX-C
VHA DIRECTIVE 2000-019
UNDER SECRETARY FOR HEALTH'S
INFORMATION LETTER

(This page included for two-sided copying.)

VHA Directive 2000-019

Department of Veterans Affairs
Veterans Health Administration
Washington, DC 20420

VHA DIRECTIVE 2000-019

July 19, 2000

INSTALLATION OF CLINICAL REMINDERS 1.5 SOFTWARE

1. PURPOSE: The purpose of this Veterans Health Administration (VHA) Directive mandates the immediate installation and use of the Veterans Health Information Systems and Technology Architecture (VISTA) Clinical Reminders 1.5 software.

2. BACKGROUND

a. Information Letter 10-98-013 established VA standards for evaluation and testing of veterans for Hepatitis C Virus (HCV). Software developed within the Department of Veterans Affairs (VA) assists in clinical management of veterans and provides data regarding progress toward meeting established standards.

b. Clinical Reminders 1.5 software is a **VISTA** product that was released to the field on June 21, 2000. This package builds on the functionality originally contained in the Patient Care Encounter package and streamlines the clinical reminders process in conjunction with guidance received from the National Advisory Council for Clinical Practice Guidelines.

c. Clinical Reminders 1.5 software provides the framework for the functionality of two patches that will be released soon, i.e., Laboratory software v5.2 patch (LR* 5.2*260) and Clinical Reminders software v1.5 (PXR*1.5*1). Clinical Reminders 1.5 software does not require the Computerized Patient Record System (CPRS) Graphical User Interface (GUI); however, the CPRS GUI v14 provides additional functionality to streamline the clinical reminder process for clinicians at the point of care.

3. POLICY: It is VHA policy that the Clinical Reminders **VISTA** package be used to extract Hepatitis C information to augment the Emerging Pathogen Initiative (EPI) database.

NOTE: *Patches that support the Hepatitis C reporting process depend on the presence of Clinical Reminders 1.5 software.*

4. ACTION: By July 30, 2000, each facility will:

- a. Install Clinical Reminders 1.5 software. Roll-out of the patches that support the Hepatitis C reporting process will begin in August. At that time further instructions will be provided related to a phased seeding of Hepatitis C data into the national EPI database.
- b. Follow instructions in the Clinical Reminders 1.5 Installation Guide for mapping Hepatitis C risk assessment terms.
- c. Ensure the encounter process (Automated Information Collection System (AICS), Patient Care Encounter (PCE) and CPRS GUI) utilized at each facility is set up to collect Hepatitis C risk assessment data.

THIS VHA DIRECTIVE EXPIRES JULY 31, 2005

- d. Set CPRS parameters to include the risk assessment reminder on the cover sheet.

5. REFERENCES: None.

6. FOLLOW-UP RESPONSIBILITY: The Office of Information (192) is responsible for the contents of this directive.

7. RESCISSIONS: None. This VHA Directive expires July 31, 2005.

S/ Melinda Murphy for
Thomas L. Garthwaite, M.D.
Acting Under Secretary for Health

DISTRIBUTION: CO: E-mailed 7/20/00
FLD: VISN, MA, DO, OC, OCRO, and 200 - FAX 7/20/00
EX: Boxes 104, 88, 63, 60, 54, 52, 47, and 44 - FAX 7/20/00

Under Secretary For Health's Information Letter

Available at: <http://vawww.va.gov/publ/direc/health/infolet/109813.doc>

IL 10-98-013

In Reply Refer To: 11

June 11, 1998

UNDER SECRETARY FOR HEALTH'S INFORMATION LETTER

HEPATITIS C: STANDARDS FOR PROVIDER EVALUATION AND TESTING

1. **Background:** Hepatitis C virus (HCV) infection was first recognized in the 1970's, when the majority of transfusion-associated infections were found to be unrelated to hepatitis A and B, the two hepatitis viruses recognized at the time. This transmissible disease was then simply called "non-A, non-B" hepatitis. Sequencing of the HCV genome was accomplished in 1989, and the term hepatitis C was subsequently applied to infection with this single strand ribonucleic acid (RNA) virus. The genome of HCV is highly heterogeneous and, thus, the virus has the capacity to escape the immune surveillance of the host; this circumstance leads to a high rate of chronic infection and lack of immunity to reinfection. Reliable and accurate (second generation) tests to detect antibody to HCV were not available until 1992, at which time an effective screening of donated blood for HCV antibody was initiated.

