

EHR Patch Updates

Office Hours

PXRM 2.0 p1001, 1002

What do you need to know....

IHS-Office of Information Technology
EHR Program

Office Hour Presenters

- CDR Susan Pierce-Richards, ARNP, OIT EHR Project Lead
- Barbara Hess, DHA, OIT EHR Project analyst

Agenda

- Introduction
- Presenters
 - Office Hour Presenters have different specialties within the EHR system who will be responding to your questions
- Questions/Answers
 - Please do not put your phone “On Hold” during the conference call
 - “Raise your hand” through the Adobe Connect features provided
 - Please state your name/site
 - Please state your question clearly
 - Please keep background noise to a minimum to better hear the questions/answers

IN A NUTSHELL

– SURVIVING 2.0 IMPLEMENTATION

Patch Contents

Megabuild containing:

- PXRМ v2.0
- PXRМ v2.0 p1001
Contains IHS modifications to PXRМ routines
- PXRМ v2.0 p1002
Contains updated National Reminder set

Patch Preparation

Verify you have built ALL of the clinical indexes. The clinical indexes were deployed in PXRMM 1.5p1009 and the indexes are required for full Enhanced Graphing as of EHRp11 but not all sites got these all built.

<http://www.ihs.gov/RPMS/PackageDocs/PXRMM/PXRMM%201009%20Office%20Hours.pdf>

<http://www.ihs.gov/RPMS/PackageDocs/PXRMM/pxrm0150.1009o.pdf>

Reminders 2.0 “In a Nutshell”

Upgrade to Reminders 2.0

- Conversion to version 2.0 and 8+ years of fixes/enhancements
- Lots of new functionality on the RPMS side
- Same look and feel in EHR but some enhanced dialog functionality
- Installing new reminders are a little different
- Most reminders installed on your RPMS when you load patch will still work but formatting may be a bit changed
- **You MUST remove your IHS-MAMMOGRAM 2011 or any local reminders copied from this reminder and install the 3 new ones. This reminder is not compatible with PXR 2.0.**
- **You MUST install the Immunization reminders from the exchange. You do not have to replace them in the EHR right away.**

You cannot install any v1.5 reminders once you have loaded 2.0

IHS Modifications

- Updated reminders
 - Updated in v2.0
 - Reference data for reminders (Bibliographic, Funding Source, Developer)
 - Some logic updates where needed
- Table with measures and guidelines reminders support

Updated Reminders/Dialog

Reminder	Change
All reminders	Updated Clinical Maintenance and Description text
IHS-COLON CANCER	Removed Barium Enema from logic Changed age range to 51-75
IHS-DEPO PROVERA	Added J1050 to the IHS-DEPO PROVERA ADMINISTRATION taxonomy for reminder resolution Replaced J1050 on Reminder Dialog
IHS-DIAB ASPIRIN FEMALE	Age range changed to 60-99
IHS-DIAB ASPIRIN MALE	Age range changed to 50-99
IHS-OSTEOPOROSIS SCREEN	Women age 65 and older and no osteoporosis Resolution – one bone mineral density screening Women with diagnosis of Osteoporosis or Osteopenia Resolution – bone mineral density q2years
IHS-TOBACCO SCREEN, IHS-SCREENING BUNDLE, IHS-ASHTMA INTAKE	2 new smoking options added to dialog

New Reminders

Reminder	Change
IHS-MAMMOGRAM 40-49 2013	Cohort: Women aged 40-49 without bilateral mastectomy. Resolution: WH-MAMMOGRAM education or mammogram
IHS-MAMMOGRAM 50-74 2013	Cohort: Women aged 50-74 without bilateral mastectomy. Resolution: mammogram
IHS-MAMMOGRAM 75-100 2013	Cohort: Women aged 475-100 without bilateral mastectomy. Resolution: WH-MAMMOGRAM education or mammogram

Retired Reminders

Reminder	Note
IHS-ANTICOAG CBC	
IHS-ANTICOAG OCCULT BLOOD	
IHS-ANTICOAG UA	
IHS-MAMMOGRAM	Replaced with 3 new ones due to change in how Reminders 2.0 handles logic
IHS-PPD	

What Do I Need to Do Right After Install?

- Remove IHS-MAMMOGRAM 2011 (or any local reminders created from copies) and install the following:
 - IHS-MAMMOGRAM 40-49 2013
 - IHS-MAMMOGRAM 50-74 2013
 - IHS-MAMMOGRAM 75-100 2013
- Install Immunization reminders (if you are currently using Immunization reminders)
- Check existing reminders to make sure nothing is significantly changed in formatting or functionality
- Review new reminders and determine if any need immediate updating

Then What Do I Need to Do?

- Eventually update your reminders with the v2.0 set – prioritize with reminder you need to attest for MU2
- Review new functionality – reminders you have wanted to build may now be possible

INSTALLING NEW REMINDERS

Installing PXRMM 2.0 Reminders

- Exchange looks very much the same
- Install process has a few changes
- It is extremely important that you examine the list of components in the packed reminder AND any quick orders that included.
- As you install the reminder, the system will tell you whether each component is on your system and if so, if the incoming component is not identical.
- You then will be prompted whether you want to install, skip, overwrite.
- When installing dialogs, if there is a linked reminder it is pre-populated on install
- In general, accept default as before
- ***Larger dialogs take much longer to install*** because it checks each and every item coming in and compares it with what is already installed

Reminder Installation

Clinical Reminder Exchange Oct 28, 2013 18:55:23 Page: 6 of 10
Exchange File Entries.

