RESOURCE AND PATIENT MANAGEMENT SYSTEM

Laboratory Reference

(BLR, LA, LR)

User Manual

Version 5.2 Patch 1038
February 2016

Office of Information Technology
Division of Information Technology

Table of Contents

1.0 Introduction

This document lists various changes to the RPMS Lab module that were brought about by IHS Lab Patch LR*5.2*1038.

The majority of the additions/changes to the RPMS Lab Package were made to accommodate RPMS Laboratory Package Enhancement requests. This patch will assist in adherence to regulatory requirements for laboratory software (Meaningful Use), assist with improving patient safety and improve workflow and business process issues for users of the RPMS Lab package.

Laboratory end users can expect to observe the following modifications and corrections in this 1st quarter release for calendar year 2016.

A modification to the ETIOLOGY FIELD (#61.2) file's ABBREVIATION FIELD to allow for a maximum of six characters. Prior to LR*5.2*1038, if an ABBREVIATION FIELD entry was deleted or modified, only five characters were allowed.

The IHS UCUM (#90465.3) file has been updated. The IHS UCUM entries are the link for the LABORATORY TEST file (#60) SITE/SPECIMEN field; sub-field UNITS.

The BLRTASKS interactive report located in the LR DHCP BLR menu, now displays the status of the HLZTCP background job. Prior to LR*5.2*1038, end users had to rely on site manager or have keys to review the RPMS System Status screen.

When verifying or approving for release laboratory results using the options EM or EA, the user's initials will now be masked by asterisks.

Multipurpose Accessioning Collection Date@Time prompt has been modified and no longer has the NOW default. This is similar to the Collection Date@Time prompt for the Accessioning by Provider Order Entry feature. End users will need to enter a correct collection date and time for laboratory test samples.

Prior to LR*5.2*1038, reference/critical ranges for patients less than 2 years of age were not adequately distinguished. This affected the correct result range flags and displays for test results entered through the EHR POC tab. With LR*5.2*1038, there is the addition of the new parameter BLR AGE DETAIL, the new BLR AGE DETAIL Parameter Edit option, the new BLRAGEED routine, as well as a code change in the BLRPOC routine. Now the AGE variable for POC tests can include a suffix that will distinguish the age of the patient.

The BLRTN routine, which is the routine that sends data from the Lab to PCC, has been modified to call a new BLR TNCON routine to correctly send CPT/HPCPCS codes. Previously, there was a logic flaw that would send the CPT file Internal Entry Number (IEN) for a CPT/HCPCS code in lieu of the correct CPT code.

A prior flaw in the Interim Reports routine would prevent the last page of an interim report from printing the laboratory address lines for a new testing site. The routines LRRP1 and LRRPS2 have been corrected. The final Interim Report result page will display all performing laboratory addresses.

A new estimated Glomerular Filtration Rate (eGFR) has been added as an interactive functionality for sites selecting to use the CKD-EPI eGFR calculation for creatinine based kidney function. End users will have the option and ability to create a new DELTA CHECK file (#62.1) interactively for CKD-EPI eGFR, with the user selecting the local CREATININE test as well as naming the new delta check.

Three RPMS Laboratory Supervisor Reports can be tasked to print as indicated by the end user in lieu of manually queuing or printing. These reports are the Changes in Verified Lab Data, High/Low Laboratory Values and Critical Values.

There has been a change to the BLRLINKU routine that gathers information sent from the Laboratory Package to the PCC. The BLRLINKU routine now checks several places to find test units and reference ranges that had been previously missing, instead of just one routine.

2.0 ETIOLOGY FIELD (#61.2) file's ABBREVIATION field size change

The ETIOLOGY FIELD (#61.2) file's ABBREVIATION field size has been modified to allow up to six characters. It had previously only allowed up to five characters.

3.0 IHS UCUM (#90475.3) file updated

The IHS UCUM (#90475.3) file has been updated with new terms.

3.1 New Terms Listing

The following are the new terms added to the IHS UCUM file. Local end users should NOT be adding to the UCUM file. This will be completed by IHS OIT patch updates. Reference the IHS OIT LR*5.2*1028 (October 2011) User's Guide for additional Unified Code for Units of Measure information.

```
Select IHS UCUM: AU/ML  AU/mL
UCUM: AU/mL//

Select IHS UCUM:    ug/mL{FEU}
UCUM: ug/mL{FEU}//

Select IHS UCUM:    ug/L{DDU}
UCUM: ug/L{DDU}//

Select IHS UCUM:    ng/mL{FEU}
UCUM: ng/mL{FEU}//
```

4.0 HLZTCP Job Status

The ability to monitor the status of the HLZTCP RPMS Lab Interface job was restricted to those users with the ability to show a system status report.

A modification to the BLRTASKS interactive report (see LR*5.2*1033 documentation, section 5: Determine If Required RPMS Lab Options Tasked Report) will now show the status of the HLZTCP job.

4.1 Previous BLRTASKS Interactive Report

The previous version of the interactive BLRTASKS report listed the Lab tasks that needed to be current. It is accessed via the LABT option on the BLRMENU.

```
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
   6249   Display File 62.49 HL7 Segments
   BZY    IHS Taskman Busy Device Rpt
   CLR    Clear BLR errors from error log
   CUM    IHS CUMULATIVE MENU ...
   DADD   Add Completed Date to Accession Tests
   EDCC   BLR CC DATA Parameter Edit
   ETP    LA7 Message Queue Error Messages to Purgeable
   IHSM   IHS Lab Microbiology Report
   ILUM   IHS LOINC/UCUM MENU ...
   LABT   Determine if Required RPMS Lab Options Tasked
   LOI    IHS Lab Package LOINC Percentage Report

               Press 'RETURN' to continue, '^' to stop:
   LRAS   Accession IHS Lab Microbiology Report
   LROS   Order/test status by Order Number
   LTRR   Laboratory Test (#60) File's Reference Ranges
   LVP    IHS Lab Version & Patch Report
   MMR    Lab Description Abbreviation Report
   NLO    Lab Tests Without LOINC Entries Report
   ORPH   Remove Orphans from # 68
   ORPR   BROWSER REPORT ON ORPHANS FROM # 68
   POCA   Edit BLR AGE DETAIL Parameter
   RBE    Clear ALL BLR Errors from Error Log
   REFL   Reference Lab Main Menu ...
   REPL   Replace Lab Order/Test Status Report ...
   SHDR   State Health Dept Report
          Count Accessioned Tests Using Lab Data File ...
```

```
          IHS Lab Ask-At-Order ...

Select IHS Lab Main Support Menu Option:
```

Figure 4-1: Example BLRMENU

Once the LABT option is selected, the report is displayed.

```
                          2013 DEMO HOSPITAL (CMBA)
Date:12/18/15          Latest IHS Lab Patch: LR*5.2*1035
Time:7:15 AM
SCRNREPT       Latest IHS Lab Patch Install Date: 07/31/15 06:30
BLRTASKS
                               LABORATORY TASKS
                           TODAY:3151218   [12/18/2015]

OPTION                    TASK      SCHDDATE     $$FMTE SCHDDATE
Sched
--------------------------------------------------------------------------------
-----
BLRTASK LAB LOG CLEANUP  461982    3151218.213   12/18/2015 9:30 PM
1D
LA7TASK NIGHTY           461956    3151218.203   12/18/2015 8:30 PM
1D
LRTASK NIGHTY            462195    3151219.0005  12/19/2015 12:05 AM
1D
LRTASK ROLLOVER          462473    3151219.053   12/19/2015 5:30 AM
1D

         Press RETURN Key:
```

Figure 4-2: Example version of the BLRTASKS interactive report

4.2 New BLRTASKS Interactive Report

Modifications to the BLRTASKS routine were made that will now display the status of the HLZTCP job at the bottom of the report once the LABT option is selected.

```
                          2013 DEMO HOSPITAL (CMBA)
Date:12/18/15          Latest IHS Lab Patch: LR*5.2*1035
Time:7:18 AM
SCRNREPT       Latest IHS Lab Patch Install Date: 07/31/15 06:30
BLRTASKS
                               LABORATORY TASKS
                           TODAY:3151218   [12/18/2015]

OPTION                    TASK      SCHDDATE     $$FMTE SCHDDATE
Sched
--------------------------------------------------------------------------------
-----
BLRTASK LAB LOG CLEANUP  461982    3151218.213   12/18/2015 9:30 PM
1D
LA7TASK NIGHTY           461956    3151218.203   12/18/2015 8:30 PM
1D
LRTASK NIGHTY            462195    3151219.0005  12/19/2015 12:05 AM
1D
```

```
LRTASK ROLLOVER          462473    3151219.053   12/19/2015 5:30 AM
1D

                              HLZTCP is NOT running.

         Press RETURN Key:
```

Figure 4-3: Example BLRTASKS report showing HLZTCP status.

> **Note**: If the laboratory has an inter-laboratory interface and the HLZTCP (Background Task) is NOT running, contact the local IT Department or local Lab Package Consultant to 'Initiate the Background Task'.

5.0 Approve for release by entering your initials prompt will mask initials

When approving results, Figure 5-1 would display a user's initials when entered.

```
Approve for release by entering your initials:
```

Figure 5-1: Approval prompt

Modifications to the LRVER3 routine have been made that will now mask the input initials with asterisks (*).

