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Preface

The purpose of this guide is to provide the Lab Manager with documentation that will aid in their use of the enhancements and/or updates of RPMS Laboratory v5.2 Patch 1030.
1.0 Introduction

RPMS Laboratory v5.2 Patch 1030 incorporates changes to the IHS Lab Package that have either corrected identified issues or implemented enhancements. It also incorporates various Veteran Administration (VA) patches in order to facilitate the mandated process of VA and IHS convergence of the Lab Package.

This guide provides IHS Laboratorians with descriptions of the changes and/or enhancements and other information.

The first section of this guide provides IHS Laboratorians with descriptions of the changes and/or enhancements, testing steps, and a testing checklist. The second section of this guide provides detailed information about the reference laboratory interface changes and setup. A summary of some of the important changes is listed below.

1.1 Laboratory

- A reminder to add active lab users to the LMI Mail Group. It is imperative that this mail group be monitored in this release and future releases.

- New routines have been added for those sites that are having issues with their Intermec Label Printers. This enhancement will only need to be tested if your site uses Intermec printers and there are issues.

- For the Count Accessioned Tests Reports - a series of new routines were written that produce a report duplicating the results of the Count Accessioned Tests report, but uses the Lab Data file to gather information. This will aid those RPMS Electronic Health Record (EHR) sites that have a need to purge the Lab Order and Accession files frequently, the previous Count Accessioned Tests report can be incorrect because it uses the Accession file to gather information.

- The routine that is run when the LS Link Transaction Processor Status option on the BLRMENU is selected has been enhanced and will display more information.

- The Order/test status report has been modified for easier viewing.

- There have been changes to the Estimated Average Glucose (EAG) test. This includes storing the EAG calculation in the Lab Data file, as well the reference ranges and units.

- This new functionality has been added that will allow the Lab module to prompt a user ordering a test with a series of questions. These Ask-at-Order questions will only display during order entry in RPMS Laboratory in the following options:
  - Ward Order Entry
- Multipurpose Accessioning [LRQUICK]
- Fast Order Bypass

1.2 Reference Laboratory Interface Enhancements

- An addition has been made to the BLR Reference Laboratory file for Northern Plains Laboratory (NPL). (GIS Interface)
- An addition has been made to the BLR Reference Laboratory file for Pathology Associates Medical Laboratory (PAML). (GIS Interface)
- An addition has been made to the BLR Reference Laboratory file for Marshfield Clinic Laboratory.

**Note:** This is a preliminary distribution for an interface that will be implemented in the future. (GIS Interface)

- The HL7 filers and Ensemble production that may be used to implement a bidirectional billing interface with Quest Diagnostics using HL7 Version 1.6 and Ensemble as the interface engine. (VA LEDI interface and Ensemble) have been added.

**Note:** There is a technical addendum, *Laboratory Reference (LR) Technical Addendum Version 5.2 Patch 1030 September 2011* (File Name lr__0520.30oa.pdf), to this patch which includes the directions on how to install and configure the LEDI production (LR.VALediIII.htm) and set up the HL7 filers in RPMS.

- A modification has been made to the interface routines to permit display of a result flag of A for an Abnormal qualitative result transmitted by a reference laboratory. The Key on the Interim Report has been modified to include the reference, A=Abnormal
2.0 **LMI Mail Group**

In order for the Laboratory Module to function effectively, it is imperative that active lab users are assigned to the LMI Mail Group and that the LMI Mail Group is maintained.

Numerous Lab Module routines send informational MailMan messages to the members of the LMI Mail Group.

Members of the LMI Mail group should review their MailMan messages daily.
3.0 **New Intermec Printer Lab Label Routines**

Two new lab label routines for Intermec printers have been added to the IHS Lab namespace: BLRIPLZI and BLRIPLZP. These routines were developed to eliminate the necessity of sending binary code (i.e., ASCII code sequences less than 32 but greater than zero) from RPMS to the printer.

These routines will only work with Intermec printers that can interpret Intermec Printer Language (IPL) commands.

3.1 **Barcode Label Printed Fields**

For barcode labels, the fields that printed are:

- Accession Number in code 39 symbology
- Accession String
- Date/Time
- Date of Birth
- Health Record Number
- Location
- Order Number
- Patient Name
- Provider
- Sex
- Test(s)
- Top/Specimen
- Urgency

Note: These routines do not print any other barcode symbology

3.2 **Plain Label Printed Fields**

For plain labels, the fields that are printed are:

- Accession String
- Date/Time
- Date of Birth
- Health Record Number
• Location
• Order Number
• Patient Name
• Provider
• Sex
• Test(s)
• Top/Specimen
• Urgency

3.3 Initialization Routine: BLRIPLZI

The BLRIPLZI routine is the initialization routine that formats an Intermec Printer.

3.4 Print Routine: BLRIPLZP

The BLRIPLZP routine prints the lab variables on the Intermec printer.

3.5 ZLOAD and ZSAVE the BLRIPLZP Routine

LRLABEL4 is the routine used by the Laboratory system to print labels. This routine must be overwritten by the BLRIPLZP routine in order for the printer to work correctly. This is accomplished by using the ZLOAD (ZL) command to place the BLRIPLZP routine into the system's memory, followed by the ZSAVE (ZS) command that will save and overwrite the routine in memory to whatever routine name that follows the command.

The following two commands accomplish the over-writing of the LRLABEL4 routine. The commands must be done in programmer mode after a successful installation of RPMS Laboratory v5.2 Patch 1030:

```
ZL BLRIPLZP
ZS LRLABEL4
```

Figure 3-1: Example of how to overwrite the LRLABEL4 routine

3.6 Barcode Label Example

The following is an example of how the barcode label will look:
3.7 Plain Label Example

The following is an example of how the plain label will look:

![Plain Label Example Image]

3.8 Modification of BLR STARTUP FOR INTERMEC 7421 Option

It is recommended that the option BLR STARTUP FOR INTERMEC 7421 in the OPTION (# 19) file be modified. Currently, it should be similar to the following:

```
NAME: BLR STARTUP FOR INTERMEC 7421
MENU TEXT: Will restart the 7421 label routine if turned off.
TYPE: run routine                     CREATOR: KRING,MICHAEL
DESCRIPTION:   This option will run the routine BLRBARC to restart the
Intermec 7421 label printer if it is turned off.
ROUTINE: BLRBARC                      SCHEDULING RECOMMENDED: YES
UPPERCASE MENU TEXT: WILL RESTART THE 7421 LABEL RO
```

Figure 3-2: Example of the BLR STARTUP FOR INTERMEC 7421 option

The ROUTINE field should be changed to BLRIPLZI. It then should look similar to the following:

```
NAME: BLR STARTUP FOR INTERMEC 7421
MENU TEXT: Will restart the 7421 label routine if turned off.
TYPE: run routine                     CREATOR: KRING,MICHAEL
DESCRIPTION:   This option will run the routine BLRBARC to restart the
Intermec 7421 label printer if it is turned off.
ROUTINE: BLRIPLZI                      SCHEDULING RECOMMENDED: YES
```

Figure 3-3: Example of the BLR STARTUP FOR INTERMEC 7421 option with new routine

This change will allow users to access the 7421 option on the BLRMENU that will initialize the printer using the new barcode routine.

The BLRMENU should look like the following:

```
IHS Lab Main Support Menu
LS     Link Transaction Processor Status
7421   Will restart the 7421 label routine if turned off.
INQ    Inquire into the IHS LAB Transaction Log
FLD    Search Transactions for PCC LINK DISABLE Error
RSN    Requeue by Sequence Number
RST    Requeue Transaction by Sort Template
CPT    Enter/edit IHS Lab CPT File
FAL    Find ALL PCC Link Errors from Lab
STP    Stop/restart Lab to PCC Transaction Processor
MSTR   Enter/edit BLR MASTER CONTROL FILE
POV    Purpose of Visit Compliance Report
BZY    IHS Taskman Busy Device Rpt
CLR    CLEAR BLR ERRORS ... 
CUM    IHS CUMULATIVE MENU ... 
ETP    LA7 Message Queue Error Messages to Purgeable
LOI    IHS Lab Package LOINC Percentage Report
LVP    IHS Lab Version & Patch Report
MMR    Lab Description Abbreviation Report
NLO    Lab Tests Without LOINC Entries Report
REFL   Reference Lab Main Menu ... 
SHDR   State Health Dept Report
Select IHS Lab Main Support Menu Option:
```

Figure 3-4: Example of the BLRMENU with the 7421 option

3.9 TEST^BLRIPLZI

The BLRIPLZI routine has a test sub-routine that can be utilized from programmer mode by entering TEST^BLRIPLZI at the programmer prompt (note that the P3400E is only used as an example -- the DEVICE should be whatever the Intermec printer's name is in the DEVICE file):

```
D TEST^BLRIPLZI
DEVICE: HOME// P3400E DESKTOP   Right Margin: 80//
```

Figure 3-5: Example of how to access test sub-routine

The routine prompts for the label printer's DEVICE name and then prints two labels: (1) a barcode label and (2) a plain label. The examples in Section 3.6 and Section 3.7 were created using the TEST^BLRIPLZI sub-routine.
4.0 **Count Accessioned Tests Using Lab Data File**

Due to the necessity for RPMS Electronic Health Record (EHR) sites to purge the Lab Order and Accession files frequently, the Count Accessioned Tests report can be incorrect because it uses the Accession file to gather information. A series of new routines were written that produce a report duplicating the results of the Count Accessioned Tests report, but uses the Lab Data file to gather information.

**Note:** Because the compilation of data can take several hours, the report routine automatically tasks all requests for compilation.

The main algorithms of the original Count Accession Tests report have been replicated, though all data for the report comes from the Lab Data file and PCC.

4.1 **New Options**

Four new options have been created in order to facilitate the use of the new routines.

**Note:** All options have been secured with the LRSUPER security key.

4.1.1 **BLRLUOPT Option**

The BLRLUOPT option is the option that displays the compilation, report, and purge options. Selecting the BLRLUOPT option will produce a display similar to the following:

```
Count Accessioned Tests Using Lab Data File

COMP   Compile Data for Count Accessioned Tests Reports
REPT   Count Accessioned Tests Reports
PURG   Purge An Accessioned Tests Report

Select Count Accessioned Tests Using Lab Data File Option:
```

Figure 4-1: Example of the BLRLUOPT option

The BLRLUOPT option is a menu option composed of the Compilation (BLRLUPAC) option, the Reports (BLRLURPT) option, and the Purge (BLRLUPRG) option.

It is recommended that the BLRUOPT option be placed on the BLRMENU so that Lab personnel with the LRSUPER security key will have easy access.
Note: The BLRLUOPT option is not added to the BLRMENU by this patch. That must be done manually by the site.

4.1.2 BLRLUPAC Option

The BLRLUPAC compilation option reads the Lab data file and compiles the information to be used for reporting. It allows the user to first select the Accession Area.

Select ACCESSION AREA:
Figure 3.2 Example of the BLRLUPAC Select Accession Area prompt

Once the Accession Area has been selected, the user is prompted for a beginning date.

And then an ending date:

Once the ending date is entered, the task is queued to TaskMan.

Press RETURN Key:
The compilation phase can take hours. Once the compilation has been completed, a MailMan e-mail is sent to the user who tasked the compilation job, informing them that it has finished. The MailMan message should look similar to the following in MailMan:

Figure 4-5: MailMan message example

The MailMan message will also indicate when the compilation process failed to discover data that fit the selection criteria, if it occurs. Such a message would look similar to the following:

Figure 4-6: MailMan message example indicating no data found

4.1.3 BLRLURPT Option

The BLRLURPT option is used to print/view a compiled report.
It first displays a menu of compilations similar to the following:

![Compilation Screen](image)

Once the compilation is selected, the reports screen is displayed:

![Report Selection Screen](image)

The user will then select the report.

### 4.1.3.1 Topography File Counts report

The Topography File Counts report will look similar to the following:

![Topography File Counts Report](image)
Figure 4-9: Topography File Report

4.1.3.2 **Topography File and Laboratory Tests Counts report**

The Topography File and Laboratory Tests Counts report will look similar to the following:

<table>
<thead>
<tr>
<th>IEN</th>
<th>Description</th>
<th>IEN</th>
<th>Description</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>BLOOD</td>
<td>36</td>
<td>FIBRIN SPLIT PRODU</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>97</td>
<td>HEMOGLOBIN A1C</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>114</td>
<td>ZZ-CORTISOL</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>173</td>
<td>CREATININE</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>174</td>
<td>UREA NITROGEN</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>175</td>
<td>GLUCOSE (R)</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td></td>
<td>176</td>
<td>SODIUM</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>177</td>
<td>POTASSIUM</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>178</td>
<td>CHLORIDE</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>179</td>
<td>CARBON DIOXIDE</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>180</td>
<td>CALCIUM</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>227</td>
<td>ALDOLASE Q227</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>231</td>
<td>ZZ ANTI SMOOTH MUS</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>252</td>
<td>ZINC</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>484</td>
<td>HLA B27</td>
<td>2</td>
</tr>
<tr>
<td>1160</td>
<td>ANION GAP</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9999017</td>
<td>BUN/CR RATIO</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9999049</td>
<td>ESTIMATED GFR</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9999072</td>
<td>THINPREP/GC/CHLAMY</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9999302</td>
<td>_HEPATITIS C AB</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9999404</td>
<td>_HEP B CORE IGM Q48</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9999596</td>
<td>ESTIMATED AVERAGE</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9999611</td>
<td>eGFR IF AFR AM</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>---------</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>BLOOD TOTALS</td>
<td></td>
<td></td>
<td>124</td>
</tr>
<tr>
<td>71</td>
<td>URINE</td>
<td>460</td>
<td>COCAINE</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>---------</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>71</td>
<td>URINE TOTALS</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>72</td>
<td>SERUM</td>
<td>9999638</td>
<td>DTCFREE</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9999639</td>
<td>DTCSETC</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>---------</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>72</td>
<td>SERUM TOTALS</td>
<td></td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>
4.1.3.3 **Laboratory Tests Counts report**

The Laboratory Tests Counts report will look similar to the following:

```
<table>
<thead>
<tr>
<th>IEN</th>
<th>Description</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>183</td>
<td>Total Cholesterol</td>
<td>1</td>
</tr>
<tr>
<td>184</td>
<td>PROTEIN,TOTAL</td>
<td>10</td>
</tr>
<tr>
<td>185</td>
<td>ALBUMIN</td>
<td>10</td>
</tr>
<tr>
<td>186</td>
<td>T BILIRUBIN (R)</td>
<td>22</td>
</tr>
<tr>
<td>188</td>
<td>ALKALINE PHOSPHATASE</td>
<td>10</td>
</tr>
<tr>
<td>190</td>
<td>AST</td>
<td>10</td>
</tr>
<tr>
<td>191</td>
<td>ALT</td>
<td>10</td>
</tr>
<tr>
<td>232</td>
<td>MITOCHONDRIAL AB</td>
<td>1</td>
</tr>
<tr>
<td>262</td>
<td>LEAD, BLOOD</td>
<td>1</td>
</tr>
<tr>
<td>322</td>
<td>FREE T4</td>
<td>3</td>
</tr>
<tr>
<td>669</td>
<td>VITAMIN B-12 Q927</td>
<td>4</td>
</tr>
<tr>
<td>835</td>
<td>GLOBULIN</td>
<td>13</td>
</tr>
<tr>
<td>1100</td>
<td>A/G RATIO</td>
<td>10</td>
</tr>
</tbody>
</table>
```

Enter RETURN to continue or '^' to exit:

Figure 4-11: Laboratory Test File Report

4.1.3.4 **Location File Counts report**

The Location File Counts report will look similar to the following:

```
<table>
<thead>
<tr>
<th>IEN</th>
<th>Description</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>INPATIENT</td>
<td>2</td>
</tr>
<tr>
<td>40</td>
<td>HATCH - RHEUMATOLOGY</td>
<td>1</td>
</tr>
<tr>
<td>103</td>
<td>EMERGENCY ROOM</td>
<td>19</td>
</tr>
<tr>
<td>153</td>
<td>LAB</td>
<td>257</td>
</tr>
<tr>
<td>154</td>
<td>ER-LAB</td>
<td>50</td>
</tr>
<tr>
<td>227</td>
<td>INPATIENT-LAB</td>
<td>5</td>
</tr>
</tbody>
</table>
```

Figure 4-10: Topography File & Laboratory Tests Counts Report
### 4.1.3.5 Location File and Laboratory Tests Counts report

The Location File and Laboratory Tests Counts report will look similar to the following:

<table>
<thead>
<tr>
<th>IEN</th>
<th>Description</th>
<th>IEN</th>
<th>Description</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>103</td>
<td>EMERGENCY ROOM</td>
<td>36</td>
<td>FIBRIN SPLIT PRODUC</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>97</td>
<td>HEMOGLOBIN A1C</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>173</td>
<td>CREATININE</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>174</td>
<td>UREA NITROGEN</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>175</td>
<td>GLUCOSE (R)</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>176</td>
<td>SODIUM</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>177</td>
<td>POTASSIUM</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>178</td>
<td>CHLORIDE</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>179</td>
<td>CARBON DIOXIDE</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>180</td>
<td>CALCIUM</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>231</td>
<td>ZZ ANTI SMOOTH MUS</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>252</td>
<td>ZINC</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>484</td>
<td>HLA B27</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1160</td>
<td>ANION GAP</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9999017</td>
<td>BUN/CR RATIO</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9999049</td>
<td>ESTIMATED GFR</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9999072</td>
<td>THINPREP/GC/CHLAMY</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9999302</td>
<td>HEPATITIS C AB</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9999404</td>
<td>HEP B CORE IGM Q48</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9999611</td>
<td>eGFR IF APR AM</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>EMERGENCY ROOM TOTAL</td>
<td>82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>153</td>
<td>LAB</td>
<td>176</td>
<td>SODIUM</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>177</td>
<td>POTASSIUM</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9999638</td>
<td>DTCFREE</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9999639</td>
<td>DTCSETC</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>LAB TOTAL</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>154</td>
<td>ER-LAB</td>
<td>114</td>
<td>ZZ-CORTISOL</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>175</td>
<td>GLUCOSE (R)</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>176</td>
<td>SODIUM</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>177</td>
<td>POTASSIUM</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>227</td>
<td>ALDOLASE Q227</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>460</td>
<td>COCAINE</td>
<td>1</td>
</tr>
</tbody>
</table>

**Figure 4-12: Location File Report**
4.1.3.6 Institution File Counts report

The Institution File Counts report will look similar to the following:

```
DEMO HOSPITAL
Date:02/01/11          Lab accession and test counts          Page 1
Time:9:04 AM           SO Accession Area Counts Only               BLRLUAC7
Institution File (# 4) Sort
Date Range: 01/01/2010 thru 12/31/2010

IEN       Description                                             Count
---------------------------------------------------------------------------
497       DEMO HOSPITAL                                             102
7737      QUEST DIAGNOSTICS                                         261
-----------
TOTALS                                                    363
```

Press RETURN Key:

```
Figure 4-14: Institution File Report
```

4.1.3.7 Institution File and Laboratory Tests Counts report

The Institution File and Laboratory Tests Counts report will look similar to the following:

```
DEMO HOSPITAL
Date:06/08/11          Lab Accession and Test Counts          Page 1
Time:1:12 PM           SO Accession Area Counts Only               BLRLUAC7
Institution (# 4) & Laboratory Test (# 60) Report
Date Range: 01/01/2011 thru 05/31/2011

====== INSTITUTION (File 4) ======   ===== LABORATORY TEST (File 60) ======
IEN      Description                 IEN       Description            Count
---------------------------------------------------------------------------
-----
497      DEMO HOSPITAL               36        FIBRIN SPLIT PRODU         1
97        HEMOGLOBIN A1C             1
114       ZZ-CORTISOL                1
173       CREATININE                 1
174       UREA NITROGEN              1
175       GLUCOSE (R)               90
176       SODIUM                     4
177       POTASSIUM                  6
178       CHLORIDE                   1
179       CARBON DIOXIDE            1
180       CALCIUM                    2
227       ALDOLASE Q227             1
```

```
Figure 4-14: Institution File Report
```

```
484       HLA B27                  1
9999613   _GLUCOSE                 5
-------
ER-LAB TOTAL                                                    40
-------
HOSPITAL LOCATION (File 44) TOTALS                             127
```

Figure 4-13: Location File & Laboratory Tests Counts Report
4.1.3.8 **Compilation Errors report**

The Compilation Errors report will look similar to the following:

```
Date:04/28/11          Lab accession and test counts                 Page 1
Time:2:31 PM                 UA Accession Area                     BLRLUAC8
Compilation Errors Report
Date Range: 01/01/2007 thru 12/31/2007

Error Description         Count     IEN       Description           Count
---------------------------------------------------------------------------
No File 44 Data in V FILE   26650   141       URINE COLOR              1420
143       SPECIFIC GRAVITY         1420
144       URINE UROBILINOGEN       1420
146       URINE BILIRUBIN          1420
147       URINE KETONES            1420
148       URINE GLUCOSE            1420
149       URINE PROTEIN            1420
150       URINE PH                 1420
151       URINE WBC                722
152       URINE EPITH CELLS         757
153       URINE BACTERIA           616
154       URINE MUCUS              338

Enter RETURN to continue or '^' to exit:
```

4.1.4 **BLRLUPUR Option**

The BLRLUPUR option allows the user to purge a compiled report. It first displays a menu of compiled reports similar to the following:
Select one of the Date/Time Compilations below to be purged:

```plaintext
Compiled         Acc Area    Begin Date     End Date
--------------      --------    ----------     ----------
1) 3101230.155017      UA          01/01/2007     12/31/2007
2) 3110113.09334       SO          01/01/2010     12/31/2010
3) 3110119.113721      CH          01/01/2010     12/31/2010
```

Enter Response (1-3):

Once the compiled test has been selected, the user is prompted to confirm the selection.

```plaintext
Purge the above compilation? NO//
```

The default answer is NO. If NO is selected, the following message is displayed:

```plaintext
NO Purge selected. Routine Ends.
```

Press RETURN Key:
If the user selects YES, the following purge screen is displayed:

```
DEMO HOSPITAL  
Date:02/01/11  Lab accession and test counts  
Lab accession and test counts  Time:8:30 AM  
Report Purged  
---------------------------------------------------------------------------
The Date/Time Compilation below has been purged.  

<table>
<thead>
<tr>
<th>Compiled</th>
<th>Acc Area</th>
<th>Begin Date</th>
<th>End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) 3101230.155017</td>
<td>UA</td>
<td>01/01/2007</td>
<td>12/31/2007</td>
</tr>
</tbody>
</table>

Press RETURN Key:
```

Figure 4-20: No Purge screen
5.0 Link Transaction Processor Status Report Modification

The routine that is run when the LS option on the BLRMENU is selected has been modified to display more information: it will not only display the transaction number in the IHS LAB TRANSACTION LOG file, but also the date and time of that transaction.