+Item Entry	Source	Date Packed
+Item Entry	Source	Date Packed
48 IHS-LIPID FEMALE 2013	USER@DEMO HOSPITA	10/04/2013@17:27
49 IHS-LIPID MALE 2013	USER@DEMO HOSPITA	10/04/2013@17:27
50 IHS-MAMMOGRAM 2013	USER@DEMO HOSPITA	10/04/2013@17:28
51 IHS-MED ED 2013	USER@DEMO HOSPITA	10/04/2013@17:28
52 IHS-MED THERAPY MNGT 2013	USER@DEMO HOSPITA	10/04/2013@17:28
53 IHS-MENINGITIS IMMUN 2013	USER@DEMO HOSPITA	10/04/2013@17:28
54 IHS-NEWBORN HEARING 2013	USER@DEMO HOSPITA	10/04/2013@17:28
55 IHS-NUTRITIONAL SCREENING 2013	USER@DEMO HOSPITA	10/04/2013@17:28
56 IHS-OSTEOPOROSIS SCREEN 2013	USER@DEMO HOSPITA	10/04/2013@17:29
57 IHS-PAP SMEAR 21-29Y 2013-2	USER@DEMO HOSPITA	10/04/2013@17:29
+ + Next Screen - Prev Screen ?? More Actions		
57 IHS-PAP SMEAR 21-29Y 2013-2	USER@DEMO HOSPITA	10/04/2013@17:29
+ + Next Screen - Prev Screen ?? More Actions		
CFE Create Exchange File Entry	IH	Installation History
CHF Create Host File	LHF	Load Host File
CMM Create MailMan Message	LMM	Load MailMan Message
DFE Delete Exchange File Entry	LR	List Reminder Definitions
IFE		
Select Action: Next Screen// 50		

Reminder: IHS-MAMMOGRAM 2013
 Source: USER, DEMO at DEMO HOSPITAL
 Date Packed: 10/04/2013@17:28
 Package Version: 2.0

Description:

Mammography is recommended in women from ages 50-74. Mammography should be discussed with patients from 40-49 and 75 and older and screening performed based on clinical judgment.

Routine Screening Mammogram recommendations (2011)

== US Preventive Services Taskforce: Recommends screening mammograms every 2 years from age 50-74. Recommends against routine screening in women aged 40-49.

== American College of Obstetrics and Gynecology: Recommends screening mammograms every 1-2 years for women aged 40-49 and yearly for women aged 50-74. Provider should discuss with patients whether mammography should be continued for ages 75 and older.

== American Cancer Society: Recommends screening mammograms yearly starting at age 40 as long as a women is in good health.

Clinicians should discuss the benefits and risks of mammography with patients aged 40-49 and 75 or older and screen based on clinical judgment.

REMINDER ON:

Women aged 50-74 who have not had a mammogram documented in past year.

Women aged 40-49 and 75-99 who have not had Womens Health Mammogram education or mammogram documented in the past year.

EXCLUDED: Patients who have had a bilateral mastectomy documented.

Bibliographic citation: US Preventive Services Taskforce 2009, American College of Obstetricians and Gynecologists 2011, American Cancer Society 2012, Healthy People 2020, Cancer.

Developer: IHS Office of Information Technology

Funding Source: Indian Health Service

Release: 2013

Keywords:
 No keywords given

Components:	Category	Exists
+ Component		
ROUTINE		
1 BPXRMPCC		X
CPT		
77055		X
77056		X
77057		X
EDUCATION TOPICS		
WH-MAMMOGRAM		X
ORDER DIALOG		
RAZ BILATERAL MAMMOGRAM		
REMINDER COMPUTED FINDINGS		
2 IHS-MAMMOGRAM 2009		X
REMINDER TAXONOMY		
3 IHS-BILATERAL MASTECTOMY 2008		X
REMINDER TERM		
4 IHS-MAMMOGRAM EDUCATION 40-49		
5 IHS-MAMMOGRAM EDUCATION 75-99		
TIU TEMPLATE FIELD		
6 PAO CHECK HERE TO ADD TEXT		X
7 GEN WORD LONG NARROW INDENT 4		X
8 IHS PXR M STANDING ORDER		X
REMINDER DEFINITION		
9 IHS-MAMMOGRAM 2013		
REMINDER DIALOG		
10 IHS-MAMMOGRAM 2013		

IA Install all Components IS Install Selected Component

Select Action: Next Screen// **ia Install all Components**

Routine BPXRMPCC already exists and the packed routine is identical, skipping.

REMINDER COMPUTED FINDINGS entry named IHS-MAMMOGRAM 2009 already

exists and the packed component is identical, skipping.

REMINDER TAXONOMY entry named IHS-BILATERAL MASTECTOMY 2008 already

exists and the packed component is identical, skipping.

REMINDER TERM entry IHS-MAMMOGRAM EDUCATION 40-49 is NEW,

what do you want to do?

Select one of the following:

- C Create a new entry by copying to a new name
- I Install
- Q Quit the install
- S Skip, do not install this entry

Enter response: I// nstall

REMINDER TERM entry IHS-MAMMOGRAM EDUCATION 75-99 is NEW,
what do you want to do?

Select one of the following:

- C Create a new entry by copying to a new name
- I Install
- Q Quit the install
- S Skip, do not install this entry

Enter response: I// nstall

TIU TEMPLATE FIELD entry named PAO CHECK HERE TO ADD TEXT already exists and the packed component is identical, skipping.