5.1 Example of previous method of entering initials

Previously, when a user entered their initials they would display on the screen, similar to the following:

```
Approve for release by entering your initials: TTT
```

Figure 5-2: Approval prompt

5.2 Example of current method of entering initials

Currently when a user enters their initials, they will be masked by asterisks, similar to the following:

```
Approve for release by entering your initials: ***
```

Figure 5-3 : Approval prompt

6.0 Multipurpose Accessioning Collection Date@Time prompt no longer has NOW default

The Collection Date@Time prompt for Multipurpose Accessioning will no longer have NOW as a default option after modifications to the LROE routine.

6.1 Previous Collection Date@Time prompt

Prior to the LROE modifications, the prompt would be similar to the following:

```
Collection Date@Time: NOW//
```

Figure 6-1: Example of previous Collection Date@Time prompt

6.2 Current Collection Date@time prompt

After the modifications to the LROE routine, the prompt is similar to the following, but only for Multipurpose Accessioning.

```
Collection Date@Time:
```

Figure 6-2: Example of current Collection Date@Time prompt

Note:	If a Collection Date@Time is not entered, the order will be cancelled. End users must exit out to the Accessioning Menu and begin anew with the Multipurpose Accessioning option. Failure to do this will cause all subsequent orders/accessions to not be completed. They will be deleted regardless if an appropriate Date@Time is entered.

7.0 EHR Point of Care (POC) Tests' Reference Range(s) AGE Variable Suffix

Prior to LR*5.2*1038, the AGE variable data available for the Point of Care (POC) tests' Reference Range Mumps code was inadequate in that it was not possible to distinguish a 9 month old child from a newborn as both would have an AGE variable of zero.

With the addition of the new parameter BLR AGE DETAIL, the new BLR AGE DETAIL Parameter Edit option, the new BLRAGEED routine, as well as a code change in the BLRPOC routine, the AGE variable for POC tests can include a suffix that will distinguish the age of the patient.

7.1 BLR AGE DETAIL Parameter

The new BLR AGE DETAIL parameter can be likened to an on/off switch for turning on the suffix additions to the AGE variable. It has a value of YES or NO.

The details of the new parameter are as follows:

```
NAME: BLR AGE DETAIL
  DISPLAY TEXT: IHS Lab AGE var With YRS or MOS or DYS
  MULTIPLE VALUED: No                   VALUE DATA TYPE: yes/no
 DESCRIPTION:
 If YES it means that the AGE variable needs to have MOS if toddler or DYS
 if newborn or YRS if AGE > 2 years.
PRECEDENCE: 953                         ENTITY FILE: PACKAGE
```

Figure 7-1: BLR AGE DETAIL Parameter

The PRECEDENCE value of 953 is arbitrary and may be changed by the site.

7.2 BLR AGE DETAIL Parameter Edit Option

The new option, BLR AGE DETAIL Parameter Edit, with the LRSUPER security key, will be added to the BLRMENU with the POCA option name.

The BLRMENU with the addition will look similar to 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
   6249   Display File 62.49 HL7 Segments
   BZY    IHS Taskman Busy Device Rpt
   CLR    Clear BLR errors from error log
   CUM    IHS CUMULATIVE MENU ...
   DADD   Add Completed Date to Accession Tests
   EDCC   BLR CC DATA Parameter Edit
   ETP    LA7 Message Queue Error Messages to Purgeable
   IHSM   IHS Lab Microbiology Report
   ILUM   IHS LOINC/UCUM MENU ...
   LABT   Determine if Required RPMS Lab Options Tasked
   LOI    IHS Lab Package LOINC Percentage Report

               Press 'RETURN' to continue, '^' to stop:
   LRAS   Accession IHS Lab Microbiology Report
   LROS   Order/test status by Order Number
   LTRR   Laboratory Test (#60) File's Reference Ranges
   LVP    IHS Lab Version & Patch Report
   MMR    Lab Description Abbreviation Report
   NLO    Lab Tests Without LOINC Entries Report
   ORPH   Remove Orphans from # 68
   ORPR   BROWSER REPORT ON ORPHANS FROM # 68
   POCA   Edit BLR AGE DETAIL Parameter
   RBE    Clear ALL BLR Errors from Error Log
   REFL   Reference Lab Main Menu ...
   REPL   Replace Lab Order/Test Status Report ...
   SHDR   State Health Dept Report
          Count Accessioned Tests Using Lab Data File ...
          IHS Lab Ask-At-Order ...

Select IHS Lab Main Support Menu Option:
```

Figure 7-2: BLRMENU with BLR AGE DETAIL Parameter Edit option added

7.2.1 BLR AGE DETAIL Parameter Edit Option Selection

Selecting the POCA option will call the BLRAGEED routine that will allow a user to edit the parameter. The user will be presented with a screen similar to the following:

```
                             2013 DEMO HOSPITAL (CMBA)
Date:12/18/15                      IHS Laboratory
Time:11:56 AM
                              BLR AGE DETAIL Parameter
                                    Modify Value
------------------------------------------------------------------------------
-----

BLR AGE DETAIL (YES/NO)? YES//
```

Figure 7-3: BLR AGE DETAIL Parameter Edit Option screen

The default value is the parameter's current value. If the parameter does not have a value, the screen will look similar to the following:

```
                             2013 DEMO HOSPITAL (CMBA)
```

```
Date:12/18/15                    IHS Laboratory
Time:11:56 AM
                            BLR AGE DETAIL Parameter
                                  Modify Value
------------------------------------------------------------------------------
-----

BLR AGE DETAIL (YES/NO)?
```

Figure 7-4: BLR AGE DETAIL Parameter Edit Option screen with no current value.

If the user types a caret or sometimes referred to as an up-hat (^) to exit the screen, the BLR AGE DETAIL parameter will not be modified.

```
                           2013 DEMO HOSPITAL (CMBA)
Date:12/18/15                    IHS Laboratory
Time:12:04 PM
                            BLR AGE DETAIL Parameter
                                  Modify Value
------------------------------------------------------------------------------
-----

BLR AGE DETAIL (YES/NO)? ^

    Invalid/No Entry/Quit. Routine Ends.

         Press RETURN Key:
```

Figure 7-5 : BLR AGE DETAIL Parameter Edit Option screen with no current value.

The user may enter **Y** or **YES** or **N** or **NO**. All are valid. Once the parameter has been modified, the current value of the parameter will be displayed.

For example, if the value is changed from YES to NO, the user would be presented with a screen similar to the following:

```
                           2013 DEMO HOSPITAL (CMBA)
Date:12/18/15                    IHS Laboratory
Time:12:12 PM
                            BLR AGE DETAIL Parameter
                                  Modify Value
------------------------------------------------------------------------------
-----

BLR AGE DETAIL (YES/NO)? YES// NO

    BLR AGE DETAIL Parameter is currently NO

         Press RETURN Key:
```

Figure 7-6: BLR AGE DETAIL Parameter Edit Option screen with no current value

7.3 POC AGE Variable Suffix Values

The POC AGE variable values that will include a suffix has a breakdown as follows if and only if the BLR AGE DETAIL parameter is YES.

Age	AGE Variable Suffix	Example	AGE Variable Example
< 1 month	DYS	3 days old	3 DYS
>=1 month to 2 years	MOS	17 month old	17 MOS
>= 2 years	YRS	35 year old	35 YRS

7.4 POC Tests' Reference Ranges

Note that the Age Detail code in the POC routines act immediately to any changes to the BLR AGE DETAIL parameter.

If the BLR AGE DETAIL parameter is YES, then the Mumps code in any POC test's Reference Range fields that uses the AGE variable must be modified to take into account the suffixes that will exist for the AGE variable.

8.0 CPT/HPCPS Codes Fix

Prior to LR*5.2*1038, there was a logic flaw in the BLRTN routine, which is the routine that sends data from Lab to PCC. The routine assumed that the Internal Entry Number (IEN) of a CPT code from the CPT (#81) file was also the value of the CPT code and would send the IEN to PCC.

That was a correct assumption when the routine was originally written in the 1990s, but this is no longer the case.

For example, today the CPT Code 0309T could have an IEN of 99497.

The BLRTN routine was modified to call the new BLRTNCON routine so that the CPT code would be retrieved from the CPT (#81) file and sent to PCC instead of the IEN.

EXAMPLE OF AN IHS LAB Transaction Sequence:

```
SEQUENCE NUMBER: 1322                    LRFILE: 2
  PATIENT POINTER VALUE: 11189           PANEL/TEST POINTER: POC HEMATOCRIT
  LAB MODULE: GENERAL                    DUZ(2): 2906
  I/O CATEGORY: IN PATIENT               STATUS FLAG: RESULTED
  ENTRY DATE/TIME: JAN 12, 2016@16:03:57
  ASSOCIATED V FILE: V LAB               IEN OF V FILE ENTRY: 4285541
  CLINIC STOP CODE POINTER: DAY SURGERY
  CPT LAB CODE POINTER: PAH Hct
  BILLING CPT STRING: 85014|||||;0309T|||||
  CLINICAL INDICATOR: 406636013          ORDER DATE: JAN 12, 2016@16:03:55
  ORDER SEQUENCE NUMBER: 14             ORDER NUMBER: 2100
  ORDERING PROVIDER POINTER: WHITE,LESLIE
  ORDERING LOCATION POINTER: DAY SURGERY
  COLLECTION DATE/TIME: JAN 10, 2016@18:00
  ACCESSION NUMBER: HE 16 7        COLLECTION SAMPLE POINTER: BLOOD (EDTA)
  COMPLETE DATE: JAN 12, 2016@16:04      LOINC CODE: 20570
  IHS LOINC: 4544                                PROVIDER NARRATIVE:
Anemia
  SNOMED: 406636013                           ICD: D64.9
  RESULT: 45                                        UNITS: %
```

Figure 8-1: IHS Lab Transaction Sequence

9.0 Interim Reports Address Lines on Last Page

A logic flaw in the LRRP1 and LRRP2 routines would prevent the last page of an interim report from printing the address lines of the sites involved in resulting the tests. The logic flaw has been corrected.

Pre LR*5.2*1038:

```
Printed at:                                                    page 3
                  PRECERT OIT TRAINING DATA BASE FOR NEW USER
                DR. RADON, LABORATORY DIRECTOR FOR CLINICAL LAB

DEMO,LOUIS                                    Date/Time Printed:
01/20/16@15:16
     HRCN:138425    SEX:M  DOB:Apr 29, 1988  CURRENT AGE:27     LOC:DEMO
CLINIC
Accession [UID]: CH 0105 4 [1060050004]
     Provider: WHITE,LESLIE
     Specimen:BLOOD                        Spec Collect
Date/Time:01/05/16@15:52
                          Res
Test name         Result Flg units         Ref.   range     Site  Result
Dt/Time
_HA1c                5.2     %                4.5 - 6.2       [2906]
01/05/16@16:35
eAG                 103.0     mg/dL         74 - 110        [2906]
01/05/16@16:35
==========================================================================
        KEY: A=Abnormal          L=Abnormal Low          H=Abnormal High
                  *=Critical value          TR=Therapeutic Range

Select Patient Name:
```

POST LR*5.2*1038:

```
DEMO,LOUIS                       HRCN:138425   1/20/2016     PRESS '^' TO
STOP
Printed at:                                                    page 16
                         DR SMITH LABORATORY DIRECTOR
                       801 THOMPSON AVE ROCKVILLE MD 20852

DEMO,LOUIS                                    Date/Time Printed:
01/20/16@15:21
     HRCN:138425    SEX:M  DOB:Apr 29, 1988  CURRENT AGE:27     LOC:DEMO
CLINIC

                         >> CONTINUATION OF CH 15 115 <<
                            Res
Test name          Result Flg units         Ref.   range     Site  Result
Dt/Time
_POTASSIUM    3.3  L  mmol/L        3.5 - 5.1       [2906] 10/29/15@12:09
_CHLORIDE      113  H  mmol/L        95 - 110        [2906] 10/29/15@12:09
_CO2                  33  H  mmol/L        23 - 29         [2906]
10/29/15@12:09
==========================================================================
        KEY: A=Abnormal          L=Abnormal Low          H=Abnormal High
                  *=Critical value          TR=Therapeutic Range
```

```
[2906]  2013 DEMO HOSPITAL (CMBA)   90001 1ST AVE   WASHINGTON, DC 20000
[8190]  QUEST DIAGNOSTICS   4770 REGENT BLVD   IRVING, TX
[12353] LABCORP   7207 NORTH GESSNER   HOUSTON, TX 77040-3143


Select Patient Name:
```

10.0 Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI)

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) on their web site (http://www.niddk.nih.gov/health-information/health-communication-programs/nkdep/lab-evaluation/gfr/estimating/Pages/estimating.aspx) states:

A laboratory that reports eGFR numeric values greater than (>) 60 mL/min/1.73 m2 should use the CKD-EPI equation, because the CKD-EPI equation is more accurate for values greater than (>) 60 mL/min/1.73 m2 than is the MDRD Study equation. However, the influence of imprecision of creatinine assays on the uncertainty of an eGFR value is greater at higher eGFR values and should be considered when determining the highest eGFR value to report.

The current GFR delta checks in RPMS Lab use the MDRD Study equation and, as such, do not report any values greater than (>) 60.

10.1 CKD-EPI Algorithm

The algorithm for the CKD-EPI GFR is as follows:

GFR = 141 × min (Scr/κ, 1)α× max(Scr/κ, 1)-1.209× 0.993Age× 1.018 [if female] × 1.159 [if black]

where:

Scr is serum creatinine in mg/dL,

κ is 0.7 for females and 0.9 for males,

α is -0.329 for females and -0.411 for males,

min indicates the minimum of Scr/κ or 1, and

max indicates the maximum of Scr/κ or 1.

The CKD-EPI GFR algorithm will be added to RPMS with LR*5.2*1038.

10.2 NIDDK Caveats

From the NIDDK website:

Creatinine-based estimating equations may not be suitable for all populations. Creatinine-based estimates of kidney function are only useful when renal function is stable. Serum creatinine values obtained while kidney function is changing will not provide accurate estimates of kidney function.

Creatinine-based estimating equations are not recommended for use with:

- Individuals with unstable creatinine concentrations. This includes pregnant women; patients with serious co-morbid conditions; and hospitalized patients, particularly those with acute renal failure. Creatinine-based estimating equations should be used only for patients with stable creatinine concentrations.
- Persons with extremes in muscle mass and diet. This includes, but is not limited to, individuals who are amputees, paraplegics, bodybuilders, or obese; patients who have a muscle-wasting disease or a neuromuscular disorder; and those suffering from malnutrition, eating a vegetarian or low-meat diet, or taking creatinine dietary supplements.

Application of the equation to these patient groups may lead to errors in GFR estimation. GFR estimating equations have poorer agreement with measured GFR for ill hospitalized patients than for community-dwelling patients.

10.3 BLREXEC3 Routine

The BLREXEC3 routine is the routine that must be used if a site wants to use the CKD-EPI eGFR.

10.4 New BLREXEC3 options

Two new options regarding the CKD-EPI eGFR will be added to the Options (#19) file via LR*5.2*1038.

Both new options will be added to the BLRMENU during the post install phase of the LR*5.2*1038 install. They will also both be locked by the LRSUPER security key; i.e., only those users with the LRSUPER key will be allowed to use the options.

10.4.1 BLR CKD-EPI DELTA CHECK option

The BLR CKD-EPI DELTA CHECK option will allow a user to create the new CKD-EPI eGFR interactively, with the user selecting the CREATININE test to use as well as naming the new delta check.

The BLR CKD-EPI DELTA CHECK option will be added to the BLRMENU with the CGFR mnemonic.

10.4.2 BLR CKD-EPI TEST Option

The BLR CKD-EPI TEST option will allow the user to test the CKD-EPI algorithm by asking the user a series of question before displaying the results.

The BLR CKD-EPI TEST option will be added to the BLRMENU with the TGFR mnemonic.

10.4.3 Example BLRMENU with the New Options.

```
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
   6249   Display File 62.49 HL7 Segments
   BZY    IHS Taskman Busy Device Rpt
   CGFR   Create CKD-EPI Equation Delta Check
   CLR    Clear BLR errors from error log
   CUM    IHS CUMULATIVE MENU ...
   DADD   Add Completed Date to Accession Tests
   EDCC   BLR CC DATA Parameter Edit
   ETP    LA7 Message Queue Error Messages to Purgeable
   IHSM   IHS Lab Microbiology Report
   ILUM   IHS LOINC/UCUM MENU ...
   LABT   Determine if Required RPMS Lab Options Tasked

               Press 'RETURN' to continue, '^' to stop:
   LOI    IHS Lab Package LOINC Percentage Report
   LRAS   Accession IHS Lab Microbiology Report
   LROS   Order/test status by Order Number
   LTRR   Laboratory Test (#60) File's Reference Ranges
   LVP    IHS Lab Version & Patch Report
   MMR    Lab Description Abbreviation Report
   NLO    Lab Tests Without LOINC Entries Report
   ORPH   Remove Orphans from # 68
   ORPR   BROWSER REPORT ON ORPHANS FROM # 68
   POCA   Edit BLR AGE DETAIL Parameter
   RBE    Clear ALL BLR Errors from Error Log
   REFL   Reference Lab Main Menu ...
   REPL   Replace Lab Order/Test Status Report ...
   SHDR   State Health Dept Report
   TGFR   Test CKD-EPI Equation Logic
          Count Accessioned Tests Using Lab Data File ...
          IHS Lab Ask-At-Order ...

Select IHS Lab Main Support Menu Option:
```

Figure 10-1: BLRMENU Example

10.5 Example of Creating the CKD-EPI Delta Check

The creation of the new CKD-EPI Delta check is an interactive process.

10.5.1 Creatinine and CKD-EPI EGFR Tests

The Creatinine and CKD-EPI EGFR tests must first be created prior to starting the delta check creation process.

> **Note**: The DATA NAME for the CKD-EPI eGFR (test) should be a FREE TEXT type with a minimum of 1 character, maximum of 6 characters. Failure to use a FREE TEXT input or type will lead to problems with value input for patients younger than 18 years of age.

10.5.2 Selecting CGFR on the BLRMENU

The first step in creating the new CKD-EPI eGFR delta check is to select the CGFR Create CKD-EPI Equation Delta Check on the BLRMENU:

```
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
   6249   Display File 62.49 HL7 Segments
   BZY    IHS Taskman Busy Device Rpt
   CGFR   Create CKD-EPI Equation Delta Check
   CLR    Clear BLR errors from error log
   CUM    IHS CUMULATIVE MENU ...
   DADD   Add Completed Date to Accession Tests
   EDCC   BLR CC DATA Parameter Edit
   ETP    LA7 Message Queue Error Messages to Purgeable
   IHSM   IHS Lab Microbiology Report
   ILUM   IHS LOINC/UCUM MENU ...
   LABT   Determine if Required RPMS Lab Options Tasked

               Press 'RETURN' to continue, '^' to stop:
   LOI    IHS Lab Package LOINC Percentage Report
   LRAS   Accession IHS Lab Microbiology Report
   LROS   Order/test status by Order Number
   LTRR   Laboratory Test (#60) File's Reference Ranges
   LVP    IHS Lab Version & Patch Report
   MMR    Lab Description Abbreviation Report
   NLO    Lab Tests Without LOINC Entries Report
   ORPH   Remove Orphans from # 68
```

```
   ORPR   BROWSER REPORT ON ORPHANS FROM # 68
   POCA   Edit BLR AGE DETAIL Parameter
   RBE    Clear ALL BLR Errors from Error Log
   REFL   Reference Lab Main Menu ...
   REPL   Replace Lab Order/Test Status Report ...
   SHDR   State Health Dept Report
   TGFR   Test CKD-EPI Equation Logic
          Count Accessioned Tests Using Lab Data File ...
          IHS Lab Ask-At-Order ...