5.1 Original Link Transaction Processor Status Report

The previous version of the report would look similar to the following once the LS option of the BLRMENU was selected:

<table>
<thead>
<tr>
<th>Event</th>
<th>Entry Position in Queue</th>
<th>IHS Lab Transaction Sequence Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Entry Assigned</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Last Entry Processed</td>
<td>9</td>
<td>1</td>
</tr>
</tbody>
</table>

Press Enter to exit:

Figure 5-1: Example of the previous version of the report

5.2 Revised Link Transaction Processor Status Report

The report will look similar to the following after Laboratory Patch 1030 has been installed:
<table>
<thead>
<tr>
<th>Event</th>
<th>Entry #</th>
<th>in Queue</th>
<th>Sequence #</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Entry Assigned</td>
<td>9</td>
<td>1</td>
<td>1,182</td>
<td>01/18/2011</td>
<td>15:48</td>
</tr>
<tr>
<td>Last Entry Processed</td>
<td>9</td>
<td>1</td>
<td>1,182</td>
<td>01/18/2011</td>
<td>15:48</td>
</tr>
</tbody>
</table>

Figure 5-2: Example of the Patch 1030 version of the report
6.0 **Order/test status Report Modification**

The Order/test status report has been modified so that it highlights order numbers and groups information in a format that should aid in visually parsing the displayed information. It also no longer displays dates that have no orders for the patient.

6.1 **Original Order/test status Report Layout**

The following is an example of the original layout of the Order/test status Report.

<table>
<thead>
<tr>
<th>Test</th>
<th>Urgency</th>
<th>Status</th>
<th>Accession</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab Order # 3298</td>
<td>BLOOD</td>
<td>HEMOGLOBIN A1C</td>
<td>Provider: USER,RSTUDENT</td>
</tr>
<tr>
<td></td>
<td>ROUTINE</td>
<td>Collected</td>
<td>12/06/2010@13:56 IM 10 5</td>
</tr>
<tr>
<td>Sign or Symptom:</td>
<td>BLOOD</td>
<td>GLUCOSE</td>
<td>Provider: USER,RSTUDENT</td>
</tr>
<tr>
<td></td>
<td>ROUTINE</td>
<td>Test Complete</td>
<td>12/06/2010@13:57 EKT 1206 1</td>
</tr>
</tbody>
</table>

No orders for 12/02/2010
No orders for 11/30/2010
No orders for 11/29/2010
No orders for 11/28/2010
No orders for 11/27/2010
No orders for 11/26/2010
No orders for 11/25/2010
No orders for 11/24/2010

PRESS '^' TO STOP

Figure 6-1: Example of the pre Patch 1030 version of the report

6.2 **Revised Order/test status Report Layout**

The following is an example of the Order/test status Report with its modified layout.

<table>
<thead>
<tr>
<th>Test</th>
<th>Urgency</th>
<th>Status</th>
<th>Accession</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab Order # 3298</td>
<td>BLOOD</td>
<td>HEMOGLOBIN A1C</td>
<td>Provider: USER,RSTUDENT</td>
</tr>
<tr>
<td></td>
<td>ROUTINE</td>
<td>Collected</td>
<td>12/06/2010@13:56 IM 10 5</td>
</tr>
<tr>
<td>Sign or Symptom:</td>
<td>BLOOD</td>
<td>GLUCOSE</td>
<td>Provider: USER,RSTUDENT</td>
</tr>
<tr>
<td></td>
<td>ROUTINE</td>
<td>Test Complete</td>
<td>12/06/2010@13:57 EKT 1206 1</td>
</tr>
</tbody>
</table>

NO REMAINING ACTIVE ORDERS

Select Patient Name:

Figure 6-2: Example of the Patch 1030 version of the report
7.0 New Estimated Average Glucose Delta Check: MEAG

A new Modified Estimated Average Glucose (MEAG) Delta Check for A1C tests has been created that will store not only the EAG calculation in the Lab Data file, but also the Reference Ranges and Units, if they have been defined for the test ESTIMATED AVERAGE GLUCOSE. If the calculation falls outside of the Reference Ranges, the Abnormal flag will also be stored.

7.1 MEAG Created During Post Install Phase of Patch 1030

The MEAG delta check is stored in the Delta Checks (# 62.1) file during the post install phase of Patch 1030. The following messages will appear during installation:

```
Adding MEAG to Delta Check Dictionary
MEAG Delta Check added to Delta Check Dictionary. OK.
MEAG Delta Check DESCRIPTION added to Delta Check Dictionary. OK.
MEAG Delta Check TEXT added to Delta Check Dictionary. OK.
```

Figure 7-1: Example of the creation of the MEAG delta check during the post install of Patch 1030

7.2 MEAG Listing

The following is a listing of the MEAG delta check:

```
NAME: MEAG
EXECUTABLE CODE: S %X="" X:$D(LRDEL(1)) LRDEL(1) W:+$G(%X)>0 " ESTIMATED AVERAGE GLUCOSE:"","+$G(%X)>0 LRSB($$GETDNAM"BLREXECU("ESTIMATED AVERAGE GLUCOSE")")\% K %X,\%Y,\%Z,\%ZZ
OVERFLOW 1: S %ZZ=$$GETREFR\^BLRUTIL3("ESTIMATED AVERAGE GLUCOSE") S %XX=$FN((((X)*28.7)-46.7),"",0) S %YY=$S(%XX>$P(%ZZ,"",2):"L",%XX<$P(%ZZ,"",3):"H",1 :"" ) S %X=%XX "" %YY_""""\%^\%ZZ_""^\%^\%ZZ_""^\%^\%^\%^\%^\%^\%^\%^SG(DUZ(2))
DESCRIPTION: This delta check, when added to the A1C test, will calculate an Estimated Average Glucose (EAG) using the equation:
EAG=((A1C)*28.7)-46.7.

It will store the calculated result in the LAB DATA (# 63) File. It will also store the UNITS, REFERENCE LOW, and REFERENCE HIGH values for the ESTIMATED AVERAGE GLUCOSE test in the LAB DATA (#63) file, if those entries exist.

NOTE: if the result of the A1C test is not numeric, OR if the EAG calculation < 1, then data will NOT be stored into the Estimated Average Glucose test.

SITE NOTES DATE: MAR 15, 2011
TEXT: Created by IHS Lab Patch 1030
```

Figure 7-2: Example of the listing of the MEAG delta check.
7.3 Add Reference Ranges to Estimated Average Glucose Test

In order to store the Reference Ranges, they must be added to the Estimated Average Glucose test in the Laboratory Test (#60) file. The following is an example:

<table>
<thead>
<tr>
<th>LABTEST IEN: 9999596</th>
<th>NAME: ESTIMATED AVERAGE GLUCOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE: OUTPUT (CAN BE DISPLAYED)</td>
<td></td>
</tr>
<tr>
<td>SUBSCRIPT: CHEM, HEM, TOX, SER, RIA, ETC.</td>
<td></td>
</tr>
<tr>
<td>LOCATION (DATA NAME): CH;497534;1</td>
<td>UNIQUE ACCESSION #: NO</td>
</tr>
<tr>
<td>LAB COLLECTION SAMPLE: BLOOD</td>
<td>FIELD: DD(63.04,497534,</td>
</tr>
<tr>
<td>HIGHEST URGENCY ALLOWED: ROUTINE</td>
<td>REQUIRED TEST: YES</td>
</tr>
<tr>
<td>PRINT NAME: EAG</td>
<td>DATA NAME: ESTIMATED AVERAGE</td>
</tr>
<tr>
<td>GLUCOSE</td>
<td></td>
</tr>
<tr>
<td>SITE/SPECIMEN: BLOOD</td>
<td>REFERENCE LOW: 65</td>
</tr>
<tr>
<td>REFERENCE HIGH: 100</td>
<td>CRITICAL LOW: 40</td>
</tr>
<tr>
<td>CRITICAL HIGH: 500</td>
<td>UNITS: mg/dL</td>
</tr>
<tr>
<td>SITE/SPECIMEN: SERUM</td>
<td></td>
</tr>
<tr>
<td>COLLECTION SAMPLE: BLOOD</td>
<td></td>
</tr>
<tr>
<td>SYNONYM: EAG</td>
<td></td>
</tr>
<tr>
<td>INSTITUTION: DEMO HOSPITAL</td>
<td>ACCESSION AREA: CHEMISTRY</td>
</tr>
</tbody>
</table>

Figure 7-3: Example of the listing of the Estimated Average Glucose definition in File 60.

7.4 Estimated Average Glucose Test Reference Ranges Example

If the MEAG delta check is used with the A1C test, the interim report will be similar to the following:

```
Printed at: DEMO HOSPITAL (497) HWY 1 BOX 497 STREET ADDR. 2 DEMO, MN 56671
TEST,PATIENT TEST Date/Time Printed: 04/19/11@11:49
HRCN:000000 SEX:XX DOB:XXX XX, XXXX CURRENT AGE:XX
Accession [UID]: CH 0419 8 [1011090008] Provider: PROVIDER,TEST TEST
Specimen:BLOOD Spec Collect Date/Time:04/19/11@11:48
Res        Test name             Result Flg units  Ref. range      Site  Result Dt/Time
EAG        126        H        mg/dL       65 - 100       [497] 04/19/11@11:48
HEMOGLOBIN A1C 6       %        3.5 - 6.5      [497] 04/19/11@11:48
Eval: ^SITE
===========================================================================
KEY: A=Abnormal       L=Abnormal Low      H=Abnormal High
*=Critical value       TR=Therapeutic Range
```

[497] DEMO HOSPITAL HWY 1 BOX 497 DEMO, MN 56671
| TEST, PATIENT TEST | 000000 | 4/19/2011 | PRESS '^^' TO STOP |

Figure 7-4: Example of the Interim Report that shows the Estimated Average Glucose test's reference ranges.
8.0 BLRTASKS – Lab Daily Processes Option

This new option will determine if the required RPMS Lab daily processes have been tasked into TaskMan appropriately.

If a required task is not tasked, or is tasked to be run in the past (which means it will not run), then an e-mail message is sent to all users on the LMI Mail Group informing them the option is not scheduled correctly. An Alert is also sent to all members of the LMI Mail Group.

8.1 Nightly Schedule

It is recommended that this option be tasked to run every night.

**Note:** The tasking of the BLRTASKS option must be done manually by the site.

8.2 MailMan Message

The MailMan message that is sent if there is an issue will be similar to the following, though the number of reported issues may be less:

```
Subj: Daily LAB Option(s) Not Scheduled. [#10505] 03/16/11011:22  11 lines
From: BLRTASKS In 'IN' basket.   Page 1
---------------------------------------------------------------------------
Option >>> BLRTASK LAB LOG CLEANUP <<< Not Scheduled in TaskMan.
    Scheduled Date:03/14/2011 11:55 PM

Option >>> LA7TASK NIGHTY <<< Not Scheduled in TaskMan.
    Scheduled Date:03/14/2011 10:30 PM

Option >>> LRTASK NIGHTY <<< Not Scheduled in TaskMan.
    Scheduled Date:03/14/2011 10:45 PM

Option >>> LRTASK ROLLOVER <<< Not Scheduled in TaskMan.
    Scheduled Date:03/15/2011 5:00 AM
```

Figure 8-1: Example of the MailMan message
9.0 **BLRPCCST - Lab to PCC Linker Status Option**

A new option, BLRPCCST, has been created that will run a new routine, BLRPCCST, that will determine if the Lab to PCC linker has halted and, if it has, an e-mail message will be sent to all users on the LMI Mail Group informing them that someone will need to investigate.

9.1 **Nightly Schedule**

It is recommended that this option be tasked to run every night.

**Note:** The tasking of the BLRPCCST option must be done manually by the site.

9.2 **MailMan Message**

The MailMan message that is sent if there is an issue will be similar to the following:

```plaintext
Subj: IHS Lab to PCC Link Process is Stopped [#5569] 05/25/11@12:35 12 lines
From: BLRPCCST In 'IN' basket. Page 1 *New*

DESKTOP PRD UCI
Processor Status
MAY 25, 2011@12:35
Currently processing day MAY 24, 2011

<table>
<thead>
<tr>
<th>Event</th>
<th>Entry Position in Queue</th>
<th>IHS Lab Transaction Sequence Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Entry Assigned</td>
<td>15</td>
<td>8</td>
</tr>
<tr>
<td>Last Entry Processed</td>
<td>15</td>
<td>8</td>
</tr>
</tbody>
</table>
```

Figure 9-1: Example of the MailMan message
10.0 IHS Lab "Ask At Order" (AAO)

This new functionality will allow the Lab module to prompt a user ordering a test with a series of questions.

These questions will only appear if a user has ordered a specific test from File 60.

10.1 LAB ASK AT ORDER (# 90475.4) Dictionary

A new dictionary, LAB ASK AT ORDER (# 90475.4), will be added to the Lab module.

10.1.1 Dictionary Definition

The LAB ASK AT ORDER (# 90475.4) dictionary is a FileMan compliant file and its standard definition follows.

```
STANDARD DATA DICTIONARY #90475.4 -- LAB ASK AT ORDER FILE
MAY 11,2011@10:10:43 PAGE 1
STORED IN ^BLRAAQ( (1 ENTRY) SITE: RED LAKE HOSPITAL UCI: LAB,LAB
DATA ELEMENT TITLE LOCATION TYPE
---------------------------------------------------------------------------
DD ACCESS: @
RD ACCESS: @
WR ACCESS: @
DEL ACCESS: @
LAYGO ACCESS: @
AUDIT ACCESS: @
CROSS REFERENCED BY: TEST(B)
CREATED ON: MAY 2,2011 by KRING,MICHAEL
90475.4,.01 TEST          0;1 POINTER TO LABORATORY TEST FILE (#60)
(Required)
LAST EDITED: MAY 02, 2011
HELP-PROMPT: Laboratory Test with Ask At Order Questions
CROSS-REFERENCE: 90475.4^B
1) = S ^BLRAAQQ("B",$E(X,1,30),DA)="
2) = K ^BLRAAQQ("B",$E(X,1,30),DA)
90475.4,1 QUESTIONS       1;0 Multiple #90475.41
90475.41,.01 QUESTIONS    0;1 FREE TEXT (Required)
(Multiply asked)
INPUT TRANSFORM: K:$L(X)>100!($L(X)<1) X
LAST EDITED: MAY 02, 2011
```
10.1.2 Test Field

The Test field points to the Laboratory Test (#60) file so that the AAO questions will be tied to a specific test.

Note: Only those tests in File 60 with a "CH" subscript are allowed to be entered.
10.1.3 Questions Multiple

The Questions multiple allows multiple questions to be tied to a specific test.

10.1.3.1 Questions Field

The question to be asked of the user. It is a free text field.

10.1.3.2 Question Type

- The type of answer to the question. This is a set of codes field:
  - Y: Yes/NO
  - D: Date
  - N: Number
  - F: Free Text

This is an optional field. If it is blank, the type of answer is assumed to be free text.

If the type is defined to be numeric, up to two decimal points are allowed in the answer.

If the type is defined to be a Pointer, then the Select field should be filled in with the dictionary number.

10.1.3.3 Default

This is an optional field. The question's default answer.

10.1.3.4 Select

This is an optional field. If the question should be restricted to a dictionary (for example, RACE), the dictionary can be selected here.

10.1.3.5 Units

This is an optional field. Note, however, that if used, the units selected must exist in the IHS UCUM (#90475.3) dictionary.

10.1.4 Adding questions to the Lab Ask at Order Dictionary

It is advised that all AAO questions be defined and categorized prior to entering data into the dictionary.

**Note:** The AAO questions will be presented to the user in the order they are entered into the Lab Ask at Order Dictionary (#90475.4).
10.1.5 Example of adding questions to the Lab Ask at Order Dictionary

The following is an example of the recommended steps when adding questions to the Lab Ask at Order dictionary. It uses FileMan's ENTER OR EDIT FILE ENTRIES option.

10.1.5.1 Determine the File 60 entry and enumerate the questions to be asked

The example will use the Heavy Metals Screen test. There will be four questions asked of the use:

- Has responsible party signed ABN? A Yes/No question.
- What is the patient's weight? Answer will be in kilograms (kg).
- What is the patient's height? Answer will be in centimeters (cm)
- What is the patient's race? Answer will be from the RACE dictionary.

10.1.5.2 Select FileMan’s ENTER OR EDIT FILE ENTRIES

| VA FileMan 22.0 |
| Select OPTION: ENTER OR EDIT FILE ENTRIES |

Figure 10-2: FileMan Enter or Edit.

10.1.5.3 Select the Lab Ask at Order file

| INPUT TO WHAT FILE: OPTION// LAB ASK AT ORDER | (1 entry) |
| EDIT WHICH FIELD: ALL// |

10.1.5.4 Select the test from File 60

| INPUT TO WHAT FILE: OPTION// LAB ASK AT ORDER | (1 entry) |
| EDIT WHICH FIELD: ALL// |

Select LAB ASK AT ORDER TEST: HEAVY METAL
1   HEAVY METAL MERCURY
2   HEAVY METAL SCREEN
CHOOSE 1-2: 2 HEAVY METAL SCREEN
Are you adding 'HEAVY METAL SCREEN' as a new LAB ASK AT ORDER (the 2ND)? No// Y (Yes)

Figure 10-3: Select test from File 60.

10.1.5.5 Question 1: Has responsible party signed ABN?

| Select QUESTIONS: Has responsible party signed ABN? |
| Are you adding 'Has responsible party Signed ABN?' as a new QUESTIONS (the 1ST for this LAB ASK AT ORDER)? No// Y (Yes) |
| Question Type: Y YES/NO |

Question 1: Has responsible party signed ABN?
10.1.5.6 Question 2: What is patient’s weight?

Select QUESTIONS: What is patient’s weight (kg)?
Are you adding 'What is patient’s weight (kg)?' as
a new QUESTIONS (the 2ND for this LAB ASK AT ORDER)? No// Y (Yes)
Question Type: N  NUMBER
DEFAULT:
SELECT:
UNITS: KG  kg

10.1.5.7 Question 3: What is patient’s height?

Select QUESTIONS: What is patient’s height (cm)?
Are you adding 'What is patient’s height (cm)?' as
a new QUESTIONS (the 3RD for this LAB ASK AT ORDER)? No// Y (Yes)
Question Type: N  NUMBER
DEFAULT:
SELECT:
UNITS: CM  cm

10.1.5.8 Question 4: What is patient’s race?

Select QUESTIONS: What is patient’s race?
Are you adding 'What is patient’s race?' as
a new QUESTIONS (the 4TH for this LAB ASK AT ORDER)? No// Y (Yes)
Question Type:
DEFAULT:
SELECT: RACE
1  RACE
2  RACE AND ETHNICITY COLLECTION METHOD
CHOOSE 1-2: 1  RACE
UNITS:

10.2 Answers

Answers, along with their questions, who answered the questions, and the date/time of the answers, are temporarily stored in a data file, ^BLRAAOD.

During Accessioning the questions and answers will be moved to the COMMENTS section of the Lab Data file for that accession.
The ^BLRAAOD data file will be automatically purged of successfully moved AAO questions and answers.

10.3 Errors
If the routines that store the answers into the COMMENTS section of the Lab Data file encounter an error, information regarding that error will be stored in the Lab Ask At Orders Error file, ^BLRAAOE.

The errors may be purged from the file.

10.4 New Options
Several new options have been added to the Option file for various AAO reports and tasks.

Note: The BLRAAOMM Main Menu option has not been added to the BLRMENU by this patch. That must be done manually by the site.

10.4.1 BLRAAODR - Non-Accessioned IHS Lab Ask-At-Order Report
Report of data stored in the ^BLRAAOD file.

10.4.2 BLRAAOEP – Tasked option to purge errors
Option that can be tasked to purge the ^BLRAAORE file. This is the recommended method.

10.4.3 BLRAAOMM - IHS Lab Ask-At-Order Main Menu
Main Menu for IHS Lab Ask-At-Order options.

10.4.4 BLRAAORE - IHS Lab Ask-At-Order Main Menu

10.4.5 BLRAAORP - IHS Lab Ask-At-Order Main Menu
Interactively purge the ^BLRAAOE file.

10.5 IHS Lab Ask-At-Order Menu
The BLRAAOMM option will display the following menu
10.5.1 Non-Accessioned Questions and Results Report

An example of such a report will be similar to the following:

Figure 10-9: Report of data stored in the ^BLRAAORD file.

If there is no data in the ^BLRAAORD file, the report will be similar to the following:

Figure 10-10: Report of empty ^BLRAAOD file.