TIU TEMPLATE FIELD entry named GEN WORD LONG NARROW INDENT 4 already exists and the packed component is identical, skipping.

TIU TEMPLATE FIELD entry named IHS PXRMP STANDING ORDER already exists and the packed component is identical, skipping.

REMINDER DEFINITION entry IHS-MAMMOGRAM 2013 is NEW,
what do you want to do?

Select one of the following:

- C Create a new entry by copying to a new name
- I Install
- Q Quit the install
- S Skip, do not install this entry

Enter response: I// nstall

Dialog Installation

Dialog Components Oct 28, 2013 18:55:54 Page: 1 of 3
 Packed reminder dialog: IHS-MAMMOGRAM 2013

Item	Seq.	Dialog Findings	Type	Exists	
1		IHS-MAMMOGRAM 2013	dialog		
2	5	GP MAMMO DONE TODAY 2011 Finding: *NONE*	group		
3	5.5	OI MAMMMOGRAM 2013 Finding: RAZ BILATERAL MAMMOGRAM (ORDER DIALOG)	element		
4	10	GP MAMM NOT ORDERED TODAY 2011 Finding: *NONE*	group		
5	10.5	HD MAMMO ALREADY SCHEDULED Finding: *NONE*	element	X	
6	10.5.1	PXRM COMMENT		X	
7	10.10	HD MAMMO REFERRAL DONE Finding: *NONE*	element	X	
8	10.10.1	PXRM COMMENT		X	
+ + Next Screen - Prev Screen ?? More Actions					
DD	Dialog Details	DT	Dialog Text	IS	Install Selected
DF	Dialog Findings	DU	Dialog Usage	QU	Quit
DS	Dialog Summary	IA	Install All		
Select Action: Next Screen// ia Install All					

Dialog Installation (cont.)

Select Action: Next Screen// ia Install All

Install reminder dialog and all components with no further changes:
Y// ES

REMINDER DIALOG entry named PR MAMMO RESULT CHOICES
already exists and the packed component is identical, skipping.

REMINDER DIALOG entry named CPT MAMMO DX BIL already exists
and the packed component is identical, skipping.

REMINDER DIALOG entry named PR MAMMO RESULT CHOICES
already exists and the packed component is identical, skipping.

REMINDER DIALOG entry named CPT MAMMO DX UNI already
exists and the packed component is identical, skipping.

REMINDER DIALOG entry named PR MAMMO RESULT CHOICES
already exists and the packed component is identical, skipping.

REMINDER DIALOG entry named CPT MAMMO SCREEN already
exists and the packed component is identical, skipping.

REMINDER DIALOG entry named PXR M PED READY TO LEARN
already exists and the packed component is identical, skipping.

REMINDER DIALOG entry named HD MAMMO REFERRAL DONE already
exists and the packed component is identical, skipping.

REMINDER DIALOG entry named HD MAMMO ALREADY SCHEDULED
already exists and the packed component is identical, skipping.

FINDING entry Q.RAZ BILATERAL MAMMOGRAM does not exist.

Select one of the following:

- D Delete (from the reminder/dialog)
- P Replace (in the reminder/dialog) with an existing entry
- Q Quit the install

Enter response: p Replace (in the reminder/dialog) with an existing entry

Select ORDER DIALOG NAME: RAZ MAMM

- 1 RAZ MAMMOGRAM BILAT
- 2 RAZ MAMMOGRAM SCREENING
- 3 RAZ MAMMOGRAM UNILAT

CHOOSE 1-3: 1 RAZ MAMMOGRAM BILAT

Reminder Dialog IHS-MAMMOGRAM 2013 is not linked to a reminder.

Select Reminder to Link: IHS-MAMMOGRAM 2013// <enter>

NEW MENU OPTIONS

New Menu Options: Reminder Manager

Location List Management [PXRM LOCATION LIST MANAGEMENT]

New Menu

Location Lists are a new kind of reminder finding, that allow you to define a list of locations and give it a name. When reminders are evaluated, the finding will be true if the patient had a visit at one of the locations in the list in the specified date range.

Reminder Patient List Menu [PXRM PATIENT LIST MENU]

New Menu

Contains options for creation of term-based list rules that can be used in both extract processing and patient list creation.

New Menu Options: Reminder Manager (cont.)

- Reminder Extract Management [PXRM EXTRACT MENU]
 - New Menu
 - Contains options that allow display and edit of extract finding rules and of extract parameters for use in extract processing.
 - Reminder Extract Management
 - Extract Parameter Management
 - Extract Finding Management
 - Extract Finding Group Management
 - List Rule Management

New Menu Options: Reminder Definition

- Reminder Edit History [PXRM REMINDER EDIT HISTORY]
 - New Option
 - This option allows you to display a reminder definition's edit history. Edit history was formerly displayed as part of the Definition Inquiry , but was removed and made available within this option

New Menu Options: Reminder Reports

Review Date Report [PXRM REVIEW DATES]

New Option

The Review Date Report may be run for the following files: Computed Findings, Reminder, Definition, Reminder Dialogs, and Reminder Taxonomies. A cutoff date may be entered and all review dates prior or equal to that date in the file selected are reported.