Select IHS Lab Main Support Menu Option:CGFR
```

Figure 10-2: Selecting CGFR from the BLRMENU Example.

10.5.3 Entering the test that will store the results of the Delta Check

In this example, the test to store the results is CKD-EPI ESTIMATED GFR.

```
                          2013 DEMO HOSPITAL (CMBA)
Date:12/21/15                       IHS LAB
Time:1:15 PM
NEWDELTA                 CKD-EPI Delta Check Creation
BLREXEC3
-------------------------------------------------------------------------
-----

Test to hold CKD-EPI Results: CKD-EPI ESTIMATED GFR
```

Figure 10-3: Results test

10.5.4 Entering the Creatinine test

In this example, the creatinine test is LAB CREATININE.

```
                          2013 DEMO HOSPITAL (CMBA)
Date:12/21/15                       IHS LAB
Time:1:16 PM
NEWDELTA                 CKD-EPI Delta Check Creation
BLREXEC3
-------------------------------------------------------------------------
-----

Creatinine Test to use for CKD-EPI calculation: LAB CREATININE
```

Figure 10-4: Creatinine test

10.5.5 Naming the CKD-EPI eGFR Delta Check

In this example, the delta check will be named CKD-EPI EGFR.

```
                          2013 DEMO HOSPITAL (CMBA)
Date:12/21/15                       IHS LAB
Time:1:16 PM
NEWDELTA                 CKD-EPI Delta Check Creation
BLREXEC3
```

```
------------------------------------------------------------------------
-----

Name of the Delta Check: CKD-EPI EGFR
```

Figure 10-5: Naming the delta check

10.5.6 Creation of the Delta Check

Once all the parameters are entered, the routine will display its progress, similar to the following:

```
                            2013 DEMO HOSPITAL (CMBA)
Date:12/21/15                         IHS LAB
Time:1:16 PM
NEWDELTA                   CKD-EPI Delta Check Creation
BLREXEC3
------------------------------------------------------------------------
-----

Adding CKD-EPI EGFR to Delta Check Dictionary.

     CKD-EPI EGFR Delta Check added to Delta Check Dictionary.

     CKD-EPI EGFR Delta Check DESCRIPTION added to Delta Check Dictionary.

     CKD-EPI EGFR Delta Check TEXT added to Delta Check Dictionary.

         Press RETURN Key:
```

Figure 10-6: Delta Check creation

10.5.7 Delta Check Listing

In this example, the delta check CKD-EPI EGFR would look like the following in the Delta Check dictionary:

```
VA FileMan 22.0

Select OPTION: INQUIRE TO FILE ENTRIES


OUTPUT FROM WHAT FILE: LABORATORY TEST// DELTA CHECKS
                                          (38 entries)
Select DELTA CHECKS NAME: CKD-EPI EGFR
ANOTHER ONE:
STANDARD CAPTIONED OUTPUT? Yes//   (Yes)
Include COMPUTED fields:  (N/Y/R/B): NO//  - No record number (IEN), no
Computed
 Fields

NAME: CKD-EPI EGFR
  XECUTABLE CODE: S %X="" X:$D(LRDEL(1)) LRDEL(1) W:$G(%X)'="" "  CKD-EPI
Calcul
ated GFR:",%X S:LRVRM>10 LRSB($$GETDNAM^BLREXEC2("CKDEPI EGFR"))=%X K
%,%X,%Y,%Z
```

```
,%ZZ
  OVERFLOW 1: S %ZZ=$$GETDNAM^BLREXEC2("LAB CREATININE") X:LRVRM>10 "F
%=%ZZ S %
X(%)=$S(%=LRSB:X,$D(LRSB(%)):+LRSB(%),1:0)" X:LRVRM>10 "F %=%ZZ S
%X(%)=$S($D(LR
SB(%)):LRSB(%),1:0)" S %X=$$CKDEPI^BLREXEC3(X)
 DESCRIPTION:   This delta check, when added to a test named
      LAB CREATININE
 will calculate an estimated Glomerular Filtration Rate (GFR) using the
CKD-EPI
 equation.

 The CKD-EPI Equation's result will be stuffed into the test called
      CKD-EPI ESTIMATED GFR

 Creatinine-based estimating equations are not recommended for use with:

      Individuals with unstable creatinine concentrations. This includes
      pregnant women; patients with serious co-morbid conditions; and
      hospitalized patients, particularly those with acute renal failure.
      Creatinine-based estimating equations should be used only for
      patients with stable creatinine concentrations.

      Persons with extremes in muscle mass and diet. This includes, but
      is not limited to, individuals who are amputees, paraplegics, body

Enter RETURN to continue or '^' to exit:
      builders, or obese; patients who have a muscle-wasting disease or
      a neuromuscular disorder; and those suffering from malnutrition,
      eating a vegetarian or low-meat diet, or taking creatine dietary
      supplements.
SITE NOTES DATE: DEC 21, 2015
 TEXT:   Created by KRING,MICHAEL     DUZ:2859



Select DELTA CHECKS NAME:
```

Figure 10-7: CKD-EPI EGFR Delta Check Listing

10.5.8 Adding the new Delta Check to the Creatinine Test

Once the new delta check has been created, it must be added to the creatinine test.

```
VA FileMan 22.0


Select OPTION: ENTER OR EDIT FILE ENTRIES



INPUT TO WHAT FILE: DELTA CHECKS// 60  LABORATORY TEST
                                          (3369 entries)
EDIT WHICH FIELD: ALL// SITE/SPECIMEN    (multiple)
   EDIT WHICH SITE/SPECIMEN SUB-FIELD: ALL// TYPE OF DELTA CHECK
   THEN EDIT SITE/SPECIMEN SUB-FIELD:
THEN EDIT FIELD:
```

```
Select LABORATORY TEST NAME: LAB CREATININE
Select SITE/SPECIMEN: PLASMA//
  TYPE OF DELTA CHECK: CKD-EPI EGFR
Select SITE/SPECIMEN:


Select LABORATORY TEST NAME:




Select OPTION:
```

Figure 10-8: Adding Delta Check to the creatinine test

10.6 Testing the CKD-EPI algorithm using the TGFR option

It is possible to test the logic of the CKD-EPI algorithm that is stored in RPMS by selecting the TGFR option on the BLRMENU. It is an iterative process that will require the user to enter four pieces of information and then it will display the result.

There are numerous CKD-EPI calculators on the web that can be used to "double-check" the algorithm.

For example
https://www.merckmanuals.com/medical-calculators/GFR_CKD_EPI.htm

10.6.1 Selecting the TGFR option on the BLRMENU

```
Select Laboratory DHCP Menu Option: BLR  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
   6249   Display File 62.49 HL7 Segments
   BZY    IHS Taskman Busy Device Rpt
   CGFR   Create CKD-EPI Equation Delta Check
   CLR    Clear BLR errors from error log
   CUM    IHS CUMULATIVE MENU ...
   DADD   Add Completed Date to Accession Tests
   EDCC   BLR CC DATA Parameter Edit
   ETP    LA7 Message Queue Error Messages to Purgeable
   IHSM   IHS Lab Microbiology Report
   ILUM   IHS LOINC/UCUM MENU ...
   LABT   Determine if Required RPMS Lab Options Tasked

             Press 'RETURN' to continue, '^' to stop:
   LOI    IHS Lab Package LOINC Percentage Report
```

```
   LRAS   Accession IHS Lab Microbiology Report
   LROS   Order/test status by Order Number
   LTRR   Laboratory Test (#60) File's Reference Ranges
   LVP    IHS Lab Version & Patch Report
   MMR    Lab Description Abbreviation Report
   NLO    Lab Tests Without LOINC Entries Report
   ORPH   Remove Orphans from # 68
   ORPR   BROWSER REPORT ON ORPHANS FROM # 68
   POCA   Edit BLR AGE DETAIL Parameter
   RBE    Clear ALL BLR Errors from Error Log
   REFL   Reference Lab Main Menu ...
   REPL   Replace Lab Order/Test Status Report ...
   SHDR   State Health Dept Report
   TGFR   Test CKD-EPI Equation Logic
          Count Accessioned Tests Using Lab Data File ...
          IHS Lab Ask-At-Order ...

Select IHS Lab Main Support Menu Option: TGFR  Test CKD-EPI Equation Logic
```

Figure 10-9: Selecting the TGFR option on the BLRMENU

10.6.2 Sex Selection

In this example, Female is selected.