10.5.2 Ask-At-Order Errors Report

An example of such a report will be similar to the following:

Figure 10-11: Report of data stored in the ^BLRAAORE file.
If there is no data in the ^BLRAAORE file, the report will be similar to the following:

```
LAB PATCH LR*5.2*1029 UCI
Date:05/12/11 Lab Ask At Order Questions Time:7:19 AM
Transactions With Errors BLRAAORU
---------------------------------------------------------------------------
No Data in Errors Database.
Press RETURN Key:
```

Figure 10-12: Report of empty ^BLRAAORE file.

10.5.3 Errors Purge

Because errors will accumulate forever in the ^BLRAAORE file, it is necessary for Lab personnel to periodically purge the file. There are two methods to purge the file.

10.5.3.1 Interactive Purge Routine Option

It is possible to use a new option that will run a purge option routine.

**Note:** The tasking of the BLRAAOEP option is the recommended method of purging the Lab Ask-At-Orders errors file.

Once the option is selected, the routine will first display:

```
LAB PATCH LR*5.2*1029 UCI
Date:05/11/11 Lab Ask At Order Questions Time:8:10 AM
Purge Errors File
---------------------------------------------------------------------------
Do you want to purge the Lab Ask At Order Error (LAAOE) File?
```

Figure 10-13: First Display from interactive purge routine

If the user does not enter Y or YES, the routine will display

```
LAB PATCH LR*5.2*1029 UCI
Date:05/11/11 Lab Ask At Order Questions Time:8:27 AM
Purge Errors File
---------------------------------------------------------------------------
Do you want to purge the Lab Ask At Order Error (LAAOE) File? NO
Quit/No/Invalid response. Routine Ends.
Press RETURN Key:
```

Figure 10-14: First Display NO response.

and then exit once the user presses the RETURN key.
If the user enters YES, they do want to purge the file, the routine then displays:

![Figure 10-15: Second Display from interactive purge routine](image)

If the user does not enter Y or YES, the routine will display

![Figure 10-16: Second Display NO response](image)

and then exit once the user presses the RETURN key.

If the user again enters YES, they are certain they do want to purge the file, the routine then displays:

![Figure 10-17: Third Display from interactive purge routine](image)

If the user does not enter Y or YES, the routine will display
LAST CHANCE: Are you really certain you want to purge the LAAOE File? NO

Quit/No/Invalid response. Routine Ends.

Press RETURN Key:

Figure 10-18: Third Display NO response

and then exit once the user presses the RETURN key.

If the user again enters YES, they are really certain they want to purge the file, the routine then displays:

Very Well. LAAOE File Purged.

Press RETURN Key:

Figure 10-19: Final Display from interactive purge routine

and then exits once the user presses the RETURN key.

10.5.3.2 Tasked Purge Routine Option

The preferred method to purge the ^BLRAAORE file is to task the new option, BLRAAOEP, on a periodic basis in Taskman.

It is advised that the option be tasked monthly.

The tasked process will send an e-mail to all members of the LMI Mail group. The e-mail message will look similar to the following in MailMan:

Figure 10-20: Example of the MailMan message from tasked purging of the ^BLRAAORE file
10.6 Successfully Stored Questions/Answers

The comments may be viewed after resulting the test via the Interim Reports. They will look similar to the following:

---

**Figure 10-21: Interim Report example showing Ask At Order Questions and Answers**
11.0 Reference Laboratory Enhancements

Several enhancements have been added in Lab patch 30 which allow implementation of interfaces with new reference laboratories or provide a new functionality to an existing interface.

- A new entry has been made in the BLR Reference Laboratory file for future implementation of an interface with Marshfield Clinic Laboratory.

- A new entry has been made in the BLR Reference Laboratory file for a bidirectional interface with Northern Plains Laboratory (NPL). This interface uses the Generic Interface System (GIS) and has been tested as a client bill only interface. Directions for configuration are contained in section 11.1. Note that specific directions for handling LEDI interface results are covered in the Laboratorian Guide for Lab patch 27.

- A new entry has been made in the BLR Reference Laboratory file for a bidirectional interface with Pathology Associates Medical Laboratory (PAML). This interface uses the Generic Interface System (GIS) and will offer a third party billing component when the interface is completed. Directions for configuration are included in section 11.2. Note, however, that this interface will not be ready for the billing release in August 2011. Note that specific directions for handling LEDI interface results are covered in the Laboratorian Guide for Lab patch 27.

- A complete redesign of the bidirectional Quest interface has been undertaken to meet needs of I/T/U facilities requiring that Quest perform billing of third party payors. The redesigned interface uses Ensemble and HL7 version 1.6 options for formatting and routing orders from the I/T/U facility to Quest and for formatting and routing results from Quest back to the I/T/U facility. Directions for installing and configuring this interface are included in the Technical Addendum accompanying this patch release. Section 11.3 of this manual provides directions for setting up, validating, and using this interface.

- A modification of the interface result filing routine has been to allow display of an A for Abnormal qualitative results. The Key on the interim report has been modified to include the legend, A=Abnormal. See Section 11.4.

Note: Existing interface sites should not be impacted by the installation of Lab patch 30. No changes should be made to existing Reference Laboratory Interfaces, GIS processes or Laboratory interface files.
11.1 Interface Configuration for NPL

Most of the Aberdeen Area sites currently have bidirectional interfaces with Northern Plains Laboratory (NPL) mediated by a High Volume Receiver (HVR) and Data Innovations Instrument Manager. This interface has proven to be hardware dependent and difficult to maintain. Directions are provided in this section on how to convert this interface to a Generic Interface System (GIS) interface requiring no hardware. Arrangements must be made with NPL staff and Office of Information Technology (OIT) staff to facilitate this change without disruption of the current interface.

Interface conversion will require configuration of GIS processes which are covered in section 11.1.1 and updating of several Laboratory files which is covered in section 11.1.2. This interface is certified as a Client Bill Only interface.

11.1.1 Configuration of GIS for NPL interface

11.1.1.1 First Time GIS Interface sites:

If a site has never used the Generic Interface System before, the system must be set up to accept incoming acknowledgements from the reference laboratory.

- Activating HL IHS Accept Acknowledgement (add Destination and mark as Active)

<table>
<thead>
<tr>
<th>GIS Interface Menu</th>
<th>FTM File and Table Menu</th>
<th>TTE Transaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select Transaction Type: HL IHS ACCEPT ACKNOWLEDGEMENT</td>
<td>*** Transaction Type Definition, Screen 1 of 2 ***</td>
<td></td>
</tr>
<tr>
<td>Name: HL IHS ACCEPT ACKNOWLEDGEMENT</td>
<td>In/Out: OUT Active: ACTIVE</td>
<td></td>
</tr>
<tr>
<td>Destination: HL APPL ACK OUT</td>
<td>Script Generated: HL IHS ACCEPT ACKNOWLEDGEMENT-O</td>
<td></td>
</tr>
<tr>
<td>Parent:</td>
<td>Dependency: Retry Rate: Max # of attempts:</td>
<td></td>
</tr>
<tr>
<td>Acknowledge expected from remote: Application Ack Conditions:</td>
<td>Acknowledge Message:</td>
<td></td>
</tr>
<tr>
<td>Format Controller---Priority: Process time:</td>
<td>Output Controller---Priority: Process Time:</td>
<td></td>
</tr>
<tr>
<td>Description:</td>
<td>Application Process:</td>
<td></td>
</tr>
<tr>
<td>COMMAND: Save and Exit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 11-1: Activating HL IHS Accept Acknowledgement

- Generate the script for the HL IHS ACCEPT ACKNOWLEDGEMENT.
Select HL IHS ACCEPT ACKNOWLEDGEMENT

Figure 11-2: Menu for Generating Script for Accept Acknowledgement

*** Message Definition ***
Message Name: HL IHS ACCEPT ACKNOWLEDGEMENT  Inactive: NO
Event Type: ACK  Message Type: ACK  Audit:
Send Applic.: RPMS  Rec. Applic.:
Facility:  Facility:
Processing ID: PRODUCTION  HL7 Version: 2.4  Lookup Parameter: NO LAYGO
Accept Ack:  Application Ack:
Root File: INTERFACE TRANSACTION TYPE
Routine for Lookup/Store:
Description:
  Field Separator: |  Encoding Characters: ^~\&
Segments:
HL ACKNOWLEDGEMENT
HL IHS MSH (GENERIC)

COMMAND: < Save and Exit  Press <F1>H for help  Insert

Generate Scripts? Y// Y (Yes)

Generation for message: HL IHS ACCEPT ACKNOWLEDGEMENT....................
The following scripts were generated:
  Generated: HL IHS ACCEPT ACKNOWLEDGEMENT-O
Do you wish to compile the script(s) now? Y// (Yes)

Compiling Script: Generated: HL IHS ACCEPT ACKNOWLEDGEMENT-O

MUMPS section....
DATA section..........................
END section.

Compile completed with 0 warnings and 0 errors.
Linking... Filing generated routines...
Routine IS00024 ...Filed

Figure 11-3: Generating Script for Accept Acknowledgement

11.1.1.2 Configuring HL IHS LAB RECEIVER and HL IHS LAB TRANSMITTER

GIS Interface Menu
  FTM File and Table Menu ...
  BPE Background Process Entry/Edit
  Select HL IHS LAB RECEIVER or HL IHS LAB TRANSMITTER

Figure 11-4: Menu for Configuring GIS Background Processes
• Activate and identify the Destination for the HL IHS LAB RECEIVER.

![Background Process Entry/Edit](Screen 1 of 3)

Name: HL IHS LAB RECEIVER  
Active: ACTIVE  Priority:  
Device:  
Routine: INHVTAPR  
Destination: HL IHS LAB R01 NPL IN  
Destination Determination Code: D  
NPL^INHVTAPR  
Server Ports: 8081 < Site specific as determined by NPL and site.

Client Addresses:

COMMAND: < Save and Exit  Press <PF1>H for help  Insert

Figure 11-5: Activating the HL IHS LAB RECEIVER

• Activate the HL IHS LAB TRANSMITTER.

![Background Process Entry/Edit](Screen 1 of 3)

Name: HL IHS LAB TRANSMITTER  
Active: ACTIVE  Priority:  
Device:  
Routine: INHVTAPT  
Destination: HL IHS LAB NPL  
Destination Determination Code:  
Client/Server: CLIENT  Connection Type: PERSISTENT  
Server Ports:  
Client Addresses: 92.0.0.5 < Place cursor on IP address and press enter to open box to enter port for the transmitter. The IP address and port will be provided by NPL.

COMMAND: < Save and exit  Press <PF1>H for help  Insert

Figure 11-6: Activating the HL IHS LAB TRANSMITTER

11.1.1.3 Turn on message acknowledgement for NPL results

GIS  GIS Interface Menu ...  
DE  Destination Entry/Edit  
Select INTERFACE DESTINATION: HL IHS LAB R01 NPL IN
11.1.1.4 Activating Transaction Types

Transaction Types will need to be activated for:

HL IHS LAB O01 NPL OUT CHILD (for outgoing orders)

HL IHS LAB R01 NPL IN (for incoming results)
Repeat the process for the second transaction type, HL IHS LAB O01 NPL OUT CHILD.

#### **Transaction Type Definition, Screen 1 of 2**

<table>
<thead>
<tr>
<th>Name</th>
<th>HL IHS LAB NPL O01 OUT CHILD</th>
</tr>
</thead>
<tbody>
<tr>
<td>In/Out</td>
<td>OUT</td>
</tr>
<tr>
<td>Active</td>
<td>ACTIVE</td>
</tr>
<tr>
<td>Destination</td>
<td>HL IHS LAB NPL</td>
</tr>
<tr>
<td>Script</td>
<td>Generated: HL IHS LAB O01 NPL-O</td>
</tr>
<tr>
<td>Parent</td>
<td>HL IHS O01 OUT PARENT</td>
</tr>
<tr>
<td>Dependency</td>
<td></td>
</tr>
<tr>
<td>Retry Rate</td>
<td></td>
</tr>
<tr>
<td>Max # of attempts:</td>
<td></td>
</tr>
<tr>
<td>Acknowledge expected from remote:</td>
<td></td>
</tr>
<tr>
<td>Application Ack Conditions:</td>
<td></td>
</tr>
<tr>
<td>Acknowledge Message:</td>
<td></td>
</tr>
<tr>
<td>Format Controller---Priority:</td>
<td>Process time:</td>
</tr>
<tr>
<td>Output Controller---Priority:</td>
<td>Process Time:</td>
</tr>
<tr>
<td>Description:</td>
<td></td>
</tr>
<tr>
<td>Application Process:</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 11-10: Activating Transaction Type for outgoing order**

### 11.1.1.5 Start the GIS processes for the interface

GIS Interface Menu
BPM Background Process Control Menu ...
S1 Startup a Background Process
Select OUTPUT CONTROLLER
  .Started
Select FORMAT CONTROLLER
  .Started
Select HL IHS LAB TRANSMITTER
  .Started
Select HL IHS LAB RECEIVER
  .Started

**Figure 11-11: Starting the GIS Background Interface processes**
11.1.1.6 Run the BLR Menu option, SIT

As the last step to activating the interface, the menu option, SIT, must be run to set the HL7 message structure for the MSH on the outgoing message. Be sure to have the account number and settings for the Sending Application (MSH.3), Sending Facility (MSH.4), Receiving Application (MSH.5), and Receiving Facility (MSH.6) and Accession Area(s) before running this option.

In the example below, the settings used are as follows:

Reference Laboratory: NPL
Account Number: RAP
Sending Application: RPMS
Sending Facility: RAP
Receiving Application: LAB
Receiving Facility: NPL
Accession Area: PATH. NPL, SEND OUT
REF LAB IMPORT DIRECTORY:
REF LAB PASS CPT CODES:
REF LAB BILLING TYPE: Client
REF LAB PRT SHP MAN BY STORAGE:
REF LAB PRT PT PHONE MANIFEST:
REF LAB BI/UNIDIRECTIONAL: BIDIRECTIONAL
REF LAB NPI OR UPIN ON ORDER: NPI
REF LAB NAME FOR SHIP MANIFEST: NPL
REF LAB USE INSURANCE SEQ:
Select REF LAB CLIENT ACCOUNT NUMBER: RAP
Select REF LAB ACCESSION AREA: PATH. NPL,SEND OUT

Now setting up Lab HL7 Message Parameter File..
Now activating Reference Lab Interface..

Generation for message: HL IHS LAB 001
NPL..............................................

The following scripts were generated:
Generated: HL IHS LAB 001 NPL-O

Compiling Script: Generated: HL IHS LAB 001 NPL-O
.. MUMPS section....
DATA section..............................................................
........
END section.

Compile completed with 0 warnings and 0 errors.
Linking... Filing generated routines...
Routine IS00036 ...Filed
Routine IS00036A ...Filed
Routine IS00036B ...Filed

Figure 11-13: Running SIT option for NPL script

11.1.2 Laboratory File Set up for NPL

11.1.2.1 Configuring LA7 Message Parameter File

Use VA Fileman to create a new entry for NPL as follows:
Select VA FileMan Option: Enter or Edit File Entries

INPUT TO WHAT FILE: V LAB// 62.48 LA7 MESSAGE PARAMETER
(1 entries)
EDIT WHICH FIELD: ALL//

Select LA7 MESSAGE PARAMETER CONFIGURATION: NPL Are you adding NPL as a new LA7 MESSAGE PARAMETER CONFIGURATION? YES
CONFIGURATION: NPL//
PROTOCOL: HEALTH LEVEL SEVEN
11.1.2.2 Auto Instrument File

Rename the existing Auto Instrument file for the DI interface to NPL. Reset each of the entries in that file as follows. The script below shows how to create a template and how to “stuff” the desired entry into each of 7 Chem Test subfields by using the VA Fileman “loop” function.

Select VA FileMan Option: Enter or Edit File Entries

INPUT TO WHAT FILE: AUTO INSTRUMENT
EDIT WHICH FIELD: ALL// CHEM TESTS (multiple)
  EDIT WHICH CHEM TESTS SUB-FIELD: ALL// TEST
  THEN EDIT CHEM TESTS SUB-FIELD: REMOVE SPACES FROM RESULT///N
  THEN EDIT CHEM TESTS SUB-FIELD: DOWNLOAD TO INSTRUMENT///N
  THEN EDIT CHEM TESTS SUB-FIELD: NOTIFY ABNORMAL FLAGS///N
  THEN EDIT CHEM TESTS SUB-FIELD: STORE REMARKS///Y
  THEN EDIT CHEM TESTS SUB-FIELD: STORE REFERENCE RANGE///Y
  THEN EDIT CHEM TESTS SUB-FIELD: STORE UNITS///Y
  THEN EDIT CHEM TESTS SUB-FIELD: ACCEPT RESULTS FOR THIS TEST///Y
  THEN EDIT FIELD:
  STORE THESE FIELDS IN TEMPLATE: NPL GIS

Are you adding 'NPL GIS' as a new INPUT TEMPLATE? No// Y (Yes)

Enter or Edit File Entries
Print File Entries
Search File Entries
Modify File Attributes
Inquire to File Entries
Utility Functions ...
Data Dictionary Utilities ...
Transfer Entries
Other Options ...

Select VA FileMan Option: Enter or Edit File Entries

INPUT TO WHAT FILE: AUTO INSTRUMENT
EDIT WHICH FIELD: ALL// NPL GIS

(Jul 03, 2011@15:08) User #667 File #62.4
WANT TO EDIT 'NPL GIS' INPUT TEMPLATE? No// N (No)

Select AUTO INSTRUMENT NAME: ^LOOP
EDIT ENTRIES BY: NAME// NPL
START WITH NAME: FIRST// NPL
GO TO NAME: LAST// NPL
WITHIN NAME, EDIT ENTRIES BY: CHEM TESTS (multiple)
CHEM TESTS SUB-FIELD: TEST
START WITH TEST: FIRST// <enter>
   WITHIN TEST, EDIT ENTRIES BY: <enter>

NPL
Select TEST: 3-METHOXYTYR//
TEST: 3-METHOXYTYR//

NPL
Select TEST: BEEF INSULIN AB//
TEST: BEEF INSULIN AB//

NPL
Select TEST: COPROPORPHYRN//
TEST: COPROPORPHYRN//

Select TEST: HEPTACARBOXYPORPH.//
TEST: HEPTACARBOXYPORPH.//

NPL
Select TEST: HEXACARBOXYPORPHYRIN//
TEST: HEXACARBOXYPORPHYRIN//

NPL
Select TEST: HUMAN INSULIN ABS//
TEST: HUMAN INSULIN ABS//

NPL
Select TEST: IBUPROPHEN//
TEST: IBUPROPHEN//

NPL
Select TEST: LD//
TEST: LD//

NPL
Select TEST: LEGIONELLA//
TEST: LEGIONELLA//

Figure 11-15: Looping through Auto Instrument file

Continue looping until all entries are updated.

11.1.2.3 Load/Worklist File

The existing Load/Worklist file for NPL may be used. All orderable tests, types BOTH and INPUT must have entries with a BUILD NAME ONLY of NO. OUTPUT type tests need not be entered into the Load/Worklist file.

See example below:
Select VA FileMan Option: Enter or Edit File Entries

INPUT TO WHAT FILE: LA7 MESSAGE PARAMETER// LOAD/WORK LIST
(14 entries)
EDIT WHICH FIELD: ALL// Type PROFILE once Load/Worklist is created

Select LOAD/WORK LIST NAME: SENDOUTS
NAME: SENDOUTS/
LOAD TRANSFORM: UNIVERSAL
type PROFILE once Load/Worklist is created
CUPS PER TRAY: 0
FULL TRAY'S ONLY: NO/
EXPAND PANELS ON PRINT: YES// NO
INITIAL SETUP:
VERIFY BY: ACCESSION
SUPPRESS SEQUENCE #:
INCLUDE UNCOLLECTED ACCESSIONS: NO
SHORT TEST LIST:
AUTO MICRO EDIT TEMPLATE:
WKLD METHOD:
MAJOR ACCESSION AREA: SENDOUTS
LAB SUBSECTION: SENDOUTS
WORK AREA:
DATE OF SETUP: OCT 10,1996/
FIRST TRAY:
STARTING CUP:
LAST TRAY:
LAST CUP:
BUILDING IN PROGRESS: NO/
Select PROFILE: SENDOUTS/
PROFILE: SENDOUTS/
Select TEST: ALPHA-1-ANTITRYSIN
SPECIMEN:
BUILD NAME ONLY: NO
Select TEST:

Figure 11-16: Setting up Load Worklist for Referral tests

11.1.2.4 Mapping to BLR Reference Laboratory File

Once tests have been defined, they must be mapped to the appropriate order code in the BLR Reference Laboratory file. This file is used to identify tests which will be electronically handled by the Generic Interface System when they are ordered.

- Only type BOTH and type INPUT tests will be mapped.
- Tests may be cross-referenced either by name or by order code.
- If a test cannot be found by either method, then a new test name must be added to the BLR Reference Laboratory file.
11.2 Interface Configuration for PAML

The bidirectional GIS interface with PAML is undergoing testing at the time of this patch release. It is currently available for Client billing interfaces but has not yet been certified for Third Party Billing. If your facility requires that PAML do billing of third party insurers for your patients, you must provide a spreadsheet of the insurers that you wish PAML to code as soon as a project manager is assigned. Once the spreadsheet of insurers has been prepared, provide it to the business office manager at your facility to review and remove any insurers which are not used. Directions for creating the insurer file are provided in section 11.2.1 below.