2. HCV infection is now recognized as a serious national problem. Nearly 4 million Americans are believed to be infected, and approximately 30,000 new infections occur annually. Only about 25 to 30 percent of these infections will be diagnosed. HCV is now known to be responsible for 8,000 to 10,000 deaths annually, and this number is expected to triple in the next 10 to 20 years.

3. Hepatitis C has particular import for the Department of Veterans Affairs (VA) because of its prevalence in VA's service population. For example, a 6-week inpatient survey at the VA Medical Center, Washington, DC, revealed a prevalence of 20 percent antibody positivity. A similar investigation at the VA Medical Center San Francisco, CA, found 10 percent of inpatients to be antibody positive. Veterans Health Administration (VHA) Transplant Program data reveal that 52 percent of all VA liver transplant patients have hepatitis C. An electronic survey of 125 VA medical centers conducted by the Infectious Disease Program Office from February through December of 1997, identified 14,958 VA patients who tested positive for hepatitis C antibody. Clearly, HCV infection is becoming a leading cause of cirrhosis, liver failure, and hepatocellular carcinoma. The incidence and prevalence rates are higher among nonwhite racial and ethnic groups.

4. HCV is transmitted primarily by the parenteral route. Sources of infection include transfusion of blood or blood products prior to 1992, injection drug use, nasal cocaine, needlestick accidents, and, possibly, tattooing. Sexual transmission is possible, and while the risk is low in a mutually monogamous relationship, persons having multiple sexual partners are at higher risk of infection.

5. After infection, 90 percent of HCV infected patients will develop viral antibodies within 3 months. The disease becomes chronic in 85 percent of those infected, although one-third will have normal aminotransferase levels. The rate of progression is variable, and chronic HCV infection leads to cirrhosis in at least 20 percent of infected persons within 20 years; 1 to 5 percent of those infected will develop hepatocellular carcinoma.

6. At present, treatment for HCV infection is limited, consisting primarily of administration of interferon alpha, with or without the addition of ribavirin. The treatment benefits some patients and appears to alter the natural progression of the disease, although evidence is lacking that it will translate into improvements in quality of life or reduction in the risk of hepatic failure. Current regimens include the use of 6 or 12-month courses of interferon alpha, with or without ribavirin. The recent National Institutes of Health Consensus Statement on Hepatitis C concluded that liver biopsy should be performed prior to initiating treatment. If little liver damage is apparent, therapy need not be initiated; treatment is probably appropriate for those with significant histologic abnormalities. However, data presented at this Consensus Conference indicated that significant uncertainty remains regarding indications for treatment. Treatment options and a listing of VA protocols will be the subject of a separate Information Letter.

7. A number of serologic tests are available for diagnosis and evaluation of HCV infection. Enzyme immunoassays (EIA) are “first line” tests, and are relatively inexpensive. They contain HCV antigens and detect the presence of antibodies to those antigens. Recombinant immunoblot assays (RIBA) contain antigens in an immunoblot format, and are used as supplemental or confirmatory tests. Viral RNA can be detected by reverse-transcription polymerase chain reaction (PCR) testing. Quantitative HCV RNA testing uses target amplification PCR or signal amplification (branched deoxyribonucleic acid (DNA)) techniques.

8. The EIA tests have sensitivities in the range of 92 to 95 percent. Specificities depend on the risk stratification pre-testing. That is, in blood donors with no risk factors, 25 to 60 percent of positive EIA are also positive by PCR for viral RNA. About 75 percent of low risk donors with positive EIA and RIBA will be positive by PCR. Positive EIA tests should be confirmed by RIBA. If that is also positive the patient has, or has had, HCV infection. In high-risk patients who are EIA positive, particularly if there is evidence of liver disease, supplemental testing with RIBA or HCV RNA analysis is probably unnecessary. Quantitative RNA tests may be useful in the selection and monitoring of patients undergoing treatment.

9. All patients will be evaluated with respect to risk factors for hepatitis C, and this assessment documented in the patient’s chart. Based upon those risk factors, antibody testing should be utilized as elaborated on in the algorithm found in Attachment A.

S/Kenneth W. Kizer, M.D., M.P.H.
Under Secretary for Health

Attachment

DISTRIBUTION: CO: E-mailed 6/11/98

FLD: VISN, MA, DO, OC, OCRO, and 200 – FAX 6/11/98

EX: Boxes 104,88,63,60,54,52,47,and 44 – FAX 6/11/98