```
                            2013 DEMO HOSPITAL (CMBA)
Date:12/21/15                         IHS LAB
Time:1:54 PM
                             CKD-EPI Equation Testing
-------------------------------------------------------------------------
-----


     Select Sex:
          1: FEMALE
          2: MALE
          3: UNKNOWN


               SEX: 1  F
```

Figure 10-10: Select Sex

10.6.3 Age Selection

In this example, 35 was entered.

```


                            2013 DEMO HOSPITAL (CMBA)
Date:12/21/15                         IHS LAB
Time:1:54 PM
                             CKD-EPI Equation Testing
-------------------------------------------------------------------------
-----
     Select Age:
```

```
               AGE:  (18-150): 35
```

Figure 10-11: Age entered

10.6.4 Race Selection

In this example, white was selected.

```
                            2013 DEMO HOSPITAL (CMBA)
Date:12/21/15                         IHS LAB
Time:1:54 PM
                             CKD-EPI Equation Testing
------------------------------------------------------------------------------
-----
     Select Race:
               RACE: W
     1   WHITE       W     2106-3
     2   WHITE, NOT OF HISPANIC ORIGIN       6         ** INACTIVE **
CHOOSE 1-2: 1  WHITE     W     2106-3
```

Figure 10-12: Race Selected

10.6.5 Creatinine Result

In this example, 1.5 was entered.

```


                            2013 DEMO HOSPITAL (CMBA)
Date:12/21/15                         IHS LAB
Time:1:54 PM
                             CKD-EPI Equation Testing
------------------------------------------------------------------------------
-----

               Enter Creatinine Value (mg/dL Units):  1.5
```

Figure 10-13: Race Selected

10.6.6 CKD-EPI eGFR Result

Once all four pieces of information are entered, the algorithm will display results.

```
                            2013 DEMO HOSPITAL (CMBA)
Date:12/21/15                         IHS LAB
Time:1:54 PM
                             CKD-EPI Equation Testing
------------------------------------------------------------------------------
-----


         For SEX:F; AGE:35; RACE:WHITE
             Creatinine:1.5 mg/dL

              CKD-EPI Equation's Estimated GFR = 44.67
```

```
                Again? NO//
```

Figure 10-14: CKD-EPI eGFR Results

Note that if the "AGAIN?" prompt is answered **YES**, the process repeats.

11.0 Three Supervisor Reports Can Be Tasked

Three supervisor reports can now be tasked:

- Changes in verified lab data
- Search for high/low values of a test
- Search for critical value flagged tests

In order to be tasked, however, the report routines had to be copied and modified, a new file created to hold the parameters, and three new options created.

11.1 Three Routines

The three routines are:

- BLRUER - Error Tracking Tasked Report
- BLRSORA - High/Low Value Tasked Report
- BLRSORC - Critical Value Tasked Report

They cannot be run except by being tasked.

11.2 Three Options

The three options are:

- IHS LAB BLRUER TASK
- IHS LAB BLRSORA TASK
- IHS LAB BLRSORC TASK

All three options have the field SCHEDULING RECOMMENDED set to YES.

The options, when tasked, will run the individual report.

11.3 Parameter File

The parameter file is the IHS LAB SUPERVISOR TASKED REPORTS PARAMETERS (#90475.7) file.

The file will hold the parameters for each of the reports that a site wishes to task in TaskMan.

11.3.1 File 90475.7 NAME (.01) Field

The NAME (#.01) field of 90475.7 must always be named PARAMETERS.

It is set during the post-install phase of the patch and should never be modified. If it is named anything other than PARAMETERS, none of the new routines will produce a report.

11.3.2 90475.71 LRUER DIVISION Field

The LRUER DIVISION field is a multiple. It is the field where the parameters for the Changes in Verified Lab Data report will be stored.

The FileMan ENTER OR EDIT FILE ENTRIES option must be used to edit the sub-fields.

11.3.2.1 (#.01) LRUER DIVISION Sub Field

The LRUER DIVISION Sub-Field is a pointer to the Institution (#4) file. It is the division for which the report should be run.

This is a mandatory field. At this time, there should only be one division.

11.3.2.2 (#1) Comments ['Previously Rep' Sub Field

The Comments ['Previously Rep' Sub-Field is a YES/NO field. If it is YES, then the report will look for data where the Comments field has the phrase "reported incorrectly as."

This is not a mandatory field. If the field is blank then NO is assumed.

11.3.2.3 (#2) Comments ['Specimen Rej' Sub Field

The Comments ['Specimen Rej' Sub-Field is a YES/NO field. If it is YES, then the report will look for data where the Comments field has the phrase "Specimen Rej".

This is not a mandatory field. If the field is blank, then NO is assumed.

11.3.2.4 (#1) Comments ['Previously Rep' Sub Field and (#2) Comments ['Specimen Rej' Sub Field Are Mutually Exclusive

Note that if Sub-Field 1 (Comments ['Previously Rep') is set, Sub-Field 1 will take precedence, even if Sub-Field 2 (Comments ['Specimen Rej') is set, also.

Either Sub-Field 1 or Sub-Field 2 should be set, but not both.

If neither is set, then no report will be generated.

11.3.2.5 (#3) Acc with Deleted Comments Sub Field

The Acc With Deleted Comments Sub-Field is a YES/NO field. If it is YES, then the report will list accessions with deleted comments.

This is not a mandatory field. If it is blank, then NO is assumed.

11.3.2.6 (#4) Lists of Tests Sub Field

The List of Tests Sub-Field is a YES/NO field. If it is YES, then the report will list tests ordered for each accession with errors.

This is not a mandatory field. If it is blank, then NO is assumed.

11.3.2.7 (#5) New Page Per Accession Sub Field

The New Page Per Accession Sub-Field is a YES/NO field. If YES, then the report will page for each new accession area.

This is not a mandatory field. If it is blank, then NO is assumed.

11.3.2.8 (#6) Date Range Sub Field

The Date Range Sub-Field is a Set of Codes field. Its values are:

Value	Date Range For The Report
0	Daily
1	Weekly
2	Monthly
3	Yearly

This is not a mandatory field. If it is left blank, the default will be Daily.

11.3.2.9 (#7) Device Sub Field

The DEVICE Sub-Field is a pointer to the DEVICE file.

This is a mandatory field. There must be a device defined where the report will be printed.

11.3.3 90475.72 LRSORA DIVISION Field

The LRSORA DIVISION field is a multiple. It is the field where the parameters for the High/Low Value Tasked report will be stored.

The FileMan ENTER OR EDIT FILE ENTRIES option must be used to edit the sub-fields.

11.3.3.1 (#.01) LRSORA DIVISION Sub Field

The LRSORA DIVISION Sub-Field is a pointer to the Institution (#4) file. It is the division for which the report should be run.

This is a mandatory field. At this time, there should only be one division.

11.3.3.2 (#1) DATE RANGE Sub Field

The Date Range Sub-Field is a Set of Codes field. Its values are:

Value	Date Range For The Report
0	Daily
1	Weekly
2	Monthly
3	Yearly

This is not a mandatory field. If it is left blank, the default will be Daily.

11.3.3.3 (#2) Accession Areas Sub Field

The Accession Areas Sub-Field is a multiple. It will allow specific Accession Areas to be selected for the report. It is a pointer to the Accession (#68) file.

This is not a mandatory field. If it is left blank, then all accession areas will be included in the report.

11.3.3.4 (#3) Laboratory Test Sub Field

The Laboratory Test Sub-Field is a multiple. It allows specific tests from File 60 to be selected for the report. It is a pointer to the Laboratory Test (#60) file.

This is a mandatory field. If there are no tests entered, then no report will be generated.

For each test entered an operator and a value must be entered.

11.3.3.5 (#3.01) Operator Sub Field

The Operator Sub-Field is a Set of Codes field. Its values are:

Value	Meaning
0	Less Than
1	Greater Than
2	Equals
3	Contains

This is a mandatory field if a Laboratory Test has been selected.

11.3.3.6 (#3.1) Value Sub Field

The Value Sub-Field is a free text field. It holds the value that the Laboratory Test must be checked against, based upon the operator.

This is a mandatory field if a Laboratory Test has been selected.

11.3.3.7 (#4) Sort By Sub Field

The Sort By Sub-Field is a Set of Codes field. Its values are:

Value	Meaning
P	Sort By Patient
L	Sort By Location

This is a mandatory field.

11.3.3.8 (#5) Locations Sub Field

The Locations Sub-Field is a multiple. It allows specific Locations from File 44 to be selected for the report. It is a pointer to the Hospital Locations (#44) file.

This is not a mandatory field. If it is left blank, then all locations will be included in the report.

11.3.3.9 (#6) Device Sub Field

The DEVICE Sub-Field is a pointer to the DEVICE file.

This is a mandatory field. There must be a device defined where the report will be printed.

11.3.4 90475.73 LRSORC DIVISION Field

The LRSORC DIVISION field is a multiple. It is the field where the parameters for the Critical Value Tasked report will be stored.

The FileMan ENTER OR EDIT FILE ENTRIES option must be used to edit the sub-fields.

11.3.4.1 (#.01) LRSORC DIVISION Sub Field

The LRSORC DIVISION Sub-Field is a pointer to the Institution (#4) file. It is the division for which the report should be run.

This is a mandatory field. At this time, there should only be one division.

11.3.4.2 (#1) DATE RANGE Sub Field

The Date Range Sub-Field is a Set of Codes field. Its values are:

Value	Date Range For The Report
0	Daily
1	Weekly
2	Monthly
3	Yearly

This is not a mandatory field. If it is left blank, the default will be Daily.

11.3.4.3 (#2) Accession Areas Sub Field

The Accession Areas Sub-Field is a multiple. It will allow specific Accession Areas to be selected for the report. It is a pointer to the Accession (#68) file.

This is not a mandatory field. If it is left blank, then all accession areas will be included in the report.

11.3.4.4 (#3) Locations Sub Field

The Locations Sub-Field is a multiple. It allows specific Locations from File 44 to be selected for the report. It is a pointer to the Hospital Locations (#44) file.

This is not a mandatory field. If it is left blank, then all locations will be included in the report.

11.3.4.5 (#4) Sort By Sub Field

The Sort By Sub-Field is a Set of Codes field. Its values are:

Value	Meaning
P	Sort By Patient
L	Sort By Location

This is a mandatory field.

11.3.4.6 (#5) Device Sub Field

The DEVICE Sub-Field is a pointer to the DEVICE file.

This is a mandatory field. There must be a device defined where the report will be printed.

11.4 Tasking Routines

Tasking of the routines must be accomplished via the TaskMan Management Menu and the Schedule/Unschedule option after the appropriate parameters are entered into the IHS LAB SUPERVISOR TASKED REPORTS PARAMETERS (#90475.7) file for the appropriate test.

11.4.1 TaskMan Schedule/Unschedule Option

Select the Schedule/Unschedule Options from the TaskMan Management Menu.