Extract EPI Totals [PXRM EXTRACT EPI TOTALS] - ***Not used by IHS***

Extract EPI List by Finding and SSN [PXRM EXTRACT EPI FINDING LIST] - ***Not used by IHS***

Extract QUERI Totals [PXRM EXTRACT QUERI TOTALS] - ***Not used by IHS***

GEC Referral Report [PXRM GEC REFERRAL REPORT] – ***Not used by IHS***

New Menu Options: Reminder Dialog

Dialog Reports [PXRM DIALOG TOOLS MENU]

New Menu

This option allows you to display a reminder definition's edit history. Edit history was formerly displayed as part of the Definition Inquiry , but was removed and made available within this option

- Reminder Dialog Elements Orphan Report
 - This report lists all dialog sub-items that are not attached to any parent item
- Empty reminder dialog report
 - This report lists all Reminder Dialogs that do not have any items attached to them.

Inactive Codes Mail Message [PXRMCS INACTIVE CODES]

New Option

This option is used to search the Dialog File #801.41 for ICD and CPT Codes that have become inactive and send the report in a mail message to the Clinical Reminders mail group

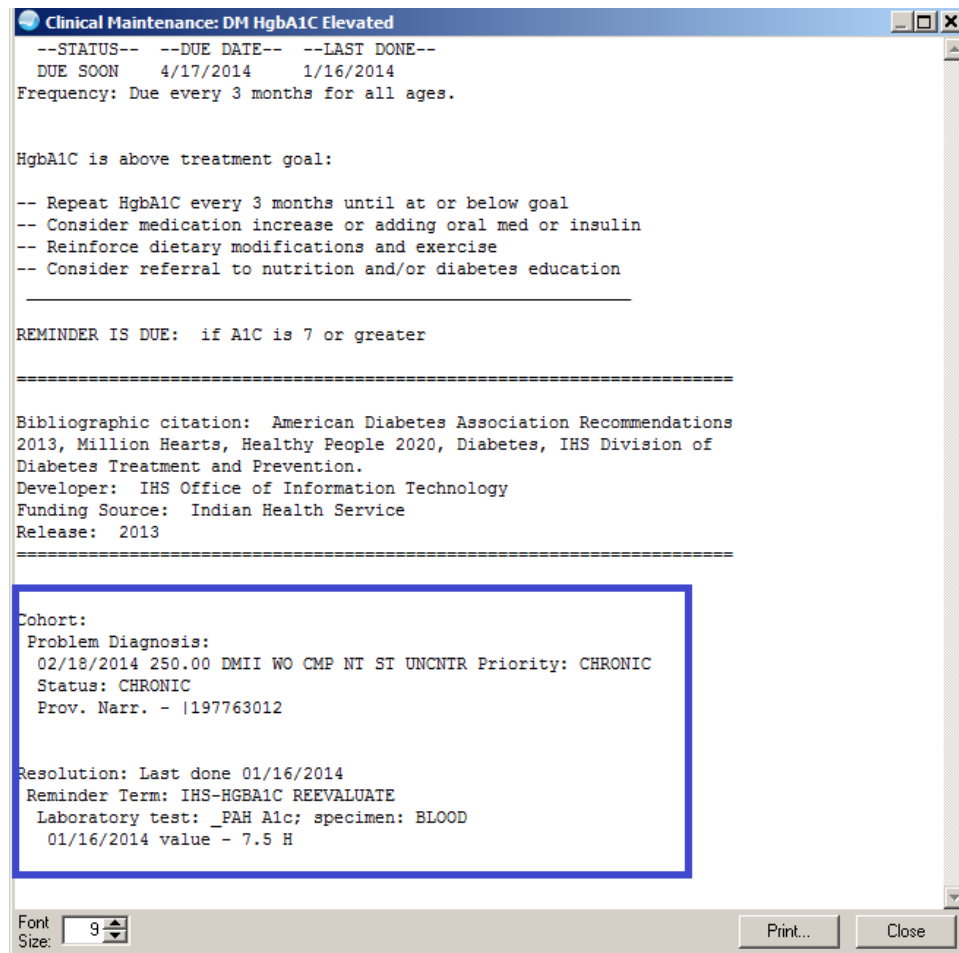
REMINDER DEFINITION ENHANCEMENTS

Reminder Definition Enhancements

1. Expanded and improved output format for Clinical Maintenance
2. Expanded output format in Reminder Inquiry
3. Changes to finding date search (BEGINNING DATE and ENDING date)
4. New finding modifiers
 - Occurrence Count
 - Status list
 - CONDITION Enhancements
5. New finding types
 - Location List finding
 - Function findings
 - Computed findings enhancements
6. Custom Date Due capabilities
7. More information in the Reminder Test option output

Reminder Definition Enhancements (cont.)