11.2.1 Creating an Insurer File

Begin by creating a fixed-column-width report of your insurer file using VA FileMan. Create this file by turning on session logging for your terminal emulation program and capturing the following fields from your insurer file into a text file to be imported into an Excel spreadsheet:

- Insurer Name
- Insurer Address
- City
- State
- Zip Code
- Telephone Number

Enter or Edit File Entries
Print File Entries
Search File Entries
Modify File Attributes
Inquire to File Entries
Utility Functions ...
Data Dictionary Utilities ...
Transfer Entries
Other Options ...
Select VA FileMan Option: PRINT FILE ENTRIES

OUTPUT FROM WHAT FILE: INSURER (3458 entries)
SORT BY: NAME// STATUS
START WITH STATUS: FIRST// BILLABLE USES INTERNAL CODE: 1
GO TO STATUS: LAST// BILLABLE USES INTERNAL CODE: 1
WITHIN STATUS, SORT BY: NAME
START WITH NAME: FIRST// <ENTER>

FIRST PRINT FIELD: NAME;L15
THEN PRINT FIELD: STREET;L15
THEN PRINT FIELD: CITY;L12
THEN PRINT FIELD: STATE;L4
THEN PRINT FIELD: ZIP;L5
THEN PRINT FIELD: PHONE;L15

Heading (S/C): INSURER LIST//
STORE PRINT LOGIC IN TEMPLATE: RL INSURER

Figure 11-19: Creating a report in VA Fileman

Turn off session logging when the entire insurer file has been captured. Next you will import this fixed-width file into Excel.

11.2.2 Import Insurer File into Excel

The insurer file that was captured is in text file format. Follow these steps to import the file into Excel:

Open Excel and click on the Open File menu. Navigate to the directory in which you placed the captured insurer file and click on the All Files option, as this file is not yet in Excel format.
Click **Open**. This will trigger the Excel Import Wizard, but you may see the following warning message.

![Warning message](image)

Click **Yes** to proceed.

The text import wizard will open and the original data type will be selected as fixed column width. Note, however, that the header and formatting at the top of the file may interfere with the import wizard. Therefore, you will wish to alter the line at which you will begin the import to Line 6 or the first full line that contains only insurer information before clicking **Next**.
When you click **Next**, the Excel Import Wizard will insert lines at expected column breaks. If the lines appear to be correctly located, click **Finish**. If a line is placed inappropriately, it may be removed by placing your cursor on the line and double-clicking to remove the line. If you wish to add a break line, you may put your cursor in the desired location, and click just once. Click **Finish** to complete the import.
Expand the columns in the Excel Spreadsheet to ensure that the data has formatted correctly.

Save the newly created file in Excel Format so that it can be reviewed by your business office staff and unused insurers may be deleted from the Excel spreadsheet before submission to PAML.
Send a copy of the revised Insurer file to your PAML project manager so that PAML codes may be identified for your insurers.

As part of your interface set up, insurance codes provided by the reference laboratory will be added to the INSURER file in the field, EXTERNAL ID 3(REF LAB) using VA Fileman.

11.2.3 Configuration of GIS for PAML interface

11.2.3.1 First Time GIS Interface sites:

If a site has never used the Generic Interface System before, the system must be set up to accept incoming acknowledgements from the reference laboratory.

- Activating HL IHS Accept Acknowledgement (add Destination and mark as Active)

```
GIS Interface Menu
FTM File and Table Menu
TTE Transaction

Select Transaction Type: HL IHS ACCEPT ACKNOWLEDGEMENT
*** Transaction Type Definition, Screen 1 of 2 ***
Name: HL IHS ACCEPT ACKNOWLEDGEMENT
In/Out: OUT Active: ACTIVE
Destination: HL APPL ACK OUT
Script Generated: HL IHS ACCEPT ACKNOWLEDGEMENT-O
Parent:
Dependency: Retry Rate: Max # of attempts:
Acknowledge expected from remote: Application Ack Conditions:
Acknowledge Message:
Format Controller---Priority: Process time:
Output Controller---Priority: Process Time:
Description:
Application Process:

COMMAND: Save and Exit
```

Figure 11-25: Activating HL IHS Accept Acknowledgement

- Generate the script for the HL IHS ACCEPT ACKNOWLEDGEMENT.

```
GIS Interface Menu
SGM Script Generator Menu ...
MM Message Menu ...
MD Message Definition
Select HL IHS ACCEPT ACKNOWLEDGEMENT

*** Message Definition ***

Message Name: HL IHS ACCEPT ACKNOWLEDGEMENT
Inactive: NO
Event Type: ACK
Message Type: ACK
Audit:
Send Applic.: RPMS
Rec. Applic.:

pg 1 of 2
```

Figure 11-26: Menu for Generating Script for Accept Acknowledgement
Facility:                        Facility:
Processing ID: PRODUCTION  HL7 Version: 2.4    Lookup Parameter: NO LAYGO
Accept Ack:                      Application Ack:
Root File: INTERFACE TRANSACTION TYPE
Routine for Lookup/Store:
Description:
    Field Separator: |   Encoding Characters: ^~\\
Segments:
HL ACKNOWLEDGEMENT
HL IHS MSH (GENERIC)

COMMAND: < Save and Exit        Press <Pf1>H for help    Insert
Generate Scripts? Y// Y (Yes)
Generation for message: HL IHS ACCEPT ACKNOWLEDGEMENT..................
The following scripts were generated:
    Generated: HL IHS ACCEPT ACKNOWLEDGEMENT-0
Do you wish to compile the script(s) now? Y// (Yes)
Compiling Script: Generated: HL IHS ACCEPT ACKNOWLEDGEMENT-0
...
MUMPS section....
DATA section.............................
END section.
Compile completed with 0 warnings and 0 errors.
Linking... Filing generated routines...
Routine IS00024 ...Filed

Figure 11-27: Generating Script for Accept Acknowledgement

11.2.3.2 Creating HL IHS LAB RECEIVER and HL IHS LAB TRANSMITTER

GIS Interface Menu
FTM File and Table Menu ...
BPE Background Process Entry/Edit
Select HL IHS LAB RECEIVER or HL IHS LAB TRANSMITTER

Figure 11-28: Menu for Configuring GIS Background Processes

- Activate and identify the Destination for the HL IHS LAB RECEIVER.

*** Background Process Entry/Edit *** Screen 1 of 3
Name: HL IHS LAB RECEIVER
    Active: ACTIVE          Priority:
Device:
    Routine: INHVTAPR
Destination: HL IHS LAB R01 PAML IN
Destination Determination Code:
    D PAML^INHVIHS
Client/Server: SERVER    Connection Type: PERSISTENT
Server Ports:
15312 < Site specific as determined by PAML and site.

Client Addresses:

COMMAND: < Save and Exit Press <PF1>H for help Insert

Figure 11-29: Activating the HL IHS LAB RECEIVER

- Activate the HL IHS LAB TRANSMITTER.

*** Background Process Entry/Edit *** Screen 1 of 3

Name: HL IHS LAB TRANSMITTER
  Active: ACTIVE Priority:
  Device:
  Routine: INHVTAPT
  Destination: HL IHS LAB PAML
  Destination Determination Code:

  Client/Server: CLIENT Connection Type: PERSISTENT
  Server Ports:
  Client Addresses:
  206.82.175.252 < Place cursor on IP address and press enter to open box to enter port for the transmitter. The IP address and port will be provided by PAML.

COMMAND: < Save and exit Press <PF1>H for help Insert

Figure 11-30: Activating the HL IHS LAB TRANSMITTER

11.2.3.3 Turn on message acknowledgement for PAML results

GIS GIS Interface Menu ...
DE Destination Entry/Edit
Select INTERFACE DESTINATION: HL IHS LAB R01 PAML IN

*** Interface Destination Definition, Screen 1 of 3 ***

Name: HL IHS LAB R01 PAML IN
Acceptance TT: HL IHS ACCEPT ACKNOWLEDGEMENT
Accept Ack Conditions: ALWAYS

Priority: Retry Rate: Max # of Attempts:
*** Enter a value for ONE of the following:
  Transaction Type: HL IHS LAB R01 PAML IN
  Transceiver Routine:
    Mail Recipient:
    Message Subject:
  Device for Output:

Code to Edit Transactions:

Exit Save Next Page Refresh
### 11.2.3.4 Activating Transaction Types

Transaction Types will need to be activated for:

**HL IHS LAB O01 PAML OUT CHILD** (for outgoing orders)

**HL IHS LAB R01 PAML IN** (for incoming results)

![Figure 11-31: Turning on Acknowledgement for PAML incoming results](image)

![Figure 11-32: Menu for activating Transaction Types](image)

![Figure 11-33: Activating Transaction Type for incoming results](image)

Repeat the process for the second transaction type, **HL IHS LAB O01 PAML OUT CHILD**.
11.2.3.5 Start the GIS processes for the interface

GIS Interface Menu
BPM Background Process Control Menu ...
S1 Startup a Background Process
Select OUTPUT CONTROLLER
  .Started
Select FORMAT CONTROLLER
  .Started
Select HL IHS LAB TRANSMITTER
  .Started
Select HL IHS LAB RECEIVER
  .Started

Figure 11-35: Starting the GiS Background Interface processes

11.2.3.6 Run the BLR Menu option, SIT

As the last step to activating the interface, the menu option, SIT, must be run to set the HL7 message structure for the MSH on the outgoing message. Be sure to have the account number and settings for the Sending Application (MSH.3), Sending Facility (MSH.4), Receiving Application (MSH.5), and Receiving Facility (MSH.6) and Accession Area(s) before running this option. These settings will be provided to you by your project manager.

In the example below, the settings used are as follows:

Reference Laboratory: PAML
Account Number: M169
Sending Application: 1531
Sending Facility: M169
Receiving Application: CAPS
Receiving Facility: PAML
Accession Area: SENDOUTS

<table>
<thead>
<tr>
<th>LAB</th>
<th>Laboratory DHCP Menu ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLR</td>
<td>IHS Lab Main Support Menu</td>
</tr>
<tr>
<td>REFL</td>
<td>Reference Lab Main Menu ...</td>
</tr>
<tr>
<td>SIT</td>
<td>Reference Lab Site Parameter Add/Edit</td>
</tr>
</tbody>
</table>

Figure 11-36: Menu to configure HL7 menu structure

Select Reference Lab Main Menu Option: SIT  Reference Lab Site Parameter Add/Edit
Now setting up reference lab parameters..
Setup Parameters for which Reference Lab: PAML

Now setting up GIS HL7 Message Parameters..
SENDING APPLICATION: 1531
SENDING FACILITY: M169
RECEIVING APPLICATION: CAPS
RECEIVING FACILITY: NPL
Add this Reference Lab to which Site: TEST HEALTH CENTER PORTLAND TRIBE/638 PUGET SOUND 11 OR 8410
REF LAB DEV FOR SHIP MANIFEST: < Printer for shipping manifests
REF LAB CLIA NUMBER: 
REF LAB LAB MANAGER: 
REF LAB EXPORT DIRECTORY: 
REF LAB RES FILE NAME PREFIX: 
REF LAB STORAGE DIRECTORY: 
REF LAB HL7 FILE FORMAT: 
REF LAB ORDERING LOCATION: 
REF LAB HOLD LABS FOR VERIF: 
REF LAB DAYS TO KEEP FILES: 
REF LAB DEF ORDERING LOCATION: 
REF LAB IMPORT DIRECTORY: 
REF LAB PASS CPT CODES: 
REF LAB BILLING TYPE: Client 
REF LAB PRT SHP MAN BY STORAGE: 
REF LAB PRT PT PHONE MANIFEST: 
REF LAB BI/UNIDIRECTIONAL: BIDIRECTIONAL 
REF LAB NPI OR UPIN ON ORDER: NPI 
REF LAB NAME FOR SHIP MANIFEST: PAML 
REF LAB USE INSURANCE SEQ: 
Select REF LAB CLIENT ACCOUNT NUMBER: M169 
Select REF LAB ACCESSION AREA: SENDOUTS 
Now setting up Lab HL7 Message Parameter File..
Now activating Reference Lab Interface..

Generation for message: HL IHS LAB O01 NPL-0
...

The following scripts were generated:
Generated: HL IHS LAB O01 NPL-0

Compiling Script: Generated: HL IHS LAB O01 NPL-0
...
MUMPS section....
DATA section.................................
......
END section.
Figure 11-37: Running SIT option for PAML script

11.2.4 Laboratory File Set up for PAML

11.2.4.1 Configuring LA7 Message Parameter File

Use VA Fileman to create a new entry for PAML as follows:

Select VA FileMan Option: Enter or Edit File Entries

INPUT TO WHAT FILE: V LAB// 62.48 LA7 MESSAGE PARAMETER (1 entries)

EDIT WHICH FIELD: ALL/

Select LA7 MESSAGE PARAMETER CONFIGURATION: PAML
Are you adding PAML as a new LA7 MESSAGE PARAMETER CONFIGURATION? YES

CONFIGURATION: PAML/

PROTOCOL: HEALTH LEVEL SEVEN
STATUS: ACTIVE
GRACE PERIOD FOR MESSAGES:
LOG ERRORS: ON
PROCESS IN: D QUE^LA7VLIN
PROCESS DOWNLOAD:
HL7 NON-DHCP APPLICATION:
MULTIPLE ORDERS:
INTERFACE TYPE: LEDI
Select ALERT CONDITION:
Select REMOTE SYSTEM ID: JCAPSPAML1531THC < Note these MAY be the same
MSH segments as used in SIT except in reverse order or they may differ.
Confirm the MSH settings of result messages being returned from PAML.

Figure 11-38: Creating a LA7 Message Parameter entry for PAML

11.2.4.2 Create a Load/Worklist File for Sendouts

Using VA Fileman, create a Load/Worklist file for Sendouts. All orderable tests, types BOTH and INPUT must have entries with a BUILD NAME ONLY of NO. OUTPUT type tests need not be entered into the Load/Worklist file.

See example below:

Select VA FileMan Option: Enter or Edit File Entries

INPUT TO WHAT FILE: LA7 MESSAGE PARAMETER// LOAD/WORK LIST (14 entries)
EDIT WHICH FIELD: ALL//< Type PROFILE once Load/Worklist is created
Select LOAD/WORK LIST NAME: SENDOUTS
NAME: SENDOUTS
LOAD TRANSFORM: UNIVERSAL
TYPE: TRAY/CUP
CUPS PER TRAY: 0
FULL TRAY'S ONLY: NO
EXPAND PANELS ON PRINT: YES/ NO
INITIAL SETUP:
VERIFY BY: ACCESSION
SUPPRESS SEQUENCE #: NO
INCLUDE UNCOLLECTED ACCESSIONS: NO
SHORT TEST LIST:
AUTO MICRO EDIT TEMPLATE:
WKLD METHOD:
MAJOR ACCESSION AREA: SENDOUTS
LAB SUBSECTION: SENDOUTS
WORK AREA:
DATE OF SETUP: OCT 10, 1996
FIRST TRAY:
STARTING CUP:
LAST TRAY:
LAST CUP:
BUILDING IN PROGRESS: NO
Select PROFILE: SENDOUTS
Select TEST: xLIPID PANEL (R)
TEST: xLIPID PANEL (R)/
SPECIMEN:
BUILD NAME ONLY: YES/ NO
POC WKLD METHOD:
POC COLLECTION SAMPLE:
Select TEST:

Figure 11-39: Setting up Load Worklist for Referral tests

11.2.4.3 Auto Instrument File

Create an Auto Instrument file for PAML using VA Fileman. Add an entry for each result which you anticipate being returned from PAML under the CHEM TEST multiple. The UI test code for returned results will be the result code provided by PAML on the test compendium.

- Mark the field, Remove spaces from result as ‘NO’. This will prevent the text of non-numeric results from running together, i.e. Not Detected versus NotDetected.
- Mark the fields, Accept Results for this Test, Store Remarks, Store Reference Range, and Store Units as ‘YES”. This permits storing those fields as they are transmitted by the reference laboratory interface.
WKLD METHOD: 
ECHO DEVICE: 
PROGRAM: 
LOAD/WORK LIST: SENDOUTS
ENTRY for LAGEN ROUTINE: ACC Accession cross-reference
CROSS LINKED BY: ID
MESSAGE CONFIGURATION: PAML (This corresponds to the entry in the LA7 Message Parameter file (62.48) *ECHO ALL INPUT:
METHOD: 
DEFAULT ACCESSION AREA: SENDOUTS
OVERLAY DATA: YES/
STORE REMARKS: YES/
NEW DATA: 
NEW DATA: 
RESTART: 
HANDSHAKE RESPONSE: 
ACK TRIGGER VALUE: 
ACK RESPONSE VALUE: 
DIRECT DEVICE: 
Select TEST: Select TEST: xPSA
Are you adding 'xPSA' as a new CHEM TESTS (the 1ST for this AUTO INSTRUMENT)? No// Y (Yes)
CHEM TESTS NUMBER: 1/
PARAM 1: 
PARAM 2: 
PARAM 3: 
UI TEST CODE: 84153
ACCESSION AREA: 
SPECIMEN: 
URGENCY: 
NUMBER OF DECIMAL PLACES: 
CONVERT RESULT TO REMARK: 
ACCEPT RESULTS FOR THIS TEST: YES
DOWNLOAD TO INSTRUMENT: 
IGNORE RESULTS NOT ORDERED: 
REMOVE SPACES FROM RESULT: NO
STORE REMARKS: YES
REMARK PREFIX: 
STORE PRODUCER'S ID: 
STORE REFERENCE RANGE: YES
NOTIFY ABNORMAL FLAGS: NO
STORE UNITS: YES
Select TEST: 
LOAD CHEM TESTS: 
Select ALARM TERMINAL: 
Select MICRO CARD TYPE: 
INTERFACE NOTES: 
No existing text
Edit? NO/
DOWNLOAD ENTRY: 
DOWNLOAD PROTOCOL ROUTINE: 
FILE BUILD ENTRY: 
FILE BUILD ROUTINE: 
SEND TRAY/CUP LOCATION: 
QUEUE BUILD: 
MICRO INTERPRETATION CHECK: 
AUTO DOWNLOAD: 
METH NAME: 
MEAN DATA VALUE 1: 
MEAN DATA VALUE 2:
11.2.4.4 Mapping to BLR Reference Laboratory File

Once tests have been defined, they must be mapped to the appropriate order code in the BLR Reference Laboratory file. This file is used to identify tests which will be electronically handled by the Generic Interface System when they are ordered.

- Only type BOTH and type INPUT tests will be mapped.
- Tests may be cross-referenced either by name or by order code.
- If a test cannot be found by either method, then a new test name must be added to the BLR Reference Laboratory file.

Figure 11-41: Menu for mapping PAML order codes

Figure 11-42: Mapping PAML test order codes
11.2.4.5 IHS Lab CPT Code

If you have a client bill contract with your reference laboratory and all billing is done by your facility using the IHS Third Party Billing Package, you will need to make an entry for each test that is ordered in the IHS Lab CPT Code file. If your reference laboratory bills patients directly, no entry needs to be made for tests ordered from the reference laboratory. However, please keep in mind that many tribal facilities have a mix of third party billing, patient pay, and contract health. It is highly recommended that the IHS Lab CPT Code file be populated regardless of what the current billing structure is.

Entries are made exactly the same for reference laboratory tests as tests performed in the facility except each send out test should have a modifier of 90 defined for each CPT code. CPT Codes should be included in the Service Directory provided by your reference laboratory. See example below.

If you are unable to make a new entry in this file but can see existing entries, please have your site manager check to be sure that you have L as a Fileman access code.

LAB >BLR > CPT

INPUT TO WHAT FILE: AUTO INSTRUMENT// IHS LAB CPT CODE
EDIT WHICH FIELD: ALL//

Select IHS LAB CPT CODE NAME: PSA (R)
Are you adding 'PSA (R)' as a new IHS LAB CPT CODE (the 485TH)? No// Y (Yes)
LAB SECTION: SENDOUTS
CREATE DATE: N (DEC 10, 2010@14:33:04)
DATE/TIME ACTIVE: N (DEC 10, 2010@14:33:05)
DATE/TIME INACTIVE:
PANEL/TEST: xPSA (R) < the new test you created in Laboratory Test file
INACTIVE FLAG:
Select CPT CODE: 84153 ASSAY OF PSA TOTAL
Prostate specific antigen (PSA); total
...OK? Yes// <enter>
Are you adding '84153' as a new CPT CODE (the 1ST for this IHS LAB CPT CODE)? No// Y (Yes)
LAB LIST COST:
REVIEW CODE:
ACTION CODE:
Select MODIFIER: 90
Are you adding '90' as a new MODIFIER (the 1ST for this CPT CODE)? No// Y (Yes)
Select MODIFIER:
Select QUALIFIER:
Select CPT CODE:
DESCRIPTION:
No existing text
Edit? NO//

Figure 11-43: Adding IHS Lab CPT Code entry for referral test
11.3 **Quest Billing Interface**

The Quest billing interface has been extensively redesigned to meet the needs of I/T/U facilities that require Quest to bill third party insurers for their patients. In addition, the redesign meets the Quest requirements for clients to submit laboratory orders with billing information in a CMS compliant format. The redesigned Quest interface uses ENSEMBLE, HL7 version 1.6, and the VA’s LEDI software for creating and routing HL7 laboratory order and result messages. This is the first reference laboratory interface using these tools for both outgoing Laboratory orders and incoming Laboratory results. LEDI was introduced in Laboratory patch 27 for filing incoming results only.

Directions for installing and configuring the ENSEMBLE and HL7 pieces of this interface are contained in the Technical Addendum to this patch (lr__0520.30oa.pdf), Laboratory patch 30.

Note that the IP address and ports that Quest wishes to use for this interface, the MSH segments, and the account numbers to be used for the interface (both test mode and production mode) must all be available before the interface can be installed and configured.

Existing Quest unidirectional and bidirectional reference laboratory interface sites will continue to use GIS unless or until they are provided directions on how to convert to this new interface structure.