```
                           Taskman Management

          Schedule/Unschedule Options
          One-time Option Queue
          Taskman Management Utilities ...
          List Tasks
          Dequeue Tasks
          Requeue Tasks
          Delete Tasks
          Print Options that are Scheduled to run
          Cleanup Task List
          Print Options Recommended for Queueing

Select Taskman Management Option:Schedule
```

Figure 11-1: Schedule from the TaskMan Management Menu

11.4.2 Select Task Report Option from TaskMan Schedule/Unschedule Prompt

Enter the appropriate Task Report Option at the prompt.

For this example, the IHS LAB BLRUER TASK option will be entered.

```
                           Taskman Management

          Schedule/Unschedule Options
          One-time Option Queue
          Taskman Management Utilities ...
          List Tasks
          Dequeue Tasks
          Requeue Tasks
          Delete Tasks
          Print Options that are Scheduled to run
          Cleanup Task List
          Print Options Recommended for Queueing

Select Taskman Management Option: SCHEDule/Unschedule Options

Select OPTION to schedule or reschedule: IHS LAB BLRUER TASK       Task IHS
LAB
Changes in verified lab data Report
  Are you adding 'IHS LAB BLRUER TASK' as
```

```
    a new OPTION SCHEDULING (the 47TH)? No//Y
```

Figure 11-2: Entering Task Report Option IHS LAB BLURER TASK

11.4.3 Enter Values for the various TaskMan fields

At the Edit Option Schedule screen, enter the appropriate values.

For this example, the report will start at 2100 tonight, use the BLRUER TASKED device, run on the LR1034 volume, and run every 14 days.

The DEVICE FOR QUEUED OUTPUT field must match the DEVICE field in file 90475.7 for the appropriate report.

```
                          Edit Option Schedule
    Option Name: IHS LAB BLRUER TASK
    Menu Text: Task IHS LAB Changes in verified          TASK ID:
  ____________________________________________________________________________

  QUEUED TO RUN AT WHAT TIME: JAN 12,2016@21:00

DEVICE FOR QUEUED JOB OUTPUT: BLRUER TASKED;P-OTHER80;80;55

 QUEUED TO RUN ON VOLUME SET: LR1034

      RESCHEDULING FREQUENCY: 14D

              TASK PARAMETERS:

             SPECIAL QUEUEING:

_____________________________________________________________________________



COMMAND:                                        Press <PF1>H for help    Insert
```

Figure 11-3: Entering Task Report Option IHS LAB BLURER TASK

Once data are entered, enter SAVE at the COMMAND field.

11.5 Entering Parameters Examples

Entering data into the IHS LAB SUPERVISOR TASKED REPORTS PARAMETERS (#90475.7) file must be done by using FileMan's ENTER OR EDIT FILE ENTRIES option.

It is advisable to know the name of the DEVICE that will be used prior to entering data into 90475.7.

11.5.1 LRUER DIVISON Example

The following is an example of entering parameters in file 90475.7 for the IHS LAB BLRUER TASK REPORT.

11.5.1.1 FileMan ENTER OR EDIT FILE ENTRIES

Select FileMan's ENTER OR EDIT FILE ENTRIES option.

```
VA FileMan 22.0

Select OPTION: ??

   Choose from:
   1            ENTER OR EDIT FILE ENTRIES
   2            PRINT FILE ENTRIES
   3            SEARCH FILE ENTRIES
   4            MODIFY FILE ATTRIBUTES
   5            INQUIRE TO FILE ENTRIES
   6            UTILITY FUNCTIONS
   7            OTHER OPTIONS
   8            DATA DICTIONARY UTILITIES
   9            TRANSFER ENTRIES

Select OPTION: ENTER
```

Figure 11-4: Selecting FileMan ENTER OR EDIT FILE ENTRIES.

11.5.1.2 Select the IHS LAB SUPERVISOR TASKED REPORTS PARAMETERS (#90475.7) File and the LRUER DIVISION Sub-Field

Note that in Figure 11-5, the prompt must always be answered with PARAMETERS.

```
Select IHS LAB SUPERVISOR TASKED REPORTS PARAMETERS NAME:
```

Figure 11-5: IHS LAB SUPERVISOR TASKED REPORTS PARAMETERS NAME

```
INPUT TO WHAT FILE: IHS LAB SUPERVISOR TASKED REPORTS PARAMETERS//

EDIT WHICH FIELD: ALL// ?
    Answer with FIELD NUMBER, or LABEL
   Choose from:
   .01          NAME
   1            LRUER DIVISION  (multiple)
   2            LRSORA DIVISION  (multiple)
   3            LRSORC DIVISION  (multiple)
    FOLLOW A FIELD NAME WITH ';"CAPTION"' TO HAVE THE FIELD ASKED AS
'CAPTION: '
         OR WITH ';T' TO USE THE FIELD 'TITLE' AS CAPTION
EDIT WHICH FIELD: ALL// 1  LRUER DIVISION  (multiple)
   EDIT WHICH LRUER DIVISION SUB-FIELD: ALL//
THEN EDIT FIELD:


Select IHS LAB SUPERVISOR TASKED REPORTS PARAMETERS NAME: PARAMETERS
```

```
Select LRUER DIVISION:
```

Figure 11-6: Selecting LRUER Division.

11.5.1.3 Example Parameters

In this example, the following were entered:

- The IHS Database LR1034 UCI division
- Comments ['Previously Rep' set to YES
- Comments ['Specimen Rej' not set
- Acc With Deleted Comments set to YES
- List of Tests not set
- New Page Per Accession set to YES
- Date Range not set (which means defaults to Daily)
- DEVICE set to BLRUER TASKED which is a special way of storing information to a file on the test system. Local Device printer is entered here.

```
Select LRUER DIVISION: IHS Database LR1034 UCI                          NM  IHS
2582
  Are you adding 'IHS Database LR1034 UCI' as
    a new LRUER DIVISION (the 1ST for this IHS LAB SUPERVISOR TASKED REPORTS PAR
AMETERS)? No// y  (Yes)
  Comments [ 'Previously Rep': Y  YES
  Comments [ 'Specimen Rej':
  Acc With Deleted Comments: Y  YES
  List of Tests:
  New Page Per Accession: Y  YES
  Date Range:
  DEVICE: BLRUER TASKED      FILE     D:\Medsphere Laptop Backup\TEMP\LRUER.TASK
ED.TXT     LR1034

Select IHS LAB SUPERVISOR TASKED REPORTS PARAMETERS NAME:
```

Figure 11-7: Entering Example parameters

11.5.2 LRSORA DIVISION Example

The following is an example of entering paramete4rs in file 90475.7 for the IHS LAB BLRSORA TASK REPORT.

11.5.2.1 FileMan ENTER OR EDIT FILE ENTRIES

Select FileMan's ENTER OR EDIT FILE ENTRIES option.

```
   VA FileMan 22.0

Select OPTION: ??
```

```
   Choose from:
   1            ENTER OR EDIT FILE ENTRIES
   2            PRINT FILE ENTRIES
   3            SEARCH FILE ENTRIES
   4            MODIFY FILE ATTRIBUTES
   5            INQUIRE TO FILE ENTRIES
   6            UTILITY FUNCTIONS
   7            OTHER OPTIONS
   8            DATA DICTIONARY UTILITIES
   9            TRANSFER ENTRIES

Select OPTION: ENTER
```

Figure 11-8: Selecting FileMan ENTER OR EDIT FILE ENTRIES

11.5.2.2 Select the IHS LAB SUPERVISOR TASKED REPORTS PARAMETRS (#90475.7) File and the LRSORA DIVISION Sub-Field.

Note that in Figure 11-9, the prompt must always be answered with PARAMETERS.