Expanded output format for Clinical Maintenance



```
Clinical Maintenance: DM HgbA1C Elevated
--STATUS-- --DUE DATE-- --LAST DONE--
DUE SOON 4/17/2014 1/16/2014
Frequency: Due every 3 months for all ages.

HgbA1C is above treatment goal:

-- Repeat HgbA1C every 3 months until at or below goal
-- Consider medication increase or adding oral med or insulin
-- Reinforce dietary modifications and exercise
-- Consider referral to nutrition and/or diabetes education

REMINDER IS DUE: if A1C is 7 or greater

=====

Bibliographic citation: American Diabetes Association Recommendations
2013, Million Hearts, Healthy People 2020, Diabetes, IHS Division of
Diabetes Treatment and Prevention.
Developer: IHS Office of Information Technology
Funding Source: Indian Health Service
Release: 2013

=====

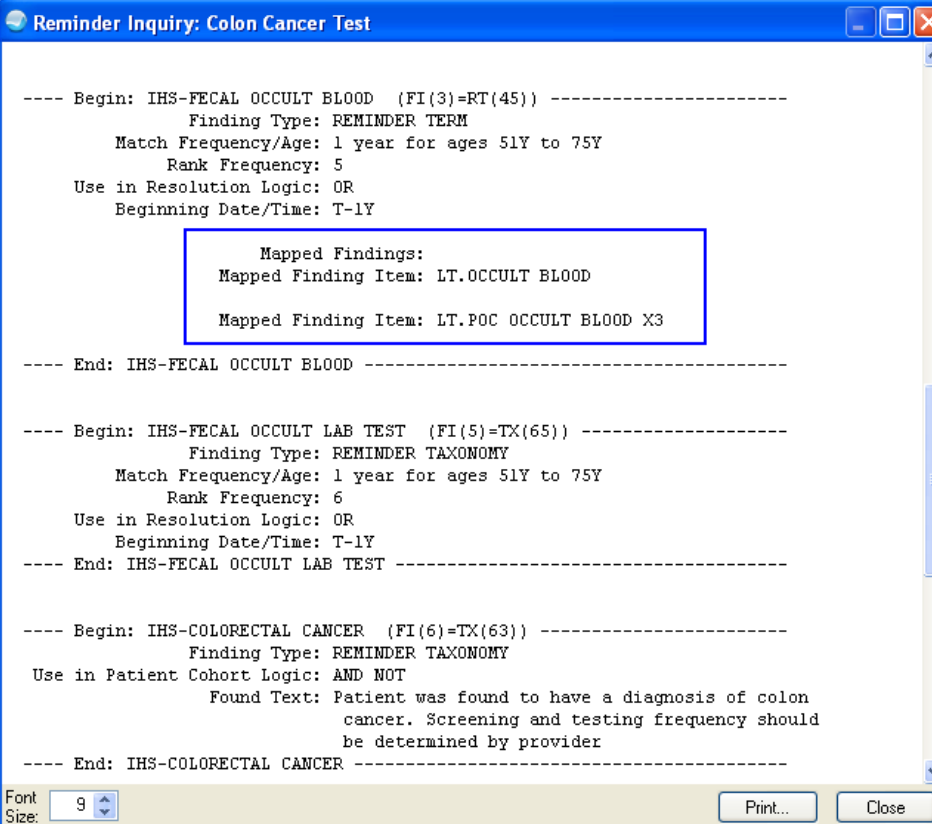
Cohort:
Problem Diagnosis:
02/18/2014 250.00 DMII WO CMP NT ST UNCNT Priority: CHRONIC
Status: CHRONIC
Prov. Narr. - |197763012

Resolution: Last done 01/16/2014
Reminder Term: IHS-HGBA1C REEVALUATE
Laboratory test: _PAH A1c; specimen: BLOOD
01/16/2014 value - 7.5 H

Font Size: 9 Print.. Close
```

Reminder Definition Enhancements (more)

Expanded output format for Reminder Inquiry



```
Reminder Inquiry: Colon Cancer Test

---- Begin: IHS-FECAL OCCULT BLOOD (FI(3)=RT(45)) -----
      Finding Type: REMINDER TERM
      Match Frequency/Age: 1 year for ages 51Y to 75Y
      Rank Frequency: 5
      Use in Resolution Logic: OR
      Beginning Date/Time: T-1Y

      Mapped Findings:
      Mapped Finding Item: LT.OCCULT BLOOD

      Mapped Finding Item: LT.POC OCCULT BLOOD X3

---- End: IHS-FECAL OCCULT BLOOD -----

---- Begin: IHS-FECAL OCCULT LAB TEST (FI(5)=TX(65)) -----
      Finding Type: REMINDER TAXONOMY
      Match Frequency/Age: 1 year for ages 51Y to 75Y
      Rank Frequency: 6
      Use in Resolution Logic: OR
      Beginning Date/Time: T-1Y
---- End: IHS-FECAL OCCULT LAB TEST -----

---- Begin: IHS-COLORECTAL CANCER (FI(6)=TX(63)) -----
      Finding Type: REMINDER TAXONOMY
      Use in Patient Cohort Logic: AND NOT
      Found Text: Patient was found to have a diagnosis of colon
                  cancer. Screening and testing frequency should
                  be determined by provider
---- End: IHS-COLORECTAL CANCER -----

Font Size: 9
Print... Close
```

Reminder Usage

USAGE: *// ??

The Usage field describes how the reminder definition will be used. This field must contain C if the reminder is to be selected in EHR. **The L value will override all other values. For example, if L and C are defined in the usage field, the Reminder will not show on the cover sheet in EHR, because L is in the Usage field.**

This is free text field and can contain any combination of the following codes:

Code Usage

C CPRS

L Reminder Patient List <<< overrides all over values

P Patient

R Reminder Reports

X Reminder Extracts

*** All of the above, except L and P**

REMINDER FINDING ENHANCEMENTS

Taxonomies

If problem is Chronic, Subacute or Social/ Environmental, it will use “today” to see if it is in the date range

A word about Reminder Taxonomies –

- *These contain ICD diagnosis, procedure and CPT procedure codes. These do not contain SNOMED terms. The developers are developing a Computed Finding that will be used to call a SNOMED subset to capture the SNOMED terms. This will come out in PXR v2.0 p1003 in early fall 2014.*
- *Subsets are maintained on the central Terminology Services server. Requests for SNOMED subsets for Reminders should be sent through RPMS feedback. You will select the application SNOMED (DTS).*

Reminder Finding -Replaced

Effective period and effective date are *eliminated* and *replaced* with:

- **Beginning date**
- **Ending date**

Any of the FileMan date formats are acceptable

May 14, 2003, T-1Y, T-2M, T-3D

Beginning date default is beginning of data

Ending date default is today

Reminders 1.5

Effective Period: 2Y

Reminders 2.0:

Beginning date: T-2Y

Ending date: T

Benefits of Date Range Finding Searches

No more expired findings – the search for findings is done only in the specified date range

Retrospective reminder reports are now possible

Reminder Finding - Modifiers

Occurrence count

This is the maximum number of occurrences of the finding in the date range.