The major differences users will notice with this interface are listed below:

- Manifests do not print out when each order is accessioned.
- A manifest must be opened to accumulate accessions as they are generated.
- Manifests must be ‘built’ in order to review tests that are slated to be transferred to Quest.
- Manifests print by storage temperature.
- Tests may be added or deleted from a manifest before shipment.
- One or more manifests may be generated during the course of the day.
- Electronic orders are not transferred to Quest until the manifest is Closed/Shipped.
- The menu option, Look up Accession, shows when a test has been built onto a Shipping Manifest.
- The primary identifier used by Quest is the RPMS order number, not the accession number.
The interface uses many of the same files as other interfaces and because these are standard file configurations and well documented in other parts of this manual and previous patch Laboratorian Guides, they will not be repeated here.

- **Accession file (68):** A SENDOUT accession area will be created for each facility using the interface. Long form accession numbers will be used.

- **Laboratory Test file (60):** Tests will be set up as single tests and as panels just as they would for any other interface. The accession area for each facility using the interface will be identified in the accession area multiple.

- **Load/Worklist file (68.2):** A single load/worklist will be created for SENDOUTS. Each facility using the interface will have a profile within the Load/Worklist. (See section 11.x.x).

- **Auto Instrument file (62.4):** An Auto Instrument will be created called QUEST. Each test which will be returned as a result will have an entry in the CHEM TEST multiple of the Auto Instrument with the UI test code equal to the result code provided by Quest. (See section 11.x.x).

- **IHS Lab CPT Code file (9009021):** Despite the fact that Quest will be doing billing for patient insurers, all tests will be entered into the IHS Lab CPT Code file so that appropriate billing may be generated by the facilities Third Party Billing system if desired. (See section 11.x.x).

- **Insurer file (9999999.18):** Prior to interface development, a spreadsheet of the insurers used by the I/T/U Facility must be submitted to the Quest project manager for coding with Quest insurer codes. (See section 11.2.1).

### 11.3.1 RPMS Configuration

Because this is a new bidirectional interface design using billing for Quest Diagnostics, directions are provided below for several RPMS files and options that must be configured for this interface to work.

- **BLR Master Control File (#9009029)**
- **LA7 Message Parameter File (#62.48)**
- **Institution (#4) :** An entry must be created for the Reference Laboratory
- **SMGR Lab Shipping Management Menu ...**
  - CFE Edit Shipping Configuration
  - Edit Shipping Container
  - CME Edit Shipping Method
  - CDE Edit Shipping Condition
LSU LEDI Setup

11.3.1.1 BLR Master Control File

Use VA Fileman to edit the BLR Master control file for each facility that will be using the Quest bidirectional billing interface. Settings that are already in place for a unidirectional interface need not be altered as the new LEDI interface will not impact a unidirectional GIS interface.

Select VA FileMan Option: ENter or Edit File Entries

INPUT TO WHAT FILE: BLR MASTER CONTROL//
EDIT WHICH FIELD: ALL//

Select BLR MASTER CONTROL SITE: TEST HEALTH CLINIC        CALIFORNIA TRIBE/638
TEST        10    CA       8358
...OK? Yes//   (Yes)

SITE: TEST HEALTH CLINIC//
LAB LOG TRANSACTION: YES//
LAB LOG TO PCC: YES//
LOG PAT DATA ONLY: YES//
*DEFAULT DIRECTORY PATH:
START PROCESSING DATE: JUL 03, 2011//
START EVENT DATE: JUL 03, 2011//
DAYS TO KEEP TRANSACTIONS: 180//
STOP PROCESSOR: NO//
TAKE SNAPSHOTs:
ERROR OVERFLOW LIMIT:
PATH INST:
PATH NAME:
PATH TITLE:
PATH ADDR1:
PATH ADDR2:
PATH CITY:
PATH STATE:
PATH ZIP:
PATH PHONE:
INTERIM REPORT LINE 1:
INTERIM REPORT LINE 2:
INTERIM REPORT DO NOT FILE:
INTERIM REPORT ADDRESS PAGE:
LOINC EXPORT DESTINATION IP:
LOINC EXPORT DEST. FOLDER:
LOINC LOCAL DESTINATION:
LOINC DAYS TO KEEP EXPORT LOG:
LOINC LOG IN ID:
LOINC LOG IN PASSWORD:
ACCESSION TEST GROUP TEMPLATE:
Select EVENT DATE: JUN 29,2011//
  EVENT DATE: JUN 29,2011//   (No Editing)
LAST EVENT ASSIGNED: 33//   (No Editing)
LAST EVENT PROCESSED: 33//
Select EVENT: C//
Select PROCESSING DATE: JAN 1,2011//
  PROCESSING DATE: JAN 1,2011//   (No Editing)
LAST TRANSACTION SEQ ASSIGNED: 1// (No Editing)
LAST TRANSACTION SEQ PROCESSED: 1//
TRANSACTION LOG # ASSIGNED:
Select LAB APPLICATION PLUG-IN: LR*5.2*1021//
LAB APPLICATION PLUG-IN: LR*5.2*1021//
PLUG-IN ON/OFF?: ON//
Select LAB APPLICATION PLUG-IN:
REFERENCE LAB: QUEST//< Do not alter if entry is already present.
REF LAB DEV FOR SHIP MANIFEST:
REF LAB CLIA NUMBER:
REF LAB LAB MANAGER:
REF LAB EXPORT DIRECTORY:
REF LAB RES FILE NAME PREFIX:
REF LAB STORAGE DIRECTORY:
REF LAB HL7 FILE FORMAT:
REF LAB ORDERING LOCATION: TEST LAB//< Do not alter if entry is already present
REF LAB HOLD LABS FOR VERIF:
REF LAB DAYS TO KEEP FILES:
REF LAB DEF ORDERING LOCATION:
REF LAB IMPORT DIRECTORY:
REF LAB PASS CPT CODES:
REF LAB BILLING TYPE: Third Party - Must be Third Party to trigger insurance information in outgoing message
REF LAB PRT SHP MAN BY STORAGE:
REF LAB PRT PT PHONE MANIFEST:
REF LAB BI/UNIDIRECTIONAL: UNIDIRECTIONAL//< Do not alter if entry is already present
REF LAB NPI OR UPIN ON ORDER: NPI//- NPI is required
REF LAB NAME FOR SHIP MANIFEST: < No entry is required for using LEDI
REF LAB USE INSURANCE SEQ: YES < Recommended to set to YES so that staff accessioning lab orders do not have to pick from a list of insurers. If insurers are regularly sequenced, the reference laboratory software will automatically send the insurers as sequenced.
REF LAB USING LEDI?: YES < This is the key field for identifying a LEDI outgoing orders interface.
Select REF LAB CLIENT ACCOUNT NUMBER: 91901619//<Enter one or more account numbers used by this facility. If more than one facility is using this interface, enter the account number(s) for each under their own BLR Master Control file entry.
Select REF LAB ACCESSION AREA: SENDOUTS//< Enter accession area(s) used by this facility. If more than one facility is using this interface, enter the accession area(s) for each facility under its corresponding BLR Master Control file entry.

Figure 11-44: Editing BLR Master Control file to use LEDI Outbound

11.3.1.2 LA7 Message Parameter Configuration

Use VA Fileman to edit the LA7 Message Parameter file (#62.48). A new entry will need to be made for Quest. The Remote ID field matches the MSH segments in the result message returned by Quest. The MSH segments are concatenated to create the remote ID. If this interface will be used by more than one facility in a multidivisional RPMS environment, a Remote ID must be added for each facility.

Select VA FileMan Option: enter or Edit File Entries

INPUT TO WHAT FILE: LA7 MESSAGE PARAMETER//
EDIT WHICH FIELD: ALL//
Select LA7 MESSAGE PARAMETER CONFIGURATION:  QUEST Are you adding QUEST as a new LA7 Message Parameter Configuration? YES
CONFIGURATION: QUEST//
PROTOCOL: HEALTH LEVEL SEVEN
STATUS: ACTIVE
GRACE PERIOD FOR MESSAGES:
LOG ERRORS: ON
PROCESS IN: D QUE^LA7VQIN
PROCESS DOWNLOAD:
HL7 NON-DHCP APPLICATION:
MULTIPLE ORDERS: IHS SINGLE ORDER
INTERFACE TYPE: LEDI
Select REMOTE SYSTEM ID: MET91901008 < This will be the header information returned on the result message from Quest. This information will be provided by your Quest project manager. If more than one facility in a multidivisional environment is using this interface, an entry must be made for each distinctive message header.

Figure 11-45: Configuring LA7 Message Parameter file

11.3.1.3 Creating an Institution entry for Quest

Use VA Fileman to create a new entry in the Institution file for your reference laboratory as is demonstrated below for Quest Diagnostics. Be sure to specify that the STATUS is Local and that the AGENCY CODE is OTHER. Use the address of the Quest Diagnostics Laboratory that you use. Shown below is just an example.

VA FileMan 22.0

Select OPTION: ENTER OR EDIT FILE ENTRIES

INPUT TO WHAT FILE: INSTITUTION (3834 entries)
EDIT WHICH FIELD: ALL/<ENTER>
Select INSTITUTION NAME: QUEST DIAGNOSTICS Are you adding QUEST DIAGNOSTICS as a new INSTITUTION (the 3835TH)? No/<YES
NAME: QUEST DIAGNOSTICS Replace
STATE: TEXAS
DISTRICT:
SHORT NAME: QUEST
VA TYPE CODE:
REGION:
STREET ADDR. 1: 4770 REGENT BLVD.
STREET ADDR. 2:
CITY: IRVING
ZIP: 75063
Select CONTACT:
ST. ADDR. 1 (MAILING):
ST. ADDR. 2 (MAILING):
CITY (MAILING):
STATE (MAILING):
ZIP (MAILING):
MULTI-DIVISION FACILITY:
STATUS: Local
FACILITY TYPE:
Select ASSOCIATIONS:
11.3.1.4 Lab Shipping Configuration

In the Laboratory Shipping Configuration Menu, five configurations must be created via the menu options below. Note that this menu is locked with the LRLIASON key.

![Lab Shipping Configuration Menu](image)

11.3.1.4.1 CDE Shipping Condition

Begin by identifying the Shipping Conditions to be used for specimens sent to the Reference Laboratory. At a minimum, you should create entries for REFRIGERATED, ROOM TEMPERATURE, and FROZEN. Specimens will be separated onto separate pages for specimens to be submitted under different shipping conditions.

![Creating Shipping Conditions](image)
11.3.1.4.2 **CME Edit Shipping Method**

This option may be used to identify how specimens will be transported to the reference laboratory. The most common entry may be Courier but some facilities may need to create entries for FEDEX or MAIL as well.

[Select Lab Shipping Management Menu Option: CME Edit Shipping Method
Select SHIPPING METHOD: COURIER
NAME: COURIER//]

*Figure 11-49: Creating a Shipping Method*

11.3.1.4.3 **CTE Edit Shipping Container**

All shipping containers and packaging that will be used for submitting specimens must be identified by using the Edit Shipping Container menu option. At a minimum, Shipping containers of Primary and Aliquot should be created.

[Select Lab Shipping Management Menu Option: CTE Edit Shipping Container
Select SHIPPING CONTAINER: ?
Answer with LAB SHIPPING CONTAINER NAME
Choose from:
ALIQUOT
PLASTIC BAG
PLASTIC SCREW CAP VIAL
PRIMARY
RACK
STYROFOAM PACK
SUREPATH VIAL

You may enter a new LAB SHIPPING CONTAINER, if you wish
NAME MUST BE 3-30 CHARACTERS, NOT NUMERIC OR STARTING WITH PUNCTUATION

Select SHIPPING CONTAINER: PRIMARY
NAME: PRIMARY//
TYPE: PRIMARY// ?
Enter what this container is used for.
Choose from:
1 PACKAGING
2 PRIMARY
3 ALIQUOT
TYPE: PRIMARY//]

[Select Lab Shipping Management Menu Option: Edit Shipping Container
Select SHIPPING CONTAINER: PLAST
1 PLASTIC BAG
2 PLASTIC SCREW CAP VIAL
CHOOSE 1-2: 1 PLASTIC BAG
NAME: PLASTIC BAG//
TYPE: PACKAGING]

*Figure 11-50: Creating Shipping Containers*
11.3.1.4.4  LSU LEDI Setup

The LEDI Setup option is used to define the relationship between the collecting facility and the Reference Laboratory (Host Facility).

<table>
<thead>
<tr>
<th>LEDI Setup</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLLECTION Labs: Use option #1 to setup HOST labs.</td>
</tr>
<tr>
<td>HOST Labs: Use option #2 to setup COLLECTION labs.</td>
</tr>
</tbody>
</table>

1. Add/Edit HOST Lab
2. Add/Edit COLLECTION Lab

<table>
<thead>
<tr>
<th>HOST Lab(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Add HOST Lab</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HOST Lab(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. HOST Lab:</td>
</tr>
</tbody>
</table>

Enter a number (1-1): 1
Select INSTITUTION NAME: QUEST DIAGNOSTICS CA 999

Setting up the following Host Labs for TEST HEALTH CLINIC
Updating HL7 APPLICATION PARAMETER file (#771).
   Adding LA7V REMOTE 8358
   Adding LA7V HOST TDA
Updating PROTOCOL file (#101).
LA7V Receive Results from TDA
LA7V Process Results from TDA
LA7V Order to TDA
LA7V Send Order to TDA
Updating LA7 MESSAGE PARAMETER file (#62.48) for the HOST Lab QUEST DIAGNOSTICS.
   Adding LA7V HOST TDA
Updating LAB AUTO INSTRUMENT file (#62.4) for HOST Lab QUEST DIAGNOSTICS.
   Adding LA7V HOST TDA

HL7 v1.6 Environment setup is complete!!
1. HOST Lab: QUEST DIAGNOSTICS (Uneditable)
2. Logical Link:
3. Message Configuration: LA7V HOST TDA
4. Auto Instrument: LA7V HOST TDA

Figure 11-51: LSU LEDI Setup

11.3.1.4.5 **CFE Edit Shipping Configuration**

The Shipping Configuration is the file that is used to establish the relationship between tests in the RPMS Laboratory Test file and tests in the Quest test menu. In addition, when tests are added to this file, a shipping condition may be identified for each test, so that when the manifest is printed, the tests may be sorted onto separate pages of the manifest. For single facilities only one shipping configuration will be made. For multidivisional RPMS sites, a separate shipping configuration will be needed for each facility.

Note that adding test to the Shipping Configuration file is the equivalent of MAPPING tests for a bidirectional interface using GIS. Each orderable test that will be sent to Quest must be entered into the Shipping Configuration. Note that the Ask at Order Questions will not be populated in this file; they will be handled via the MAP option in the BLR Reference Laboratory Main Menu.

Select Lab Shipping Management Menu Option: **CFE Edit Shipping Configuration**

Select SHIPPING CONFIGURATION: ?
Answer with LAB SHIPPING CONFIGURATION NAME, or COLLECTING FACILITY, or HOST FACILITY'S SYSTEM, or COLLECTING FACILITY'S SYSTEM
Choose from:
FACILITY A TO QUEST
FACILITY B TO QUEST
You may enter a new LAB SHIPPING CONFIGURATION, if you wish
Answer must be 3-30 characters in length.

Select SHIPPING CONFIGURATION: **FACILITY A TO QUEST**

Select one of the following:
1 Collecting facility
2 Host facility

Are you editing this entry as the: **1 Collecting facility**
NAME: FACILITY A TO QUEST/
COLLECTING FACILITY: **FACILITY A**
COLLECTING FACILITY'S SYSTEM: **FACILITY A**
HOST FACILITY: **QUEST DIAGNOSTICS**
HOST FACILITY'S SYSTEM: **QUEST DIAGNOSTICS**
OTHER SYSTEM IDENTIFIER: TDA < Receiving Facility as Identified by QUEST
ACCOUNT NUMBER: 91901619 < Account Number for FACILITY A
TEST CODING SYSTEM: NON-VA
SPECIMEN CODING SYSTEM: HL7 TABLE 0070
STATUS: ACTIVE
LAB MESSAGING LINK: QUEST
SHIPPING METHOD: COURIER
BARCODE MANIFEST: NO
MANIFEST RECEIPT: YES
INCLUDE UNCOLLECTED SPECIMENS: NO
Select TEST/PROFILE: PROTEIN & SPEP < Test as defined in Laboratory Test file
  TEST/PROFILE: PROTEIN & SPEP/
  ACCESSION AREA: SENDOUTS
  DIVISION: FACITIY A
  SPECIMEN:
  URGENCY:
  SPECIMEN CONTAINER: ALIQUOT
  SHIPPING CONDITION: REFRIGERATE
  PACKAGING CONTAINER: PLASTIC BAG
  NON-NLT TEST ORDER CODE: 747 < QUEST Order Code
  NON-NLT TEST ORDER NAME: SERUM PROTEIN ELECTROPHORESIS < Quest Orderable test name
  NON-NLT TEST CODING SYSTEM:
  REQUIRE PATIENT HEIGHT:
  REQUIRE PATIENT WEIGHT:
  REQUIRE COLLECTION VOLUME:
  REQUIRE COLLECTION WEIGHT:
  REQUIRE COLLECTION END D/T:
Select TEST/PROFILE: < Add all tests that are to be referred to Quest over the interface

Figure 11-52: Editing the Shipping Configuration

11.3.2 HL7 Interface Monitoring

The bidirectional reference laboratory interface for the Quest billing interface uses HL7 Version 1.6 filers. Normally the HL7 main menu is found on the Operations Management Menu of the Site Manager’s menu, AKMOEVE. In the event the site manager is not available, directions are provided below for monitoring, stopping, and restarting the Link Manager, and the HL7 filers for the Quest interface, LA7VQT and LA7VQR.

Figure 11-53: Accessing HL7 Main Menu
The tools that will be used for monitoring the Quest interface are found under Filer and Link Management Options. The Quest specific filers, LA7VQR and LA7VQT, will be installed and available when lr__0520.30k is installed.

**Note:** Taskman must be running for the Link Manager to be active.

Begin by confirming that the Link Manager is running. Note that even though it may appear to be running, you may wish to stop it and restart it.

![Start/Stop Link Manager](image1)

You can confirm that the Link Manager is running by checking the List of Running Tasks in Taskman. Look for the Link Manager as follows:

![Checking Taskman for running Link Manager](image2)

Next you will need to check that the Quest incoming and outgoing filers are active. Use the menu option Systems Link Monitor from the HL7 Main Menu. This option will also show you if the Link Manager is running and if Taskman is running. You may type Q to exit from this screen.

![HL7 Main Menu](image3)
Figure 11-56: Checking incoming and outgoing filers for Quest

In Figure 11-57, it can be noted that LA7VQR, the Quest Receiver shows that it is Reading and that LA7VQT, the Quest Transmitter is Enabled. If this were not the case and either or both of these filers were not running or appear to have gone to sleep (no data filing), they may be stopped and restarted as shown on the next page.

To stop and restart the Quest filers, use the menu option, SL Start/Stop Links, from the Filer and Link Management Options menu. Confirm that the filers have stopped, and then use the same option to restart them.

Figure 11-57: Stopping Quest Receiver and Transmitter
Confirm that the links have stopped using the System Monitor option.

![System Monitor](image)

Figure 11-58: Confirming that Quest links have stopped

Restart the links using the SL Start/Stop Links option again. Confirm that the links are now active.

![Restart Links](image)

Figure 11-59: Restarting the Quest links
11.3.3 Validation

Prior to using the interface for patient testing, arrangements must be made with the Quest project manager to validate the interface. Extensive testing has already been performed to validate this interface, so validation usually involves a short set of scenarios with Demo Patients to confirm that interface configuration has been properly completed. Note that while only five scenarios are listed on this sample test plan from Quest, it is highly recommended that every test that is routinely ordered from Quest, be tested while the interface is pointed to Quest’s test server.

Dear Valued Client,

In preparation for Quest Diagnostics to implement your CIMARRON/RPMS interface, we would like to verify that the interface has been properly loaded in your system. While there is no testing required by you, we are requesting that you please help us to verify your interface by placing the following orders in your CIMARRON/RPMS system and sending Quest Diagnostics the hard copy requisitions. When Quest Diagnostics has completed the verification, we will ask that you send Quest Diagnostics copies of the reports generated from your CIMARRON/RPMS system. Quest Diagnostics will review the reports, and contact you with the results of our verification.

As discussed on our recent kick off call the milestone dates are listed below:
Software install date: TBD
Communication Test: TBD
Begin Functional Testing: TBD
Complete Functional Testing: TBD
Go Live Date: TBD
Support turnover: TBD

Requisition #1
Quest Account Number: 98374700
Patient Name: TEST, MALE (or use an existing Test/Demo Patient already created)
Gender: MALE
Bill Type: CLIENT
Diagnosis Codes: Please enter any two DX codes

Tests to order:
866 - Free T4
7600 - Lipid Panel
4446 – Culture, Aerobic & Anaerobic w/ Gram Stain (enter sources when prompted)

Requisition #2
Patient Name: TEST, FEMALE (or use an existing Test/Demo Patient already created)
Gender: FEMALE
Bill Type: PATIENT

Order Comment: Please add an instructional comment to the order, such as:
"Please add test 899 TSH at order entry"
Tests to order:
10231 - Comprehensive Metabolic Panel
683 - ACE - Angiotensin Converting Enzyme

Requisition #3
Patient Name: TEST, MALE (or use an existing Test/Demo Patient already created)
Gender: MALE
Bill Type: INSURANCE
Carrier: MEDICARE (ABN should generate for Hgb, TSH, & HIV but NOT for UA)
Diagnosis: V771 (36262)

Tests to order:
496 - Hemoglobin A1c
36127 - TSH w/ Reflex to FT4
5463 - Urinalysis
19728 - HIV 1/2 w/ Reflex
Requisition #4 - (THIS ORDER WILL NOT BE RECEIVED ELECTRONICALLY, BUT WILL BE MANUALLY ENTERED BY QUEST)

Patient Name: TEST, MALE (or use an existing Test/Demo Patient already created)
Gender: MALE
Bill Type: CLIENT

Tests to order:
496 - Hemoglobin A1c
Requisition #5 - PLEASE SEND AS PSC HOLD

Patient Name: TEST, MALE (or use an existing Test/Demo Patient already created)
Gender: MALE
Bill Type: CLIENT

Tests to order:
5463 - Urinalysis

Figure 11-60: Sample Quest Validation Plan

11.3.4 Using the Interface

With the exception of the new options to build and ship a manifest, there are no new menu options required by Laboratory staff using the Quest Billing Interface. There are new prompts at the time of accessioning to identify the client account number if there is more than one in use, the patient diagnosis, and to identify the billing type. The greatest challenges faced by users of the interface are related to work flow so that the information related to diagnoses and billing type are available to the individual at the time of accessioning.
Order entry is initiated by the provider either via an EHR Order entry session, a traditional RPMS Ward Order Entry menu option, or via a paper requisition. The interface process is initiated at the time of accessioning, either using Multipurpose Accessioning or Accessioning tests ordered by ward order entry.