```
Select IHS LAB SUPERVISOR TASKED REPORTS PARAMETERS NAME:
```

Figure 11-9: IHS LAB SUPERVISOR TASKED REPORTS PARAMETERS NAME

```
INPUT TO WHAT FILE: IHS LAB SUPERVISOR TASKED REPORTS PARAMETERS//

EDIT WHICH FIELD: ALL// ?
    Answer with FIELD NUMBER, or LABEL
   Choose from:
   .01          NAME
   1            LRUER DIVISION  (multiple)
   2            LRSORA DIVISION  (multiple)
   3            LRSORC DIVISION  (multiple)
    FOLLOW A FIELD NAME WITH ';"CAPTION"' TO HAVE THE FIELD ASKED AS
'CAPTION: '
         OR WITH ';T' TO USE THE FIELD 'TITLE' AS CAPTION
EDIT WHICH FIELD: ALL// 1  LRUER DIVISION  (multiple)
   EDIT WHICH LRUER DIVISION SUB-FIELD: ALL//
THEN EDIT FIELD:


Select IHS LAB SUPERVISOR TASKED REPORTS PARAMETERS NAME: PARAMETERS
Select LRUER DIVISION:
```

Figure 11-10: Selecting LRSORA Division.

11.5.2.3 Example Parameters

In this example, the following were entered:

- The IHS Database LR1034 UCI division
- Date Range set to Daily (Choices are: 0 Daily, 1 Weekly, 2 Monthly Or 3 Yearly. A Date Range not Set defaults to Daily)
- Select Accession Areas set to PARKER POCT (Add each Accession Area here)

- Select Laboratory Tests set to HCG,URINE POC
- Laboratory Tests: HCG,URINE POC
- Select OPERATOR set to CONTAINS (Choices are: 0 LESS THAN, 1 GREATER THAN, 2 EQUALS or 3 CONTAINS)
- OPERATOR set as CONTAINS
- VALUE set to" P "(for POSITIVE if Set of Codes/Data Name)
- Select Laboratory Tests set to POC GLUCOSE
- Laboratory Tests: POC GLUCOSE
- Select OPERATOR set to LESS THAN
- VALUE indicated as 1000
- Sort By set to Patient
- Select Locations not set
- Device: BLRSORA TASKED set to BLRSORA TASKED which is a special way of storing information to a file on the test system. Local Device printer is entered here.

```
Select LRSORA DIVISION: 2013 DEMO HOSPITAL       HEADQUARTERS WEST
ALBUQUERQUE       01                 DC  HOSPITAL  8993
         ...OK? Yes//   (Yes)

  LRSORA DIVISION: 2013 DEMO HOSPITAL//
  Date Range: Daily//
  Select Accession Areas: PARKER POCT//
  Select Laboratory Tests: HCG,URINE POC//
    Laboratory Tests: HCG,URINE POC//
    Select OPERATOR: CONTAINS//
      OPERATOR: CONTAINS//
      VALUE: "P"//
    Select OPERATOR:
  Select Laboratory Tests: POC GLUCOSE
         ...OK? Yes//   (Yes)
    Laboratory Tests: POC GLUCOSE//
    Select OPERATOR: LESS THAN//
      OPERATOR: LESS THAN//
      VALUE: 1000//
    Select OPERATOR:
  Select Laboratory Tests:
```

11.5.3 LRSORC DIVISION Example

11.5.3.1 FileMan ENTER OR EDIT FILE ENTRIES

Select FileMan's ENTER OR EDIT FILE ENTRIES option.

```
VA FileMan 22.0
```

```
Select OPTION: ??

   Choose from:
   1            ENTER OR EDIT FILE ENTRIES
   2            PRINT FILE ENTRIES
   3            SEARCH FILE ENTRIES
   4            MODIFY FILE ATTRIBUTES
   5            INQUIRE TO FILE ENTRIES
   6            UTILITY FUNCTIONS
   7            OTHER OPTIONS
   8            DATA DICTIONARY UTILITIES
   9            TRANSFER ENTRIES

Select OPTION: ENTER
```

Figure 11-11: Selecting FileMan ENTER OR EDIT FILE ENTRIES.

11.5.3.2 Select the IHS LAB SUPERVISOR TASKED REPORTS PARAMETERS (#90475.7) File and the LRSORC DIVISION Sub-Field

Note that in Figure 11-13 the prompt must always be answered with PARAMETERS.

```
Select IHS LAB SUPERVISOR TASKED REPORTS PARAMETERS NAME:
```

Figure 11-12: IHS LAB SUPERVISOR TASKED REPORTS PARAMETERS NAME

```
INPUT TO WHAT FILE: IHS LAB SUPERVISOR TASKED REPORTS PARAMETERS//

EDIT WHICH FIELD: ALL// ?
    Answer with FIELD NUMBER, or LABEL
   Choose from:
   .01          NAME
   1            LRUER DIVISION  (multiple)
   2            LRSORA DIVISION  (multiple)
   3            LRSORC DIVISION  (multiple)
    FOLLOW A FIELD NAME WITH ';"CAPTION"' TO HAVE THE FIELD ASKED AS
'CAPTION: '
         OR WITH ';T' TO USE THE FIELD 'TITLE' AS CAPTION
EDIT WHICH FIELD: ALL// 1  LRUER DIVISION  (multiple)
   EDIT WHICH LRUER DIVISION SUB-FIELD: ALL//
THEN EDIT FIELD:


Select IHS LAB SUPERVISOR TASKED REPORTS PARAMETERS NAME: PARAMETERS
Select LRUER DIVISION:
```

Figure 11-13: Selecting LRSORC Division

11.5.3.3 Example Parameters

In this example, the following were entered:

- The IHS Database LR1034 UCI division

- Date Range set to Daily (Choices are: 0 Daily, 1 Weekly, 2 Monthly Or 3 Yearly. A Date Range not Set defaults to Daily)
- Select Accession Areas not set
- Select Location not set
- Sort By Patient not set
- DEVICE: BLRSORC TASKED is set to BLRSORC TASKED which is a special way of storing information to a file on the test system. Local Device printer is entered here.

```
Select LRSORC DIVISION: 2013 DEMO HOSPITAL//
    LRSORC DIVISION: 2013 DEMO HOSPITAL//
    Date Range: Daily//
   Select Accession Areas:
   Select Location:
    Sort By: Patient//
   DEVICE: BLRSORC TASKED//
```

Figure 11-14: Selecting LRROC Division

12.0 BLRLINKU Routine Modification

The BLRLINKU routine has been modified. The change was necessitated due to missing interfaced Reference Laboratory result reference ranges and units in both the IHS LAB TRANSACTION FILE sequence fields and the V LAB file fields. This information was not being sent to the RPMS PCC. Consequently, reference ranges and units were missing from the EHR Consolidated Clinical Document Architecture, CCDA, and IHS Health Summary reports.

The BLRLINKU routine now gathers the reference ranges and units by checking several places to find the units and reference ranges instead of just one. Interfaced Reference Laboratory test results transmitted to PCC will now include the reference ranges and units.

Example below demonstrates an IHS LAB TRANSACTION LOG Sequence display for a reference lab WBC test result, interfaced and missing reference ranges and units.

```
IHS LAB TRANSACTION LOG LIST                    FEB  5,2016  10:10    PAGE 1
------------------------------------------------------------------------------
SEQUENCE NUMBER: 5741                    LRFILE: 2
  PATIENT POINTER VALUE: 11189           PANEL/TEST POINTER: _WHITE BLOOD CELL
  LAB MODULE: GENERAL                    DUZ(2): 2906
  I/O CATEGORY: OUT PATIENT              STATUS FLAG: RESULTED
  ENTRY DATE/TIME: FEB 05, 2016@10:09:10
  ASSOCIATED V FILE: V LAB               IEN OF V FILE ENTRY: 4274000
  CLINIC STOP CODE POINTER: LABORATORY SERVICES
  CLINICAL INDICATOR: 301143015          ORDER DATE: FEB 05, 2016@10:09:08
  ORDER SEQUENCE NUMBER: 2               ORDER NUMBER: 968
  ORDERING PROVIDER POINTER: RADON,NICHOLAS M JR
  ORDERING LOCATION POINTER: LAB (OIT TEST)
  COLLECTION DATE/TIME: JAN 31, 2016@11:57
  ACCESSION NUMBER: SO 16 11           COLLECTION SAMPLE POINTER: BLOOD (EDTA)
  COMPLETE DATE: FEB 05, 2016@10:10:11   LOINC CODE: 6690
  PROVIDER NARRATIVE: Chest cold         SNOMED: 301143015
  ICD: J22.                              RESULT: 4.5
  SITE/SPECIMEN POINTER: BLOOD           VERIFIER POINTER: WHITE,LESLIE
```

The example below demonstrate an IHS LAB TRANSACTION LOG Sequence display for a reference lab WBC test result, interfaced and with capture of reference ranges and units.