- If the OCCURRENCE COUNT is entered as a ***positive number***, “N,” up to N of the most recent occurrences will be returned and the finding will take the value of the ***most recent occurrence***.
- If the OCCURRENCE COUNT is entered as a ***negative number***, this behavior is reversed. Up to N of the oldest occurrences will be returned and the finding will take the value of the ***oldest occurrence*** in the list.

Reminder Finding – Modifiers (cont.)

Status list

Applies only to finding types that have a status

- Inpatient pharmacy
- Outpatient pharmacy
- Orders
- Problem List
- Radiology

To be true, a finding has to have a status on the list

This is a change from v1.5 where status was not used for drugs
Your reminders that use these finding types may work differently in V. 2.0

Reminder Finding – Modifiers (more)

USE STATUS/COND IN SEARCH:

Give this field a value of "YES" if you want the STATUS LIST and/or CONDITION applied to each result found in the date range for this finding. Only results that have a status on the list or for which the CONDITION is true will be retained. The maximum number to retain is specified by the OCCURRENCE COUNT.

Note - if the finding has both a STATUS LIST and a CONDITION the status check will be made first; the CONDITION will be applied only if the finding passes the status check.

Choose from:

1 YES

0 NO

USE STATUS/COND IN SEARCH: 1 YES

Reminder Finding - Modifiers

Condition enhancements

CONDITION functionality has been expanded, so you can use things such as V("SUBSCRIPT") in addition to conditions

Example:

```
I (V("QUALIFIER",1)="ACTUAL")&(V("QUALIFIER",2)="STANDING")&(V>165)
```

Finding is true if Actual Standing Weight value is > 165

Global Reminder Variables

In addition to the values for type of finding shown in the above table, the following global reminder variables may be used in any CONDITION:

- PXRIMAGE - patient's age
- PXRMDOB - patient's date of birth in FileMan format
- PXRMLAD – the last admission date in FileMan format, if there is no admission this will be null
- PXRMSSEX - patient's sex, in the format M for male or F for female

Fileman Date Format

YYY is number of years since 1700 (hence always 3 digits)

MM is month number (00-12)

DD is day number (00-31)

3120704 = July 4, 2012

2650501 = May 1, 1965

2950700 = July 1995

2990000 = 1999

Global Reminder Variable Example

Logic statement	Plain language
(I V>6.9)&(PXRMDOB<2550101)&(PXRMSSEX=F)	If the value is over 6.9 and date of birth is prior to 1/1/1955 and the patient is female

Subscript in Global Variable Logic

- In addition to the default values for finding type, which are referred to as V in the Condition statement, you may now use subscripted V values.
- The subscripts that may be used depend on the type of finding; the easiest way to determine what is available is to use the Reminder Test option and examine the FIEVAL array for the finding of interest.
- Each array element that contains a **“CSUB” (Condition Subscript)** element may be used in a Condition statement, so for this finding, we could use V("COMMENTS"), V("LEVEL OF UNDERSTANDING"), V("VALUE"), or V("VISIT") in the Condition.
- Some finding types may return multiple values for certain types of data; an example is qualifiers for vitals. In the Reminder Test Option output for a weight finding you might see qualifiers such as:
 - FIEVAL(1,"QUALIFIER",1)=ACTUAL
 - FIEVAL(1,"QUALIFIER",2)=STANDING

Subscript in Global Variable Logic (cont.)

Here is an example where the finding is an Education Topic.

FIEVAL(2)=1
FIEVAL(2,1)=1
FIEVAL(2,1,"COMMENTS")=
FIEVAL(2,1,"CSUB","COMMENTS")=
FIEVAL(2,1,"CSUB","LEVEL OF
UNDERSTANDING")=1
FIEVAL(2,1,"CSUB","VALUE")=1
FIEVAL(2,1,"CSUB","VISIT")=3102
FIEVAL(2,1,"DAS")=83
FIEVAL(2,1,"DATE")=2990520.07292
FIEVAL(2,1,"LEVEL OF
UNDERSTANDING")=1
FIEVAL(2,1,"VALUE")=1
FIEVAL(2,1,"VISIT")=3102

FIEVAL(2,"COMMENTS")=
FIEVAL(2,"CSUB","COMMENTS")=
FIEVAL(2,"CSUB","LEVEL OF UNDERSTANDING")=1
FIEVAL(2,"CSUB","VALUE")=1
FIEVAL(2,"CSUB","VISIT")=3102
FIEVAL(2,"DAS")=83
FIEVAL(2,"DATE")=2990520.07292
FIEVAL(2,"FILE NUMBER")=9000010.16
FIEVAL(2,"FINDING")=369;AUTTEDT(
FIEVAL(2,"LEVEL OF UNDERSTANDING")=1
FIEVAL(2,"VALUE")=1
FIEVAL(2,"VISIT")=3102

Subscript in Global Variable Logic (more)

Examples:

You could use these in a Condition as follows:

```
I (V("QUALIFIER",1)="ACTUAL")&(V("QUALIFIER",2)="STANDING")&(V>165)
```

Since you don't always know what subscript the various qualifiers will be associated with, you may use the wildcard in the Condition as follows:

```
I (V("QUALIFIER","*")="ACTUAL")&(V("QUALIFIER","**")="STANDING")&(V>165)
```

Reminder Finding - New

Location list findings

New finding type – looks for visits at a location

Points to file #810.9, Reminder Location List

- Clinic Stops
- Hospital Locations

Tools to manage location lists on the Reminder Managers menu

Reminder Finding – New (cont.)