The creation of shipping manifests and transmittal of electronic orders is handled via the Lab Shipping Menu, [[LA7S MAIN MENU]]. The options that will be used for test management will be shown in sections 11.3.4.3 through 11.3.4.5 below.

![Figure 11-61: The LEDI Lab Shipping Menu](image)

**11.3.4.1 Multipurpose Accessioning**

Multipurpose accessioning is a menu under the Laboratory Menu that can be used to accession a test that has not been previously ordered. Some sites that have not implemented EHR Ordering or Ward Order Entry may always use Multipurpose Accessioning. Other sites may only use Multipurpose accessioning for an occasional test order that is submitted on a paper requisition or when a correction must be made to a previously accessioned test. Shown below is a typical script for a Multipurpose Accessioning session.
WANT TO ENTER COLLECTION TIMES? Y//<enter>
Select ACCESSION TEST GROUP: QUICK PICK

Select Patient Name: DEMO,FEMALE      <CA>   F 06-15-1981 SIHC 38608

Select one of the following:

LC      LAB COLLECT(INPATIENTS-MORN. DRAW)
SP      SEND PATIENT
WC      WARD/CLINIC COLLECT

Specimen collected how?: SP// WC WARD/CLINIC COLLECT

PATIENT LOCATION: SIHC LAB

PROVIDER: TRAINING, DOCTOR, MD//

LAB Order number: 14713

'?' for list, TEST number(s): <enter>

Other tests? N//Y

Select LABORATORY TEST NAME: URINE CULTURE

Is URINE, STERILE STERILE CUP the correct sample to collect? Y// <enter>

Same specimen/source for the rest of the order? No// (No)

Select LABORATORY TEST NAME: <enter>

Nature of Order/Change: WRITTEN W

You have just selected the following tests for DEMO,FEMALE 38608

<table>
<thead>
<tr>
<th>entry no.</th>
<th>Test</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CULTURE, URINE</td>
<td>URINE, STERILE</td>
</tr>
</tbody>
</table>

All satisfactory? Yes// <enter> (Yes)

LAB Order number: 14713

Collection Date@Time: NOW//T$1000

Print labels on: INTERMEC

Do you wish to test the label printer: NO// <enter>

ENTER SOURCE OF SPECIMEN: CLEAN CATCH URINE

Are the responses to the Ask At Accession questions correct? Y// <enter>

Enter ICD Diagnosis code for billing: UTI

599.0 (URIN TRACT INFECTION NOS)

URINARY TRACT INFECTION, SITE NOT SPECIFIED

OK? Y// <enter>

Are you adding '599.0' as a new DIAGNOSIS (the 1ST for this BLR REFERENCE LAB ORDER/ACCESSION)? No// Y (Yes)

Enter ICD Diagnosis code for billing: DYSURIA (DYSURIA)

Search was unsuccessful.

788.1 (DYSURIA)

DYSURIA

OK? Y// <enter>

Are you adding '788.1' as a new DIAGNOSIS (the 2ND for this BLR REFERENCE LAB ORDER/ACCESSION)? No// Y (Yes)

Enter ICD Diagnosis code for billing:

Enter Sign or Symptom for LAB Order number 14713

(DO NOT USE 'RULE OUT', 'PROBABLE', 'QUESTIONABLE', etc.): TESTING

Is this correct? YES// <enter>
ACCESSION: SO 11 28 <6011000028>
CULTURE, URINE URINE, STERILE URINE
Are the responses to the Ask At Accession questions correct? Y//ES

Select one of the following:
C Client
T Third Party
P Patient

Which Party is Responsible for Billing: : T// Third Party
1) MEDICAID Policy #: 123456A Elg/Exp Date: Sep 05, 2006/
2) PRIVATE PAY Policy #: 00000 Elg/Exp Date: Jan 01, 2008/
3) RAILROAD RETIREMENT Policy #: 3860801 Elg/Exp Date: Jan 01, 2010/

Select the insurer for this accession: : (1-3): 1

Figure 11-62: Multipurpose Accessioning with Third Party Billing and Ask at Order Question

11.3.4.2 Accessioning Tests Ordered by Ward Order Entry

If tests have been previously ordered by a Provider either in EHR or RPMS Ward Order Entry, this option in the Laboratory Accessioning Menu may be used to accession that order. The provider will be given an opportunity to provide the answers to ‘ask at order’ questions during the RPMS Ward Order Entry and an opportunity will be provided during accessioning to review and alter the answers to those questions. Not all tests have ‘ask at order’ questions.

Laboratory DHCP Menu
Accessioning menu
Accessioning tests ordered by ward order entry

Select Order Number: 14712

DEMO, ADULT 77778 Requesting location: LAB SIH
Date/Time Ordered: 07/04/11 13:22 By: RUSSELL, DOROTHY
-Lab Order #: 14712 Provider: SCHUMAKER DO, EDWARD
-BLOOD (TIGER) SERUM
-TSH, SERUM LAB ONLY Requested (SEND PATIENT) for: 07/04/2011

Sign or Symptom: TESTING
-For Test: TSH, SERUM
- FAX RESULTS TO DR. BROWN AT 541-675-5678
-CMP W/EGFR LAB ONLY

Requested (SEND PATIENT) for: 07/04/2011

Sign or Symptom: TESTING
-LIPID PNL W/RF TO DIR LDL ROUTINE Requested (SEND PATIENT) for: 07/04/2011

Sign or Symptom: TESTING
Is this the correct order? Yes// <enter>
Collection Date@Time: //Now or enter actual collection date and time in format T@1015
Print labels on: INTERMEC// <enter>

Do you wish to test the label printer: NO// <enter>

ACCESSION: SO 11 25 <6011000025>
TSH, SERUM BLOOD (TIGER) SERUM

Select one of the following:

C    Client
T    Third Party
P    Patient

Which Party is Responsible for Billing: : T// Third Party
1) PRIVATE PAY Policy #: 000000 Elg/Exp Date: Jan 01, 2009/
2) CALIFORNIA MED-CAL 5.1 Policy #: 111111111111 Elg/Exp Date: Jan 01, 2011/
3) IRON WORKERS HEALTH PLAN Policy #: 7777801 Elg/Exp Date: Jan 01, 2011/
Select the insurer for this accession: : (1-3): 3

ACCESSION: SO 11 26 <6011000026>
CMP W/EGFR BLOOD (TIGER) SERUM
GENERAL PROCESSING INST.: DO NOT ACCESSION A CMP. INSTEAD USE BMP. KLM 01/26/09

ACCESSION: SO 11 27 <6011000027>
LIPID PNL W/RF TO DIR LDL BLOOD (TIGER) SERUM

Figure 11-63: Accessioning a test with Ward Order Entry and Third Party Billing

11.3.4.3 Start a Shipping Manifest

A Shipping Manifest may be started at the beginning of the day and kept open all day until it is reviewed, closed and shipped when the courier picks up specimens.

Laboratory DHCP Menu
LSM    Lab Shipping Menu ...
SSM    Start a Shipping Manifest

Select Lab Shipping Menu Option: SSM Start a Shipping Manifest
Select Shipping Configuration: QUEST DIAGNOSTICS CA 999
FACILITY A TO QUEST
There’s no open shipping manifest for FACILITY A TO QUEST
Do you want to start one? NO// YES
Shipping manifest# 8358-20110704-1 is available

Figure 11-64: Starting a Shipping Manifest
11.3.4.4 Build a Shipping Manifest

The Shipping Manifest may be built in preparation for packaging specimens up for shipping with the courier to Quest. All specimens for tests that have been added to the Lab Shipping Configuration file will automatically be built onto the open manifest. This manifest may be printed and specimens matched up to confirm that all specimens on the manifest are ready to be sent with the courier. If it is noted that one or more specimens have not been built onto the manifest they may be added. In addition, if a specimen was accessioned but never collected or will not be sent for some reason, it may be removed from the manifest.

Patient insurance information for Third Party Billing will only print on the manifest for the first specimen for that patient order.

You will notice in the example below, the Shipping Manifest is clearly labeled:

*** DO NOT USE FOR SHIPPING DOCUMENT - WORK COPY ONLY ***

The LIPID PNL W/RF TO DIR LDL, which was accession SO 11 27 above, failed to print on the manifest. That is usually indicative that the test has not been added to the Shipping Configuration. Notify your Interface support staff that this test will need to be added to the Shipping Configuration.

Laboratory DHCP Menu
LSM  Lab Shipping Menu . . .
SMB   Build Shipping Manifest

Select Lab Shipping Menu Option: SMB  Build Shipping Manifest
Select Shipping Configuration: QUEST DIAGNOSTICS
CA
999  SIHC TO QUEST
Use default accession dates? YES//
Exclude previously removed tests from building? YES//
Using shipping manifest# 8358-20110704-1
Searching accession area: SENDOUTS
There were 3 specimens added
Print Shipping Manifest? NO// YES
DEVICE: HOME// Printer Name or Number

*** DO NOT USE FOR SHIPPING DOCUMENT - WORK COPY ONLY ***
Shipping Manifest: 8358-20110704-1    Page: 1
  to Site: QUEST DIAGNOSTICS           Printed: Jul 04, 2011@13:58
  from Site: SO. INDIAN HEALTH COUNCIL     Status: OPEN
  Ship via: COURIER
Shipping Condition: REFRIGERATE       Container: STYROFOAM PACK

Patent Name   Patient ID       Lab Reference
Date of Birth   Sex             Specimen UID
Requested By   Collect Date/Time

---------------------------------------------
Item: 1 DEMO,FEMALE  38608   14713
Jun 15,1981 Female  6011000028
1639105497-TOBIN DO,CHARLENE Jul 04, 2011@10:00

Requestor's Phone: 6194451188
Specimen Container: ALIQUOT

Account Number: 91901619
Bill Type: T
Insurer ID: MCDEG
Insurer Name: MEDICAID
Insurer Address: P O BOX 15600 SACRAMENTO CA 95814
Insured Name: Relationship: Self
Insured Address:
 Guarantor: DEMO FEMALE
 Guarantor Address: 4058 WILLOWS RD  ALPINE CA 91901
 Guarantor ID: 123456A
 Guarantor Telephone: 619-555-1212
 Guarantor Relationship: Self
 Guarantor Address:

Diagnosis: 599.0 Description: URIN TRACT INFECTION NOS
Diagnosis: 788.1 Description: DYSURIA

CULTURE, URINE URINE
QUEST DIAGNOSTICS Order Code [Name]: 395 [URINE CULTURE, ROUTINE]

ORDER ENTRY QUESTIONS:
ENTER SOURCE OF SPECIMEN CLEAN CATCH URINE

--

*** DO NOT USE FOR SHIPPING DOCUMENT - WORK COPY ONLY ***

Notice that this is a page break and the next two specimens print on page 2 for ROOM TEMPERATURE SPECIMENS

*** DO NOT USE FOR SHIPPING DOCUMENT - WORK COPY ONLY ***

Shipping Manifest: 8358-20110704-1 Page: 2
 to Site: QUEST DIAGNOSTICS Printed: Jul 04, 2011@13:58
 from Site: SO. INDIAN HEALTH COUNCIL
 Status: OPEN Ship via: COURIER
 Shipping Condition: ROOM TEMPERATURE Container:

Patient Name Patient ID Lab Reference
#
 Date of Birth Sex Specimen UID
 Requested By Collect Date/Time

--

Item: 2 DEMO,ADULT 77778 14712
 JAN 1,1949 Female 6011000025
 1184616872-SCHUMAKER DO,EDWARDJul 04, 2011@13:24
 Requestor's Phone: 800-400-1189

Specimen Container: PLASTIC SCREW CAP VIAL

Account Number: 91901619
Bill Type: T
Insurer ID: INS Group: 9997
Insurer Name: IRON WORKERS HEALTH PLAN Telephone: (801)263-

Insurer Address: 3785 SOUTH 700 EAST SALT LAKE UT 84106
Insured Name: DEMO DAD Relationship: SPOUSE
Insured Address: PO BOX 155 ALPINE CA 91091
 Guarantor: DEMO ADULT Telephone: 619-445-1188
 Guarantor Address: PO BOX 155 ALPINE CA 91091
Insured ID: 7777801
-------------------
Diagnosis: 250.00  Description: DIABETES II/UNSPEC NOT UNCONTR
Diagnosis: 401.9   Description: HYPERTENSION NOS
-------------------
TSH, SERUM          SERUM
-------------------
QUEST DIAGNOSTICS Order Code [Name]: 899 [TSH]
-------------------
--
Item: 3    DEMO,ADULT    77778   14712
JAN 1,1949     Female     6011000026
1184616872-SCHUMAKER DO,EDWARDJul 04, 2011@13:24
Requestor's Phone: 800-400-1189
Specimen Container: PLASTIC SCREW CAP VIAL
-------------------
CMP W/EGFR        SERUM
-------------------
QUEST DIAGNOSTICS Order Code [Name]: 10231 [COMPREHENSIVE METABOLIC PANEL]
-------------------
End of Shipping Manifest
*** DO NOT USE FOR SHIPPING DOCUMENT – WORK COPY ONLY ***

Figure 11-65: Building a Shipping Manifest

11.3.4.5 Add/remove a Shipping Manifest Test

The contents of an open manifest may be edited – tests added or deleted depending on what is determined as specimens are matched up with tests on the manifest. Shown below is an example of removing a specimen from a manifest. In this case, the Urine Culture will be removed because it is determined that another staff member inadvertently discarded it when cleaning up the Laboratory. Note that if several tests are to be removed it, this can be done all at the same time.

Laboratory DHCP Menu
Laboratory DHCP Menu
LSM    Lab Shipping Menu ...
Select Lab Shipping Menu Option: Add/remove a Shipping Manifest Test
Select Shipping Configuration:  FACILITY A TO QUEST
Select Shipping Manifest: 8358-20110704-1  FACILITY A TO QUEST Status:
OPEN as of Jul 04, 2011@13:48
Select one of the following:
1        Add test to manifest
2        Remove test from manifest
Select action to perform: 1// 2  Remove test from manifest
Select Accession or UID: SO 28
so SENDOUTS
SENDOUTS (JUL 04, 2011) 28
1 CULTURE, URINE
Select test(s) to remove: (l-1): 1
Select Accession or UID:
11.3.4.6 Close/Ship a Shipping Manifest

When the specimens to be shipped have been reconciled with the Shipping Manifest, it may be closed and shipped. The final copy of the manifest may be given to the courier and an additional copy may be printed for laboratory reference by using the menu option, PSM Print Shipping Manifest. Note that the final shipping manifest no longer says WORK COPY.

Laboratory DHCP Menu
LSM Lab Shipping Menu ...
SMS Close/Ship a Shipping Manifest
PSM Print Shipping Manifest

Select Lab Shipping Menu Option: SMS  Close/Ship a Shipping Manifest
Select Shipping Configuration: FACILITY A TO QUEST
Select Shipping Manifest: 8358-20110704-1 FACILITY A TO QUEST Status: OPEN as of Jul 04, 2011@13:48

Select one of the following:
1  Close manifest
2  Ship manifest

Select action to perform: 1// 2  Ship manifest
Enter Manifest Shipping Date: NOW// <ENTER>  (JUL 04, 2011@14:37)
Print Shipping Manifest? NO// Y < Print a hard copy of the manifest to accompany the specimens the courier picks up. The menu option,

<table>
<thead>
<tr>
<th>Shipping Manifest: 8358-20110704-1</th>
<th>Page: 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>to Site: QUEST DIAGNOSTICS</td>
<td>Printed: Jul 04, 2011@14:39</td>
</tr>
<tr>
<td>from Site: SO. INDIAN HEALTH COUNCIL</td>
<td></td>
</tr>
<tr>
<td>Date Shipped: Jul 04, 2011@14:37</td>
<td>Ship via: COURIER</td>
</tr>
<tr>
<td>Shipping Condition: ROOM TEMPERATURE</td>
<td>Container:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient Name</th>
<th>Patient ID</th>
<th>Lab Reference #</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEMO,ADULT</td>
<td>77778</td>
<td>14712</td>
</tr>
<tr>
<td>JAN 1,1949</td>
<td>Female</td>
<td>6011000025</td>
</tr>
<tr>
<td>1184616872-SCHUMAKER DO,EDWARD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jul 04, 2011@13:24</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---------------------------------------------------------------------------
<table>
<thead>
<tr>
<th>Item: 1</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Account Number: 91901619</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bill Type: T</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurer ID: INS</td>
<td>Group: 9997</td>
<td></td>
</tr>
<tr>
<td>Insurer Name: IRON WORKERS HEALTH PLAN</td>
<td>Telephone: (801)263-</td>
<td></td>
</tr>
<tr>
<td>Insurer Address: 3785 SOUTH 700 EAST SALT LAKE UT 84106</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insured Name: DEMO DAD</td>
<td>Relationship: SPOUSE</td>
<td></td>
</tr>
<tr>
<td>Insured Address: PO BOX 155 ALPINE CA 91091</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Guarantor: DEMO ADULT                     Telephone: 619-445-1188
Guarantor Address: PO BOX 155 ALPINE CA 91091
Insured ID: 7777801

Diagnosis: 250.00 Description: DIABETES II/UNSPEC NOT UNCONTR
Diagnosis: 401.9 Description: HYPERTENSION NOS

TSH, SERUM                        SERUM
QUEST DIAGNOSTICS Order Code [Name]: 899 [TSH]

Item: 2 DEMO,ADULT 77778 14712
JAN 1,1949 Female 6011000026
1184616072-SCHUMAKER DO,EDWARDJul 04, 2011@13:24

CMP W/EGFR                        SERUM
QUEST DIAGNOSTICS Order Code [Name]: 10231 [COMPREHENSIVE
METABOLIC PANEL]

End of Shipping Manifest

Figure 11-67: Close/Ship a Shipping Manifest

When tests have been built onto a shipping manifest, form of status tracking is turned on. That can be seen in the option, Lookup Accession, as follows.

Select Accessioning menu Option: lookup accession
Select Accession or UID: so 26
so SENDOUTS
SENDOUTS (JUL 04, 2011) 26

ACCESSION: SO 11 26 PATIENT: DEMO,ADULT
ORDER #: 14712 HRCN: 77778
UID: 6011000026 DOB: JAN 1,1949
LOCATION: LAB SIH ORDERED: 07/04/2011@13:22
COLLECTED: 07/04/2011@13:24
PROVIDER: SCHUMAKER DO,EDWARD LAB ARRIVAL: 07/04/2011@13:25
SAMPLE: SERUM BLOOD (TIGER)
TEST: CMP W/EGFR LAB ONLY
REFERRAL STATUS: Test shipped (Jul 04, 2011@14:37)
SHIPPING MANIFEST: 8358-20110704-1

Figure 11-68: Lookup Accession for a test that has been shipped to a reference laboratory

The same option, Lookup Accession, will also display the status of the test when results have been returned and released into RPMS as shown in Section 11.3.4.7.

ACCESSION: SO 11 7 PATIENT: DEMO,ADULT
ORDER #: 14503 HRCN: 77778
UID: 6011000007 DOB: JAN 1,1949
LOCATION: NC ORDERED: 06/10/2011@07:34
11.3.4.7 Verifying receipt of Reference Lab Results in RPMS

Reference Laboratory results returned over an interface are treated exactly the same as results transferred over an auto instrument interface and may be reviewed and released into RPMS as follows. The reference ranges, abnormal flags, comments, and units displayed are those that are passed across the interface from the reference laboratory interface.

Laboratory DHCP Menu

3  Process data in lab menu ...
EA  Enter/verify data (auto instrument)

Select Process data in lab menu Option: EA  Enter/verify data (auto instrument)

Select LOAD/WORK LIST NAME: SENDOUTS
Select Performing Laboratory: QUEST DIAGNOSTICS < Default should be set to reference laboratory
Would you like to see the list? No// <enter> NO

Do you wish to modify the test list i.e., would you like to add or subtract ATOMIC tests?

Enter Yes or No: No// <enter> NO
You have selected 522 tests to work with.
Do you want to review the data before and after you edit? YES// <enter>

Select one of the following:

1  Accession Number
2  Unique Identifier (UID)

Verify by: 1// <enter> Accession Number
Accession Date: TODAY// <enter> (MAR 29, 2010)
Accession NUMBER: 44// 43

GIBBS,KEITH COCHISE 100650
ORDER #: 35878
Seq #: 9991 Accession: SO 10 43 Results received: Mar 29, 2010@20:56
Figure 11-70: Verifying Receipt of reference lab results

11.4 Posting Abnormal Flag for Qualitative Results

A modification has been made to an interface routine that permits posting of an A as an Abnormal Flag to RPMS. An addition has been made in the KEY on the Interim reports to indicate that A=Abnormal. See below:
<table>
<thead>
<tr>
<th>Test Performed at:</th>
</tr>
</thead>
<tbody>
<tr>
<td>KEY: A=Abnormal</td>
</tr>
<tr>
<td>L=Abnormal Low</td>
</tr>
<tr>
<td>H=Abnormal High</td>
</tr>
<tr>
<td>*=Critical value</td>
</tr>
<tr>
<td>TR=Therapeutic Range</td>
</tr>
</tbody>
</table>

Figure 11-71: Posting Abnormal Flag from Reference Laboratory Interface
12.0 **New Options**

The following new options will be added to the OPTION (# 19) file.