```
IHS LAB TRANSACTION LOG LIST                    FEB  5,2016  10:03    PAGE 1
------------------------------------------------------------------------------

SEQUENCE NUMBER: 1786                    LRFILE: 2
  PATIENT POINTER VALUE: 11189           PANEL/TEST POINTER: _WHITE BLOOD CELL
  LAB MODULE: GENERAL                    DUZ(2): 2906
  I/O CATEGORY: IN PATIENT               PARENT POINTER: 1785
  STATUS FLAG: RESULTED                 ENTRY DATE/TIME: FEB 01, 2016@11:57:36
  ASSOCIATED V FILE: V LAB               IEN OF V FILE ENTRY: 4285889
  CLINIC STOP CODE POINTER: LABORATORY SERVICES
  ORDER DATE: FEB 01, 2016@11:57:27      ORDER SEQUENCE NUMBER: 6
  ORDER NUMBER: 2303
```

```
  ORDERING PROVIDER POINTER: RADON,NICHOLAS M JR
  ORDERING LOCATION POINTER: LAB (OIT TEST)
  COLLECTION DATE/TIME: FEB 01, 2016@11:57:27
  ACCESSION NUMBER: SO 16 58          COLLECTION SAMPLE POINTER: BLOOD (EDTA)
  LOINC CODE: 6690
  RESULT: 4.5                           UNITS: Thousand/uL
  SITE/SPECIMEN POINTER: BLOOD          VERIFIER POINTER: WHITE,LESLIE
  REFERENCE LOW: 3.8                    REFERENCE HIGH: 10.8
COMMENTS: Verified by repeat analysis.
```

Appendix A: Test Scripts

Software changes should be tested in the manner that you use the feature/function in your environment. If for example lab results are viewed and printed in the EHR, the EHR should be included in your testing. The test scripts below are meant to provide a place for you to begin creating your own test script. Test scripts should also not be completed until the LR*5.2*1038 User's Guide has been reviewed in its entirety.

A.1 ETIOLOGY FIELD (File 61.2) files ABBREVIATION field size

Use VA FileMan and the ENTER/EDIT option to access File 61.2 Etiology, the ABBREVIATION field.

Select an ETIOLOGY FIELD NAME (organism) and delete the entry in the ABBREVIATION field. Go back into the same file and (re)add the ABBREVIATION entry using six alpha characters. Ensure that the ABBREVIATION entry is accepted.

☐PASS ☐FAIL ☐ N/A

A.2 IHS UCUM (File 90475.3) updated

The following are the new terms added to the IHS UCUM file. Select VA FileMan Option: INQuire to File Entries for the following IHS UCUM files to confirm availability for use of UNITS in File 60.

```
UCUM IEN: 410                          UCUM: AU/mL
DESCRIPTION: Absorbance units per milliliter

UCUM IEN: 411                          UCUM: ug/mL{FEU}
DESCRIPTION: microgram per milliliter fibrinogen equivalent units

UCUM IEN: 412                          UCUM: ug/L{DDU}
DESCRIPTION: microgram per Liter D-dimer units

UCUM IEN: 413                          UCUM: ng/mL{FEU}
DESCRIPTION: nanograms per milliliter fibrinogen equivalent units
```

☐PASS ☐FAIL ☐ N/A

A.3 HLZTCP job status

A modification to the BLRTASKS interactive report (see LR*5.2*1033 documentation, section 5: Determine If Required RPMS Lab Options Tasked Report) will now show the status of the HLZTCP job. This is for an in house laboratory interface with a middle ware platform, not the reference laboratory interface.

If an interface is not active: HLZTCP is >> NOT << running

If an interface is active/configured: HLZTCP is running

☐PASS ☐FAIL ☐ N/A

A.4 Approving initials are masked

When verifying test results confirm the masking with asterisks; alpha characters are not displaying. Look for the asterisks in place of end user's prior verification initials. Masking should be present during all approval or edit processes for CH subscript result entries.

☐PASS ☐FAIL ☐ N/A

A.5 Multipurpose Accessioning default for Date@Time removed

Multipurpose Accessioning Collection Date@Time prompt no longer has NOW default. End users are required to enter a valid date and time appropriate for collection of test sample. NOTE: An order will be cancelled when the Collection Date@Time field is not entered.

☐PASS ☐FAIL ☐ N/A

A.6 EHR POC AGE Variable Suffix for reference ranges

Prior to LR*5.2*1038, the AGE variable data available for the Point of Care (POC) tests' Reference Range Mumps code was inadequate in that it was not possible to distinguish a 9 month old child from a newborn as both would have an AGE variable of zero. POC results should flag accordingly based on the MUMPS string for age appropriate reference ranges.

☐PASS ☐FAIL ☐ N/A

A.7 CPT/HCPCS Codes Fix

Prior to LR*5.2*1038, there was a logic flaw in the BLRTN routine, which is the routine that sends data from Lab to PCC. The routine assumed that the IEN of a CPT code was also the value of the CPT code and would send the IEN to PCC.

For appropriate testing and use of a HCPCS Code, confirm with test sequence (use the IHS BLR Sequences or V LAB (Visit Details)) that the added HCPCS/CPT code was observed in the CPT Billing String(s) – vs the IEN.

☐PASS ☐FAIL ☐ N/A

A.8 13.1.8 Interim Report Address line(s) on last page of report

A logic flaw in the LRRP1 and LRRP2 routines would prevent the last page of an interim report from printing the address lines of the sites involved in resulting the tests. The logic flaw has been corrected.

Print a patient Interim Report for multiple tests or date ranges to ensure more than one page prints. Confirm the presence of the performing laboratory address at the bottom of the last interim report page.

☐PASS ☐FAIL ☐ N/A

A.9 CKD-EPI estimated Glomerular Filtration Rate (eGFR)

A laboratory that reports eGFR numeric values greater than (>) 60 mL/min/1.73 m2 should use the CKD-EPI equation, because the CKD-EPI equation is more accurate for values greater than (>) 60 mL/min/1.73 m2 than is the MDRD Study equation. However, the influence of imprecision of creatinine assays on the uncertainty of an eGFR value is greater at higher eGFR values and should be considered when determining the highest eGFR value to report.

a. Build a new or utilize a current CREATININE test (non -urine)
b. Build a new CKD-EPI eGFR test. Make sure to utilize a FREE TEXT type DATA NAME.
c. Create a new panel to include **a & b**
d. Use the new LR DHCP BLR CGFR option to add **a & b** for new Delta Check entries.

Note: "b" (eGFR) is added before "a" (CREA) in the BLR CGFR option. See Section 10.5.

e. Add the newly added/configured Delta Check pointer to test “a”. (File 60, Site/Specimen, subfield TYPE OF DELTA CHECK)

f. Test with panel for calculation of new CKD-EPI eGFR by ordering/accessioning/resulting.

g. Use LR DHCP BLR TGFR option to QA prior patient CKD-EPI eGFR values.

h. Confirm accurate, appropriate laboratory result displays for both tests.

i. Confirm successful BLR IHS LAB TRANSACTION files with V LAB and RESULTED status.

The interactive addition of the new delta check entry into the RPMS VA FM Delta Check Dictionary enables lab end users to add to the testing library.

Based on patient age, gender and race, the CKD-EPI eGFR will calculate and display eGFR values for greater than (>) 60 mL/min/1.73 m2.

Patients younger than 18 years of age = N/A

☐PASS ☐FAIL ☐ N/A

A.10 Supervisory Reports Can Be Tasked

Three supervisor reports can now be tasked: Changes in verified lab data (LRUER); Search for high/low values of a test (LRSORA); Search for critical value flagged tests (LRSORC)

Establish the three Lab Supervisor Report options. (Manually queuing of reports is still an option if tasked routines are not local preference.)

a. VA FM File Output: IHS LAB SUPERVISOR TASKED REPORTS PARAMETERS, Name: PARAMETER and subsequent fields: LRUER DIVISION, LRSORA DIVISION and LRSORC DIVISION

b. Site Manager will task the three options in RPMS Taskman and confirm printing at designated date/time intervals: IHS LAB BLRUER TASK, IHS LAB BLRSORA TASK and IHS LAB BLRSORC TASK

Report for Changes in verified data prints as defined for LRUER and tasked for IHS LAB BLRUER TASK .

Report for Searches in High/Low laboratory test values prints as defined for LRSORA and tasked for IHS LAB BLRSORA TASK.

Report for Critical Values prints as defined for LRSORC and tasked for IHS LAB BLRSORC TASK .

☐PASS ☐FAIL ☐ N/A

A.11 LRLINKU Routine modified to capture Reference Ranges and Units

The LRLINKU Routine has been modified to send Reference Lab test Ranges and Units to the PCC.

Verify that Reference Laboratory Result Reference Ranges and Units are being sent to the PCC by reviewing the following:

a. From the Lab Package: review the test result sequence in the IHS LAB TRANSACTION FILE option:
   - BLR IHS Lab Main Support Menu option,
   - INQ Inquire into the IHS LAB Transaction Log; Accession Number needed
   - Confirm the reference range and unit display.

b. From the EHR: review the patient VISIT DETAIL for the date of service and confirm display of same test reference ranges and units

c. From the EHR: Generate and review the patient CCDA 'Transition of Care' for selected visit, for the same visit for date of service or testing, confirm the presence of reference ranges and units for the same test result.

☐PASS ☐FAIL ☐ N/A

Glossary

Algorithm

A process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer.

CCDA

The CCDA is designed to generate industry standard Continuity of Care Documents (CCD) in Health Level 7 (HL7) CCDA format, following the July 2012 Draft Standard for Trial Use (DSTU) standard, further restricted by Meaningful Use 2 (MU2) requirements. These documents can be transmitted to Indian Health Service (IHS) Health Information Exchange (HIE) repositories and retrieved by the Electronic Health Record (EHR) Graphical User Interface (GUI) using web services.

CPT

Current Procedural Terminology. A medical code set maintained by the American Medical Association. The CPT code set describes medical, surgical, and diagnostic services and is designed to communicate uniform information about medical services and procedures among physicians, coders, patients, accreditation organizations, and payers for administrative, financial, and analytical purposes.

FileMan

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

IHS

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

RPMS

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

UCUM

Unified Code for Units of Measure established to bring uniformity to how various units of measure are conveyed throughout and between clinical laboratories.

Contact Information

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

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