Function findings

- New in version 2.0
- Perform computation on the results from regular findings.
- Function Findings can be used in both patient cohort logic and resolution logic.
- The general form of the function string is:
FUNCTION(finding list) operator FUNCTION(finding list)
where FUNCTION is one of the available functions and finding list is a comma-separated list of regular finding numbers.

Function Finding Example

---- Begin: FF(1)-----

Function String: **MRD(1)'<MRD(2)**

Expanded Function String:

MRD(PHQ2)'<MRD(PHQ9)

---- End: FF(1) -----

*Most recent date or PHQ2 is not less than most recent date of PHQ9.
So if PHQ2 and PHQ9 are done on the same day the reminder is resolved.*

The resolution is based on the PHQ9 being done and the FF is the condition. Both the PHQ9 and the FF have a Resolution Logic of "AND"

MRD = Most Recent Date

Creating a Function Finding

Select Reminder Definition: FFTEST LOCAL

Select one of the following:

A	All reminder details
G	General
B	Baseline Frequency
F	Findings
FF	Function Findings
L	Logic
C	Custom date due
D	Reminder Dialog
W	Web Addresses

Select section to edit: FF Function Findings

Function Findings

Select FUNCTION FINDING: 1

Are you adding '1' as a new FUNCTION FINDINGS (the 1ST for this REMINDER DEFINITION)? No// Y
(Yes)

FUNCTION FINDINGS FUNCTION STRING: MRD(1,3)>MRD(11,8,4)

FUNCTION FINDING NUMBER: 1//

FUNCTION STRING: MRD(1,3)>MRD(11,8,4) Replace

FOUND TEXT:

Creating a Function Finding (cont.)

To define or edit a Function Finding, select the new option “FF Function Finding” from the reminder definition editor (in Add/Edit Reminder Definition or Copy Reminder Definition on the Reminder Definition Management menu).

The name of a Function Finding is a number, so, when prompted to “Select FUNCTION FINDING,” you would enter a number. Function Finding number 1 is created in the following example:

When prompted, enter the number of the finding you want to create/edit. If the finding number does not exist, you will be asked to confirm that you want to add a new finding:

Select FUNCTION FINDING: **1**

Are you adding '1' as a new FUNCTION FINDINGS (the 1ST for this REMINDER DEFINITION)? No// Y (Yes)

Next, you will be prompted to add the Function Finding computation. This will be explained in detail later in this document.

FUNCTION FINDINGS FUNCTION STRING: **MRD(1,3)>MRD(11,8,4)**

Creating a Function Finding (more)

Then the name and the FUNCTION STRING will be displayed on the screen so you can modify the FUNCTION STRING if you wish to do so:

FUNCTION FINDING NUMBER: 1//

FUNCTION STRING: MRD(1,3)>MRD(11,8,4) Replace

Lastly, you will be prompted for the following fields, which work the same as they do with regular Findings.

FOUND TEXT:

No existing text

Edit? NO//

NOT FOUND TEXT:

No existing text

Edit? NO//

USE IN RESOLUTION LOGIC:

USE IN PATIENT COHORT LOGIC:

MINIMUM AGE:

MAXIMUM AGE:

REMINDER FREQUENCY:

RANK FREQUENCY:

Reminder Finding - New

Computed findings enhancements

There are now two types of computed findings: the old style and a new one that allows for multiple occurrences.

A new field called TYPE, that is a set of codes, was added to the reminder computed finding file. It is used to distinguish a computed finding that returns a single occurrence from one that returns multiple occurrences. The default is for a single occurrence (old style).

New Computed Findings

VA-ACTIVE PATIENT RECORD FLAGS

- Developer may program to specify what flag to search for

VA-ASU USER CLASS

- Developer may program this computed finding for use in reminder definitions, reminder terms, and reminder dialogs, and includes the ability to specify a user class showing that the user is active.

VA-DATE FOR AGE

- Developer may program this computed finding and use the COMPUTED FINDING PARAMETER to pass an age in years and return the date the patient will be that age as the date of the computed finding.

New Computed Findings (cont.)

CF VA-IS INPATIENT

- Developer may program this computed finding and it will be true if the patient was/is an inpatient on the evaluation date
- The following "CSUB" values will be available:
 - ADMISSION DATE/TIME (FileMan format)
 - ADMISSION TYPE
 - ATTENDING PHYSICIAN
 - DATE (FileMan format)
 - PRIMARY PROVIDER
 - TREATING SPECIALTY
 - WARD LOCATION

New Computed Findings (more)

VA-BSA

- Developer may program this multi-occurrence computed finding to return the patient's body surface area (BSA) as a value that may be used in the CONDITION field.
- The COMPUTED FINDING PARAMETER may be used to select which formula is used to calculate the BSA.