**Note:** None of the new options have been added to the BLRMENU by this patch.

12.1 **Options Recommended to be Added to BLRMENU**

The following options are recommended to be placed on the BLRMENU by the site manager.

12.1.1 **BLRAAOMM – IHS Lab Ask At Order Main Menu**

The main menu for the IHS Lab Ask-At-Order options. This option is recommended to be placed upon the BLRMENU. It is secured with the LRSUPER Security Key.

12.1.2 **BLRLUOPT – Count Accessioned Tests Using Lab Data File Main Menu**

The main menu for the Count Accessioned Tests Using Lab Data File routines. It is secured with the LRSUPER Security Key.

12.2 **Options Recommended to be tasked**

The following options are recommended to be tasked by the site manager.

12.2.1 **BLRAAOEP**

The purge of the Lab Ask-At-Orders errors file. It is the recommended method of purging the Lab Ask-At-Orders errors file. This option should be tasked to run monthly.

12.2.2 **BLRPCCST**

The option to run the BLRPCCST routine to determine if the IHS Lab to PCC Linker has stopped. This option should be tasked to run daily.

12.2.3 **BLRTASKS**

The option to run the BLRTASKS routine to determine if the required RPMS Lab processes have been tasked appropriately. This option should be tasked to run daily.
12.3 Other Options

The following are new options that are accessed through the main menu options. They are not recommended to be added to the BLRMENU.

12.3.1 BLRAAODR – Non Accessioned IHS Lab Ask-At-Order Report

The report option for non-accessioned ask-at-order report. Accessed from the BLRAAOMM menu.

12.3.2 BLRAAORE – IHS Lab Ask-At-Order Errors Report

The report option for the Lab ask-at-order errors report. Accessed from the BLRAAOMM menu.

12.3.3 BLRAAORP – Interactive Purge of IHS Lab Ask-At-Order Errors File

The purge of the Lab ask-at-order errors file. Accessed from the BLRAAOMM menu.

**Note:** The BLRAAOEP option is the recommended method of purging the Lab Ask-At-Orders errors file.

12.3.4 BLRLUPAC – Compile Data for Count Accessioned Tests Using Lab Data File

The compilation option for the Count Accessioned Tests Using Lab Data File routines. Accessed from the BLRUOPT menu.

12.3.5 BLRLUPUR – Purge Compiled Data of Count Accessioned Tests Using Lab Data

The purge compilation option for the Count Accessioned Tests Using Lab Data File routines. Accessed from the BLRUOPT menu.

12.3.6 BLRLURPT – Report Menu for Count Accessioned Tests Using Lab Data

13.0 VA Lab Patches

There are numerous VA Lab patches included in this IHS Lab Patch that address various issues. Some are required for subsequent VA Lab patches but are not relevant to IHS, but many are updates and/or fixes to current RPMS Lab functionality.

13.1 Required VA Patches Not Relevant to RPMS

The following is a listing of VA Patches that will be added to the RPMS Laboratory module that are required for the installation of other VA Patches, but do not effect IHS functionality and/or the VA’s functionality is not used by IHS.

13.1.1 Sequence 199, LR5.2*260: Hepatitis C Extract

This patch adds two new segments to the HL7 transmissions generated by the Emerging Pathogens Initiative (EPI) software, clears fifteen NOIS calls, and eliminates the National Center for Health Promotion (NCH) data transmissions.

13.1.2 Sequence 230, LR5.2*294: VBECS API'S For CPRS and Lab

This patch is being released in support of the VBECS (VistA Blood Establishment Computer Software) Blood Bank Modernization Project. In the future, data will be transitioned from the existing M database to a Microsoft SQL database. The API's release in this patch will allow CPRS and the Lab packages to transition to the new database when it is released.

13.1.3 Sequence 239, LR*5.2*281: EPI Enhancement

The EPI Enhancement patch, LR*5.2*281, contains enhancements and modifications to the Emerging Pathogens Initiative (EPI) software.

13.1.4 Sequence 241, LR*5.2*320: EPI Historical Reseeding

The EPI Historical Reseeding patch, LR*5.2*320, contains modifications to the Emerging Pathogens Initiative (EPI) software that corrects fatal errors received during the historical reseeding of the EPI data.

13.1.5 Sequence 244, LR*5.2*295: LAB Clinical Reminder Index

This patch provides the necessary routines for Clinical Index Reminders patch 12, which is currently not scheduled for inclusion into RPMS.
13.1.6  Sequence 246, LR*5.2*326: Enhanced DSS LAR Extract
This patch implements a request from Decision Support System to expand the LAB DSS LAR EXTRACT (#64.036) file to include the passing ordering provider in DSS LAR API. The companion DSS patch is ECX*3.0*71.

13.1.7  Sequence 249, LR*5.2*311: LRWOMEN Routine Change
Currently the ADD^LRWOMEN utility notifies a Women's Health package utility whenever a Cytology or Surgical Pathology report is verified for a female patient. This functionality was provided with LR*5.2*231.

After installation of patch LR*5.2*311, the ADD^LRWOMEN utility will also notify a new CPRS utility (LAB^ORB3LAB) for all patients, not just female patients. Integration Agreement #4287 grants the LABORATORY package permission to call the ORB3LAB routine.

13.2  VA Lab Patches That Fix/Enhance RPMS Lab Package
The following is a listing of VA Patches that will be added to the RPMS Laboratory module that do affect IHS functionality: they are either enhancements and/or fixes to problems.

13.2.1  Sequence 148, LR*5.2*200: TDM Comment Not Stored
This patch fixes the issue with required comments using the TDM (PEAK/TROUGH) execute code not being stored in file 69 when using Lab (LR) options to create the order. The solution was to modify routine LREXECU to ensure the comments are stored.

13.2.2  Sequence 154, LR*5.2*217: Locking LRO(68) During UID Creation
This patch will address a locking problem concerning the LRO global and a fix to Laboratory Unique Identifier (UID) creation.

13.2.3  Sequence 236, LR*5.2*259: Anatomic Pathology Electronic Signature
This patch implements the new electronic signature functionality within the Autopsy, Cytology, Electron Microscopy, and Surgical Pathology sections for the Autopsy protocol, Standard Form 515 (SF 515), and supplementary reports. This new electronic signature functionality can be activated or inactivated at the discretion of the site.
13.2.4 Sequence 255, LR*5.2*336: Update Provider Class Checks
This patch updates the AP ESIG RELEASE REPORT / ALERT. The process requires a Physician Provider Class to also have one of several Person Class Codes to validate the users Electronic Signature. This list of Person Class Codes was updated to match the new codes to be released in Patch XU*8*377.

13.2.5 Sequence 258, LR*5.2*324: Anatomic Pathology Electronic Signature
This patch updates the LRAPOLD (Enter old anat path records), to not send ENTRY/RESULT notifications. Since this processes the entry of old reports, no notification should be sent.

13.2.6 Sequence 285, LR*5.2*317: AP Modifications / Enhancements to Address PSI-04-025
VistA Laboratory Anatomic Pathology (AP) Modifications/Enhancements patch LR*5.2*317 addresses two patient safety issues (PSI) reported in PSI-04-025 that arose from the release and implementation of the VistA Laboratory Anatomic Pathology Electronic Signature Patch LR*5.2*259.

13.2.7 Sequence 286, LR*5.2*369: Multiple Corrections to The Lab Service Package
This patch corrects several issues in the Lab Service package.

13.2.8 Sequence 297, LR*5.2*365: AP Alerts and CPRS Report Changes
VistA Laboratory Anatomic Pathology (AP) Alerts and Computerized Patient Record System (CPRS) Report Changes Patch LR*5.2*365 software release addresses 7 Patient Safety Issues (PSIs).
Appendix A: Modified Routines

Several routines have been modified in order to prevent errors and/or add new functionality.

A.1 BLR7OGMP – Lab Interim Report for EHR
Modified the key at the bottom of the page. It will now print.

<table>
<thead>
<tr>
<th>KEY</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Abnormal</td>
</tr>
<tr>
<td>L</td>
<td>Abnormal Low</td>
</tr>
<tr>
<td>H</td>
<td>Abnormal High</td>
</tr>
<tr>
<td>*</td>
<td>Critical value</td>
</tr>
<tr>
<td>TR</td>
<td>Therapeutic Range</td>
</tr>
</tbody>
</table>

Figure 13-1: Example of the new EHR Interim Report Key.

A.2 BLRLINK – Lab Hook for APCDALV (PCC)
Modified to use new bulletin code in BLRUTIL3 routine.

A.3 BLRLINK1 – Cont. of IHS Lab Link to PCC
Modified to skip IHS CMOP entries in the Universal Interface global in order enhance the processing speed of Lab entries to PCC. Also modified to reference new BLRLINKU routine.

A.4 BLRLINK3 – Cont. of BLR
Modified to reference new BLRLINKU routine.

A.5 BLRMERGT – Manual Process Merge BLRMERG
Modified to correct error in retrieving VA PATIENT information.

A.6 BLRNLINK – Lab Hook for APCDALV (PCC)
Modified to use new bulletin code in BLRUTIL3 routine.

A.7 BLRPOC – EHR POC Component Support
Modified to prevent <UNDEFINED> error when EHR POC button is selected, but the Lab Package has not been setup. Some code was removed and put into the new BLRPOC2 routine due to SAC size restriction regarding size of routines.
A.8  BLRPST – Show processor status
Modified to display more information.

A.9  BLRQINST – Synchronize All Queues Before Installing Patch for One Queue
Modified to standardize Bulletins.

A.10 BLRTNM – Set IHS Lab Transaction Log – Micro
Modified to ensure Delta Check result has numeric value.

A.11 BLRTNM1 – Set IHS Lab Transaction Log - Micro
Modified to prevent <UNDEFINED> error when adding information to a Micro test after data have been purged from the Order file.

A.12 BLRUTIL – BLR Link Utilities And Testing Subroutines
Modified CAPVARS subroutine to ensure that the Y variable is not modified during data capture.

A.13 BLRUTIL2 – Misc IHS Lab Utilities (Continued)
Modified to ensure that the Institution line is centered on Interim Report headers.

A.14 BLRUTIL3 – Misc IHS Lab Utilities (Continued)
Added new code to standardize Bulletins. Added new code to return reference ranges for Delta Checks.

A.15 LA7ADL – Automatic Download of Test Orders
Added new functionality to alert user when Accession is created that does not have a Specimen.

A.16 LR7OSMZU – Silent Micro rpt cont.
Added code for new "key" for Micro Reports.

A.17 LRLABLD – Labels On Demand
Modified to prevent <UNDEFINED> error when LRMT60 variable is not set.
A.18 LRMIPSU – Micro Patient Report
Modified to use new MI key as well as modified header of report.

A.19 LROE – Lab Order Entry and Accession
Modified to store Lab Ask-At-Order questions into the Lab Data (#63) file during resulting of data.

A.20 LRORD1 – Lazy Accession Logging
Modified to ask Lab Ask-At-Order questions.

A.21 LRORD2 – More of Lazy Accession Logging
Modified to prevent an endless loop when the % variable is not set.

A.22 LROS – Lab Order Status
Modified to highlight the order numbers on the report.

A.23 LROW2 – Test & Sample Verification
Modified for Lab Ask at Order questions.

A.24 LRRP1 – Print the Data For Interim Reports
Modified the key at the bottom of the page. It will now print two (2) lines.

<table>
<thead>
<tr>
<th>KEY: A=Abnormal</th>
<th>L=Abnormal Low</th>
<th>H=Abnormal High</th>
</tr>
</thead>
<tbody>
<tr>
<td>* = Critical value</td>
<td>TR=Therapeutic Range</td>
<td></td>
</tr>
</tbody>
</table>

Figure 13-2: Example of the new Interim Report Key.

The LOCATION was added back to the display. The following is an example:


Figure 13-3: Example of the LOCATION on Interim Report

A.25 LRUER – Error Tracking
Modified to track accessions that have either "reported incorrectly as" or "previously reported as" entries in the Comments field, which indicates a result has been modified. Previously, it only tracked accessions with "reported incorrectly as" comments.
A.26  LRUPACA – Lab Acc Counts By Loc
Modified to prevent an <UNDEFINED> error when there are zero counts.

A.27  LRUPAD1 – Lab Accession List Continued
Modified to prevent <UNDEFINED> error when invalid accessions encountered.

A.28  LRUPAD2 – Lab Accession List By Patient
Modified to prevent <UNDEFINED> error when invalid accessions encountered.

A.29  LRVER – Lab Routine Data Verification
Modified to prevent <UNDEFINED> when LRAN variable is null.

A.30  LRVER2 – Lab Routine Data Verification
Modified to prevent <UNDEFINED> when LRMT60 variable is null.

A.31  LRVER4 – Lab Routine Data Verification
Modified for Lab Ask At Order questions.

A.32  LRWLST – Accession Setup
Modified for Lab Ask At Order questions.

A.33  LRWLST2 – Accession Setup
Modified to more clearly define in an Alert where in the routine an invalid Accession was created.

A.34  LRWU6 – Modify An Existing Data Name
Modified to prevent editing of the COMMENTS field in the Lab Data (# 63) file.
Appendix B: New Routines

The following new routines will be added to the IHS Lab module.

B.1 BLRAAORR – IHS Lab Ask-At-Order Reports
Reports for new Lab Ask-At-Orders functionality.

B.2 BLRAAORU – IHS Lab Ask-At-Order Utilities
Utilities for new Lab Ask-At-Orders functionality.

B.3 BLRIPLZI – Intermec IPL Accession Number Barcode 39 Lab Label Initialization
New initialization lab label routine for Intermec Printers. It adds the fields Date-of-Birth, Provider, and Sex to the barcode labels.

B.4 BLRIPLZP – Intermec IPL Accession Number Barcode 39 Lab Label Print
New print lab label routine for Intermec Printers. It adds Date-of-Birth, Provider, and Sex to the barcode labels.

B.5 BLRLINKU – IHS Lab Link To PCC Utilities
New routine to standardize HL7 Reference Range routines.

B.6 BLRLUAC1 – IHS LRUPAC Compilation
Emulates the VA's Count accessioned tests report: compiles data.

B.7 BLRLUAC2 – IHS LRUPAC Reports Driver
Emulates the VA's Count accessioned tests report: the reports driver.

B.8 BLRLUAC3 – IHS LRUPAC, Files 44 & 60 report
Emulates the VA’s Count accessioned tests report: counts by the Location (# 44) and Laboratory Test (# 60) files.
B.9  BLRLUAC4 – IHS LRUPAC, File 61 & 60 Report
Emulates the VA’s Count accessioned tests report: counts by the Topography (# 61) and Laboratory Test (# 60) files.

B.10  BLRLUAC5 – IHS LRUPAC File 60 Report
Emulates the VA’s Count accessioned tests report: counts by tests in Laboratory Test (# 60) file.

B.11  BLRLUAC6 – IHS LRUPAC File 61 Report
Emulates the VA’s Count accessioned tests report: counts by tests in Topography Field (# 61) file.

B.12  BLRLUAC7 – IHS LRUPAC, Files 4 & 60 report
Emulates the VA’s Count accessioned tests report: counts by the Institution (# 4) and Laboratory Test (# 60) files.

B.13  BLRLUAC8 – IHS LRUPAC Error Report
Emulates the VA’s Count accessioned tests report: reports on errors encountered during compilation.

B.14  BLRLUAC9 – IHS LRUPAC IO
Emulates the VA’s Count accessioned tests report: handles the I/O.

B.15  BLRLUACA – IHS LRUPAC Purge Of Old Data
Emulates the VA’s Count accessioned tests report: handles the purging of previously compiled datasets.

B.16  BLRPCCST – Lab To PCC Linker Status Check
Determines if the Lab to PCC Linker has been stopped. If it has, a MailMan message will be sent to all members of the LMI Mail Group.

B.17  BLRPOC2 – EHR POC Component Support, Part 2
Created from BLRPOC due to the BLRPOC routine becoming too large.
B.18 BLRP29P – IHS Lab Patch 1030 Post Install Routine
Post Install routine for IHS Lab Patch 1030. Creates a new Modified Estimated Average Glucose (MEAG) Delta Check that will also store reference ranges, abnormal flag, and units.

B.19 BLRPRE29 – IHS Lab Patch 1030 PRE Install & Environment Checking
IHS Lab PATCH 1030 Environment/Pre Install Routine.

B.20 BLRTASKS – IHS Lab Tasks Report
Determines if the daily RPMS Lab Tasks have been submitted to TaskMan appropriately. If not, an Alert and a MailMan message will be sent to all members of the LMI Mail Group.
Appendix C: VA Patches Routines

The following is a list of the routines that were either modified or added by the various VA Patches included in IHS Lab Patch 1030. Please note that some routines may appear more than once due to subsequent patches adding functionality and/or correcting bugs.

C.1 Sequence 148, LR*5.2*200 - TDM Comment Not Stored

<table>
<thead>
<tr>
<th>Routine</th>
<th>Routine Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LREXECU</td>
<td>Execute Code Utility</td>
</tr>
</tbody>
</table>

C.2 Sequence 154, LR*5.2*217 - Locking LRO(68) During UID Creation

<table>
<thead>
<tr>
<th>Routine</th>
<th>Routine Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LR217</td>
<td>LR<em>5.2</em>217 Patch Environment Check Routine</td>
</tr>
<tr>
<td>LRX</td>
<td>Utility Routines -- Previously ^LAB(&quot;X&quot;,&quot;...&quot;)</td>
</tr>
</tbody>
</table>

C.3 Sequence 199, LR*5.2*260 - Hepatitis C Extract

<table>
<thead>
<tr>
<th>Routine</th>
<th>Routine Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LR260</td>
<td>Patch 260 Post-Init Routine</td>
</tr>
<tr>
<td>LREPI</td>
<td>Emerging Pathogens Search</td>
</tr>
<tr>
<td>LREPI1</td>
<td>Emerging Pathogens HI7 Builder</td>
</tr>
<tr>
<td>LREPI1A</td>
<td>Emerging Pathogens HI7 Builder</td>
</tr>
<tr>
<td>LREPI2</td>
<td>Emerging Pathogens HI7 Build</td>
</tr>
<tr>
<td>LREPI3</td>
<td>Emerging Pathogens HI7 Segments</td>
</tr>
<tr>
<td>LREPI4</td>
<td>Emerging Pathogens Inpatient Update</td>
</tr>
<tr>
<td>LREPIAK</td>
<td>Extract Acknowledgement</td>
</tr>
<tr>
<td>LREPIPH</td>
<td>Emerging Pathogens HI7 Segment Builder</td>
</tr>
<tr>
<td>LREPIRP</td>
<td>Emerging Pathogens Verification Report</td>
</tr>
<tr>
<td>LREPISRV</td>
<td>EPI data server</td>
</tr>
</tbody>
</table>

C.4 Sequence 230, LR*5.2*294 - VBECS API'S For CPRS And Lab

<table>
<thead>
<tr>
<th>Routine</th>
<th>Routine Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>VBECA1</td>
<td>APIs To Return Blood Bank Data For Lab</td>
</tr>
<tr>
<td>Routine</td>
<td>Routine Description</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td>VBECA1A</td>
<td>Verify Patient</td>
</tr>
<tr>
<td>VBECA3A</td>
<td>API interface for CPRS</td>
</tr>
<tr>
<td>VBECA3B</td>
<td>API interfaces for CPRS</td>
</tr>
</tbody>
</table>

**C.5** Sequence 236, LR*5.2*259 - Anatomic Pathology Electronic Signature

<table>
<thead>
<tr>
<th>Routine</th>
<th>Routine Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LR259</td>
<td>LR<em>5.2</em>259 Patch Environment Check Routine</td>
</tr>
<tr>
<td>LR7OSAP</td>
<td>Silent AP rpt (compare to LRAPCUM)</td>
</tr>
<tr>
<td>LR7OSAP1</td>
<td>Silent AP rpt cont.</td>
</tr>
<tr>
<td>LR7OSAP2</td>
<td>Silent Routine for autopsy report</td>
</tr>
<tr>
<td>LR7OSAP3</td>
<td>Silent AP Rpt from TIU</td>
</tr>
<tr>
<td>LRAP</td>
<td>Anatomic Path Utility</td>
</tr>
<tr>
<td>LRAPAUPT</td>
<td>Autopsy Print</td>
</tr>
<tr>
<td>LRAPAUSR</td>
<td>Autopsy Supplementary Report</td>
</tr>
<tr>
<td>LRAPBR</td>
<td>AP Browser Print/TFIU TMP Global</td>
</tr>
<tr>
<td>LRAPBR1</td>
<td>AP Browser Print Cont.</td>
</tr>
<tr>
<td>LRAPBR2</td>
<td>AP Browser Print</td>
</tr>
<tr>
<td>LRAPBR3</td>
<td>AP Browser Print Cont.</td>
</tr>
<tr>
<td>LRAPBR4</td>
<td>Autopsy Browser Display</td>
</tr>
<tr>
<td>LRAPBR5</td>
<td>Autopsy Browser Display/TFIU Storage</td>
</tr>
<tr>
<td>LRAPBRPW</td>
<td>POW Patient Browser Print</td>
</tr>
<tr>
<td>LRAPBS1</td>
<td>Block/Slide Data Entry</td>
</tr>
<tr>
<td>LRAPCUM</td>
<td>AP Patient Cum</td>
</tr>
<tr>
<td>LRAPD</td>
<td>AP Data Entry</td>
</tr>
<tr>
<td>LRAPD1</td>
<td>AP Data Entry</td>
</tr>
<tr>
<td>LRAPDA</td>
<td>Anatomic Path Data Entry</td>
</tr>
<tr>
<td>LRAPDSR</td>
<td>AP Supplementary Report Entry</td>
</tr>
<tr>
<td>LRAPED</td>
<td>Anatomic Path Edit Log-In</td>
</tr>
<tr>
<td>LRAPEDC</td>
<td>Edit Anatomic Path Comments</td>
</tr>
<tr>
<td>LRAPESON</td>
<td>AP Turn ESIG On</td>
</tr>
<tr>
<td>LRAPF</td>
<td>CY/EM/SP Rpt</td>
</tr>
<tr>
<td>LRAPFICH</td>
<td>Microfich Path Reports</td>
</tr>
<tr>
<td>LRAPLGLG</td>
<td>AP Log-In</td>
</tr>
<tr>
<td>LRAPMOD</td>
<td>Print Path Micro Modifications</td>
</tr>
<tr>
<td>Routine</td>
<td>Routine Description</td>
</tr>
<tr>
<td>-----------</td>
<td>------------------------------------------------------</td>
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<tr>
<td>LRMRL</td>
<td>AP Modify Released Report</td>
</tr>
<tr>
<td>LRMMRL1</td>
<td>AP Modify Released Report Cont'd</td>
</tr>
<tr>
<td>LRPMV</td>
<td>Move AP Accession</td>
</tr>
<tr>
<td>LAPP</td>
<td>AP Print</td>
</tr>
<tr>
<td>LRPFF1</td>
<td>Anat Path File Print By PT</td>
</tr>
<tr>
<td>LRPPOW</td>
<td>POW Patient Look-Up</td>
</tr>
<tr>
<td>LRPR</td>
<td>Anat Release Reports</td>
</tr>
<tr>
<td>LRPRES</td>
<td>AP ESIG Release Report</td>
</tr>
<tr>
<td>LRPRES1</td>
<td>AP ESIG Release Report/Alert</td>
</tr>
<tr>
<td>LRPS1</td>
<td>Anatomic Path Print</td>
</tr>
<tr>
<td>LRPSNMD</td>
<td>Display/print SNOMED codes</td>
</tr>
<tr>
<td>LRPPT1</td>
<td>Anatomic Path Print</td>
</tr>
<tr>
<td>LRPPT2</td>
<td>Autopsy PRT</td>
</tr>
<tr>
<td>LRPPT3</td>
<td>Autopsy RPT Print Cond(1)’T</td>
</tr>
<tr>
<td>LRPPTIUP</td>
<td>API Print AP Reports from TIU</td>
</tr>
<tr>
<td>LRPUTIL</td>
<td>AP Utilities</td>
</tr>
<tr>
<td>LRPAV</td>
<td>Anat Path Reports Not Verified</td>
</tr>
<tr>
<td>LRPX</td>
<td>AP Coding</td>
</tr>
<tr>
<td>LRAUDA</td>
<td>Autopsy Path Data Entry</td>
</tr>
<tr>
<td>LRAURPT</td>
<td>Autopsy RPT</td>
</tr>
<tr>
<td>LRCAPES</td>
<td>Manual PCE CPT Workload Capture</td>
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<tr>
<td>LRSRPRPT</td>
<td>CY/EM/SP Patient RPT</td>
</tr>
<tr>
<td>LRSRPRPT1</td>
<td>Surg Path RPT Print Cont.</td>
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<tr>
<td>LRSRPRPT2</td>
<td>Surg Path Print SNOMED</td>
</tr>
<tr>
<td>LRSPT</td>
<td>AP Preliminary Reports</td>
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<tr>
<td>LRA</td>
<td>Anat Path Utility</td>
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<tr>
<td>LRUPS</td>
<td>Patient SPEC Look-Up</td>
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**C.6 Sequence 239, LR*5.2*281 - EPI Enhancement**

<table>
<thead>
<tr>
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<th>Routine Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LR281</td>
<td>LR<em>5.2</em>281 Patch Environment Check Routine</td>
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<tr>
<td>LREPI</td>
<td>Emerging Pathogens Search</td>
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<tr>
<td>LREPI1</td>
<td>Emerging Pathogens HL7 Builder</td>
</tr>
<tr>
<td>LREPI2</td>
<td>Emerging Pathogens HL7 Build</td>
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<tr>
<td>LREPI2A</td>
<td>Emerging Pathogens HL7 Build</td>
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## C.7 Sequence 241, LR*5.2*320 - EPI Historical Reseeding

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<tbody>
<tr>
<td>LR320</td>
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<tr>
<td>LREPI1</td>
<td>Emerging Pathogens HL7 Builder</td>
</tr>
<tr>
<td>LREPI2</td>
<td>Emerging Pathogens HL7 Build</td>
</tr>
<tr>
<td>LREPI3</td>
<td>Emerging Pathogens HL7 Segments</td>
</tr>
<tr>
<td>LREPIRP</td>
<td>Emerging Pathogens Verification Report</td>
</tr>
<tr>
<td>LREPIRP5</td>
<td>Emerging Pathogens HL7 Report Conversion</td>
</tr>
<tr>
<td>LREPIRP7</td>
<td>EPI-Print Verification Report</td>
</tr>
<tr>
<td>LREPI1S</td>
<td>Epi-Local Report/Spreadsheet</td>
</tr>
<tr>
<td>LREPI1S1</td>
<td>Emerging Pathogens Local Report</td>
</tr>
<tr>
<td>LREPI1S2</td>
<td>EPI-Print Local Report/Spreadsheet</td>
</tr>
<tr>
<td>LREPI1S3</td>
<td>Emerging Pathogens Local Report-Generate SPSHT</td>
</tr>
<tr>
<td>LREPISRV</td>
<td>EPI data server</td>
</tr>
<tr>
<td>LREPI1SV1</td>
<td>LAB EPI Extract Server</td>
</tr>
</tbody>
</table>

## Routine Description

- **LREPI3**: Emerging Pathogens HL7 Segments
- **LREPI5**: Emerging Pathogens Search
- **LREPIPH**: Emerging Pathogens HL7 Segment Builder
- **LREPIPI**: Local Pathogens Input
- **LREPIRM**: Emerging Pathogens Search
- **LREPIRP**: Emerging Pathogens Verification Report
- **LREPIRP1**: Emerging Pathogens HL7 Report Conversion
- **LREPIRP2**: Emerging Pathogens HL7 Report Conversion
- **LREPIRP3**: Emerging Pathogens HL7 Report Conversion
- **LREPIRP4**: Emerging Pathogens HL7 Report Conversion
- **LREPIRP5**: Emerging Pathogens HL7 Report Conversion
- **LREPIRP6**: Emerging Pathogens Detailed Verification Report
- **LREPIRP7**: EPI-Print Verification Report
- **LREPIRP8**: EPI-Print Verification Report
- **LREPIRP9**: Emerging Pathogens Verification Report
- **LREPI1S**: Epi-Local Report/Spreadsheet
- **LREPI1S1**: Emerging Pathogens Local Report
- **LREPI1S2**: EPI-Print Local Report/Spreadsheet
- **LREPI1S3**: Emerging Pathogens Local Report-Generate SPSHT
- **LREPISRV**: EPI data server
- **LREPI1SV1**: LAB EPI Extract Server
C.8 Sequence 244, LR*5.2*295 - Lab Clinical Reminder Index

<table>
<thead>
<tr>
<th>Routine</th>
<th>Routine Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LRAPDA</td>
<td>Anatomic Path Data Entry</td>
</tr>
<tr>
<td>LRAPDSR</td>
<td>AP Supplementary Report Entry</td>
</tr>
<tr>
<td>LRAPM</td>
<td>Anatomic Path Modify MICRO/DX</td>
</tr>
<tr>
<td>LRAPMRL</td>
<td>AP Modify Released Report</td>
</tr>
<tr>
<td>LRAPRES</td>
<td>AP ESIG Release Report</td>
</tr>
<tr>
<td>LRLOG</td>
<td>Edit Log</td>
</tr>
<tr>
<td>LRMIEDZ</td>
<td>Microbiology Edit Routine</td>
</tr>
<tr>
<td>LRMIEDZ2</td>
<td>Microbiology Edit Routine</td>
</tr>
<tr>
<td>LRMINEW1</td>
<td>New Data To Be Reviewed/Verified</td>
</tr>
<tr>
<td>LRMISTF1</td>
<td>Mass Data Entry Into File 63.05</td>
</tr>
<tr>
<td>LRMIV</td>
<td>Microbiology Verify Auto Inst Routine</td>
</tr>
<tr>
<td>LRMIV1</td>
<td>Lab Routine Data Verification</td>
</tr>
<tr>
<td>LRMIV2</td>
<td>Microbiology Verify Auto Inst Routine</td>
</tr>
<tr>
<td>LRMIVER1</td>
<td>Micro Chart Copy Approval Cont.</td>
</tr>
<tr>
<td>LROC</td>
<td>Order List Clean-Up</td>
</tr>
<tr>
<td>LRPX</td>
<td>Process lab indexes</td>
</tr>
<tr>
<td>LRPXAPI</td>
<td>Lab Extract APIs</td>
</tr>
<tr>
<td>LRPXAPI1</td>
<td>Lab Extract API code</td>
</tr>
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<td>LRPXAPI2</td>
<td>Lab Extract API code</td>
</tr>
<tr>
<td>LRPXAPI3</td>
<td>Micro and AP</td>
</tr>
<tr>
<td>LRPXAPI4</td>
<td>Exact Match</td>
</tr>
<tr>
<td>LRPXAPI5</td>
<td>Match</td>
</tr>
<tr>
<td>LRPXAPI6</td>
<td>Lab Extract API code</td>
</tr>
<tr>
<td>LRPXAPIU</td>
<td>Lab Extract API Utilities</td>
</tr>
<tr>
<td>LRPXAPP</td>
<td>Test Lab APIs</td>
</tr>
<tr>
<td>LRPXAPPU</td>
<td>Test Lab APIs Utilities</td>
</tr>
<tr>
<td>LRPXCHK</td>
<td>Lab PXRMINDX Index Validation</td>
</tr>
<tr>
<td>LRPXCHKKA</td>
<td>Lab PXRMINDX Index Validation AP</td>
</tr>
<tr>
<td>LRPXCHKKM</td>
<td>Lab PXRMINDX Index Validation Micro</td>
</tr>
<tr>
<td>LRPXRMM</td>
<td>Lab reminder index for micro and ap</td>
</tr>
<tr>
<td>LRPXSXRA</td>
<td>Build indexes for Lab Anatomic Path.</td>
</tr>
<tr>
<td>LRPXSXRB</td>
<td>Build indexes for Lab Microbiology.</td>
</tr>
<tr>
<td>LRPXSXRL</td>
<td>Build indexes for Lab.</td>
</tr>
<tr>
<td>LRVER3A</td>
<td>Data Verification</td>
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</table>
### C.9 Sequence 246, LR*5.2*326 - Enhanced DSS LAR Extract ECX*3.0*71

<table>
<thead>
<tr>
<th>Routine</th>
<th>Routine Description</th>
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<tbody>
<tr>
<td>LR326</td>
<td>LR<em>5.2</em>326 Patch Environment Check Routine</td>
</tr>
<tr>
<td>LRCAPDAR</td>
<td>Lab DSS Results Extract (LAR)</td>
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</table>

### C.10 Sequence 249, LR*5.2*311 - LRWOMEN Routine Change

<table>
<thead>
<tr>
<th>Routine</th>
<th>Routine Description</th>
</tr>
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<tbody>
<tr>
<td>LR311PST</td>
<td>Create New-Style XREF</td>
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<tr>
<td>LRWOMEN</td>
<td>Link To Women's Health Program</td>
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</tbody>
</table>

### C.11 Sequence 255, LR*5.2*336 - Update Provider Class Checks

<table>
<thead>
<tr>
<th>Routine</th>
<th>Routine Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LRAPRES1</td>
<td>AP ESIG Release Report/Alert</td>
</tr>
</tbody>
</table>

### C.12 Sequence 258, LR*5.2*324 - Stop SNOMED Coding Old AP Reports From Sending Alerts

<table>
<thead>
<tr>
<th>Routine</th>
<th>Routine Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LRAPOLD</td>
<td>Enter Old AP Accessions</td>
</tr>
<tr>
<td>LRWOMEN</td>
<td>Link To Women's Health Program</td>
</tr>
</tbody>
</table>

### C.13 Sequence 285, LR*5.2*317 - AP Modifications / Enhancements To Address PSI-04-025

<table>
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<tr>
<th>Routine</th>
<th>Routine Description</th>
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</thead>
<tbody>
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<td>LR317</td>
<td>LR<em>5.2</em>317 Patch Environment Check Routine</td>
</tr>
<tr>
<td>LR7OSAP</td>
<td>Silent AP rpt (compare to LRAPCUM)</td>
</tr>
<tr>
<td>LR7OSAP1</td>
<td>Silent AP rpt cont.</td>
</tr>
<tr>
<td>LR7OSAP2</td>
<td>Silent Routine for autopsy report</td>
</tr>
<tr>
<td>LRAPAUSR</td>
<td>Autopsy Supplementary Report</td>
</tr>
<tr>
<td>LRAPBR1</td>
<td>AP Browser Print Cont.</td>
</tr>
<tr>
<td>LRAPBR4</td>
<td>Autopsy Browser Display</td>
</tr>
<tr>
<td>LRAPD1</td>
<td>AP Data Entry</td>
</tr>
<tr>
<td>Routine</td>
<td>Routine Description</td>
</tr>
<tr>
<td>-----------</td>
<td>-----------------------------------------------------</td>
</tr>
<tr>
<td>LRAPDA</td>
<td>Anatomic Path Data Entry</td>
</tr>
<tr>
<td>LRAPDSR</td>
<td>AP Supplementary Report Entry</td>
</tr>
<tr>
<td>LRPMRL</td>
<td>AP Modify Released Report</td>
</tr>
<tr>
<td>LRPMRL1</td>
<td>AP Modify Released Report Cont'd</td>
</tr>
<tr>
<td>LRAPR</td>
<td>Anat Release Reports</td>
</tr>
<tr>
<td>LRAPR1</td>
<td>Anat Release Reports Cont'd</td>
</tr>
<tr>
<td>LRAPRES</td>
<td>AP ESIG Release Report</td>
</tr>
<tr>
<td>LRAPV</td>
<td>Anat Path Reports Not Verified</td>
</tr>
<tr>
<td>LRSPRPT</td>
<td>CY/EM/SP Patient RPT</td>
</tr>
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</table>

C.14 Sequence 286, LR*5.2*369 - Multiple Corrections To The Lab Service Package

<table>
<thead>
<tr>
<th>Routine</th>
<th>Routine Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LRAPRES1</td>
<td>AP ESIG Release Report/Alert</td>
</tr>
<tr>
<td>LRCA64S</td>
<td>Search 64 For Codes</td>
</tr>
<tr>
<td>LRDRAW</td>
<td>Ward Collection Summary</td>
</tr>
<tr>
<td>LRSORA</td>
<td>High/Low Value Report</td>
</tr>
<tr>
<td>LRSORA2</td>
<td>Search Lab Data And Print Report</td>
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C.15 Sequence 297, LR*5.2*365 - AP Alerts And CPRS Report Changes

<table>
<thead>
<tr>
<th>Routine</th>
<th>Routine Description</th>
</tr>
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<tbody>
<tr>
<td>LR365</td>
<td>LR<em>5.2</em>365 Patch Environment Check Routine</td>
</tr>
<tr>
<td>LR7OASAP2</td>
<td>Silent Routine for autopsy report</td>
</tr>
<tr>
<td>LR7OASAP4</td>
<td>Silent AP API</td>
</tr>
<tr>
<td>LRAPALRT</td>
<td>Send An AP Alert After The Report Has Been Released</td>
</tr>
<tr>
<td>LRAPDA</td>
<td>Anatomic Path Data Entry</td>
</tr>
<tr>
<td>LRAPR</td>
<td>Anat Release Reports</td>
</tr>
<tr>
<td>LRAPRES1</td>
<td>AP ESIG Release Report/Alert</td>
</tr>
<tr>
<td>LRWOMEN</td>
<td>Link To Women’s Health Program</td>
</tr>
</tbody>
</table>
Appendix D: Notes

Various Notes in this document have been reproduced here in order to facilitate easier access to pertinent information.
D.1 Count Accessioned Tests Using Lab Data File

D.1.1 All options have been secured with the LRSUPER security key.

D.1.2 The BLRLUOPT option is not added to the BLRMENU by this patch. That must be done manually by the site.

D.2 BLRTASKS Option

D.2.1 The BLRTASKS option is not added to the BLRMENU by this patch. That must be done manually by the site.

D.3 Lab to PCC Linker Status

D.3.1 The BLRPCCST option is not added to the BLRMENU by this patch. That must be done manually by the site.

D.4 Lab "Ask At Order" (AAO)

D.4.1 Only those tests in File 60 with a "CH" subscript are allowed to be entered.

D.4.2 The Ask At Order questions will be presented to the user in the order they are entered into the Lab Ask At Order Dictionary (#90475.4).

D.4.3 The BLRAAAOMM Main Menu option has not been added to the BLRMENU by this patch. That must be done manually by the site.

D.4.4 The tasking of the BLRAAOEP option is the recommended method of purging the Lab Ask-At-Orders errors file.
**Glossary**

**Accession Area**
A functional area or department in the laboratory where specific tests are performed.

**Accession Number**
A unique alpha-numeric (combination of letters and numbers) assigned to an individual patient specimen when it is received in the laboratory.

**Alert**
Brief on-line notice issued to users as they complete a cycle through the menu system.

**ANSI**
American National Standards Institute. A private non-profit organization that oversees the development of voluntary consensus standards.

**API**
Application Program Interface. Program calls provided for use by application programmers in order to carry out standard computing activities without needing to duplicate utilities.

**ASCII**

**Bidirectional**
A two way exchange of data. In the case of reference laboratory interfaces, this refers to the electronic transfer of orders to an external reference laboratory and the electronic receipt of results into RPMS from that external reference laboratory.

**CPRS**
Computerized Patient Record System. The VA's Electronic Health Record (EHR).

**EHR**
Electronic Health Record. A system that integrates all elements of a patient's health history, including medications, lab work, x-rays, scans, EKGs, medical diagnoses, etc.
**Ensemble**

A single, architecturally consistent technology stack (integration server, data server, application server, and portal development software) used for running RPMS server applications and interfaces.

**EPI**

Emerging Pathogens Initiative. The VA's Infectious Disease Program Office Emerging Pathogens Initiative is used to identify new antibiotic-resistant and otherwise problematic pathogens within the Veterans Health Administration (VHA) facilities. Not used by IHS.

**File**

A set of related records or entries treated as a single unit.

**Filer**

An application specific routine that controls filing of HL7 messages to a designated RPMS application or to an external entity.

**FileMan**

The database management system for the VA's VistA system and IHS' RPMS system.

**Global**

In MUMPS, global refers to a variable stored on disk (global variable) or the array to which the global variable may belong (global array).

**HL7**


**IEN**

Internal Entry Number. A unique number used to identify an entry within a file.

**IHS**

Indian Health Service. An Operating Division (OPDIV) within the U.S. Department of Health and Human Services (HHS).

**Interface**

An interface is a tool and concept that refers to a point of interaction between components, and is applicable at the level of both hardware and software. It allows a component, whether a piece of hardware or a piece of software to function independently while using interfaces to communicate with other components via an input/output system and an associated protocol.
LEDI
The Veteran’s Administration’s Laboratory Electronic Data Interchange standard.

Link Manager
An HL7 tool in RPMS that allows monitoring and control of HL7 filers. Taskman must be running in order for the Link Manager to run.

Menu
A list of choices for computing activity. A menu is a type of option designed to identify a series of items (other options) for presentation to the user for selection. When displayed, menu-type options are preceded by the word “Select” and followed by the word “option” as in Select Menu Management option: (the menu’s select prompt).

MUMPS
Massachusetts General Hospital Utility Multi-Programming System. A procedural, interpreted general-purpose programming language oriented towards database applications.

NOIS
National Online Information Sharing. A computer program that provides a means of logging and tracking problems associated with the daily operation of computer systems within VistA. Not used by IHS.

Parameter
A name in a function or subroutine definition that is replaced by, or bound to, the corresponding actual argument when the function or subroutine is called.

<PARAMETER>
A Caché error caused by the number of parameters passed to a labeled routine by a user-written function reference or a DO command exceeding the number of formal parameters declared for the labeled line.

PCE
Patient Care Encounter. The VA’s system that helps sites collect, manage, and display outpatient encounter data (including providers, procedure codes, and diagnostic codes) in compliance with the 10/1/96 Ambulatory Care Data Capture mandate from the Under Secretary of Health. Not used by IHS.

POC
Point Of Care. A Laboratory test that is performed at the site of care (examination, treatment, diagnosis, etc.).
Production
An application-specific Ensemble component that can be configured to both translate and route HL7 messages to and from either RPMS applications or interfaces.

RPMS
Resource and Patient Management System. A suite of software applications used at IHS facilities to support administrative, clerical, and clinical functions.

<SYNTAX>
A Caché error caused by the malformation of a language construct, such as a misspelled or missing keyword.

<UNDEFINED>
A Caché error caused by a reference to an undefined variable.

VA
Veteran's Administration. United States Department of Veterans Affairs

VBECS
VistA Blood Establishment Computer Software. The VA's current Blood Bank software system. Not used by IHS.

VistA
The Veterans Health Information Systems and Technology Architecture. An enterprise-wide information system built around an Electronic Health Record (EHR), used throughout the VA medical system.
Acronym List

None
Contact Information

If you have any questions or comments regarding this distribution, please contact the OIT Help Desk (IHS).

**Phone:** (505) 248-4371 or (888) 830-7280 (toll free)

**Fax:** (505) 248-4363

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