COMPUTED FINDING PARAMETER FORMULA

M	Mosteller (default
D	DuBois and Dubois
H	Haycock
G	Gehan and George
B	Boyd

BSA Formulas

The Mosteller formula

$BSA (m^2) = ([Height(cm) \times Weight(kg)] / 3600)^{1/2}$ e.g. $BSA = \text{SQRT}((cm \cdot kg) / 3600)$

or in inches and pounds: $BSA (m^2) = ([Height(in) \times Weight(lbs)] / 3131)^{1/2}$

The DuBois and DuBois² formula

$BSA (m^2) = 0.20247 \times Height(m)^{0.725} \times Weight(kg)^{0.425}$

A variation of DuBois and DuBois that gives virtually identical results is:

$BSA (m^2) = 0.007184 \times Height(cm)^{0.725} \times Weight(kg)^{0.425}$

The Haycock formula

$BSA (m^2) = 0.024265 \times Height(cm)^{0.3964} \times Weight(kg)^{0.5378}$

The Gehan and George formula

$BSA (m^2) = 0.0235 \times Height(cm)^{0.42246} \times Weight(kg)^{0.51456}$

The Boyd formula

$BSA (m^2) = 0.0003207 \times Height(cm)^{0.3} \times Weight(grams)^{(0.7285 - (0.0188 \times \text{LOG}(grams)))}$

New Computed Findings: Appointment Type

VA-APPOINTMENTS FOR A PATIENT

- Developer may program this multiple occurrence computed finding to return a list of appointments for a patient in the specified date range. The COMPUTED FINDING PARAMETER may be used to filter the results.

VA-PATIENTS WITH APPOINTMENTS

- Developer may program this list computed finding to return a list of patients with appointments in the specified date range. The COMPUTED FINDING PARAMETER may be used to filter the results.

Custom Date Due Capabilities

Custom date due capabilities

Custom Date Due allows you to define more complex date ranges to use for findings. The general form for a Custom Date Due string is:

FUNCTION(ARG1,ARG2,...,ARGN)

where FUNCTION is MAX_DATE or MIN_DATE and the arguments have the form M+FREQ where M is a finding number and FREQ is a number followed by D for days, M for months, or Y for years.

Example: MAX_DATE(1+6M,3+1Y)

This will take the date of finding 1 and add 6 months, the date of finding 3, add 1 year, and set the date due to the maximum of those two dates.

Summary - Finding Fields

FINDING ITEM

REMINDER FREQUENCY

MINIMUM AGE

MAXIMUM AGE

RANK FREQUENCY

USE IN RESOLUTION LOGIC

USE IN PATIENT COHORT LOGIC

BEGINNING DATE/TIME *New*****

ENDING DATE/TIME*New*****

OCCURRENCE COUNT*New*****

USE INACTIVE PROBLEMS (applies only to taxonomies that search Problem List)

WITHIN CATEGORY RANK (applies only to health factors)

MH SCALE (not used in IHS)

RXTYPE *New***** (applies only to drug findings)

CONDITION

CONDITION CASE SENSITIVE

USE STATUS/COND IN SEARCH*New*****

FOUND TEXT

NOT FOUND TEXT

STATUS LIST *New***** (applies only to findings that have a status)

COMPUTED FINDING PARAMETER

*****New***** (applies only to computed findings)

REMINDER DIALOG ENHANCEMENTS

Reminder Dialog Enhancements

- Dialog overview option added as action on Edit screen
- Dialog summary option added as action on Edit screen
- Branching logic
- Result group evaluation - ***Mental Health – not used by IHS***

Dialog Editor Displays

Prior to this patch, a user could review the dialog in RPMS using Detailed Display, Progress Note Text and Dialog text. The user has more options to view the Dialog Definition.

Dialog Editor – Dialog Overview

- The action Dialog Overview (DO) displays the top level of the dialog elements, without the nested items, if the dialog has groups containing elements.

```
Dialog Edit List          Oct 29, 2013 13:53:09          Page: 1 of 1
REMINDER DIALOG NAME: IHS-PAP SMEAR 21-29Y 2013-2 (DISABLED - DISABLED IN EXCHAN
Item Seq. Dialog Overview
-----
1 1 Element: HD PAP 21-29Y
2 5 Group: GP PAP DONE TODAY 2013 (21-29)
3 10 Group: GP PAP NOT DONE 2009 (1)
4 15 Group: GP PAP HYST (1)
5 20 Element: HD TEXT
```

```
+ Next Screen - Prev Screen ?? More Actions >>>
ADD Add Element/Group DS Dialog Summary INQ Inquiry/Print
CO Copy Dialog DO Dialog Overview QU Quit
DD Detailed Display DT Dialog Text
DP Progress Note Text ED Edit/Delete Dialog
select item: quit// █
```

Dialog Editor – Dialog Summary

The action Dialog Summary (DS) displays dialog element names.

```
Dialog Edit List                               Oct 29, 2013 13:53:45                               Page: 1 of 2
REMINDER DIALOG NAME: IHS-PAP SMEAR 21-29Y 2013-2 (DISABLED - DISABLED IN EXCHAN
Item  Seq.  Dialog Summary
-----
1      1      Element: HD PAP 21-29Y
2      5      Group: GP PAP DONE TODAY 2013 (21-29)
3     5.5     Element: OI PAP ONLY 2013
4     5.10    Element: OI PAP STD ORDER SET 2013
5     10     Group: GP PAP NOT DONE 2009 (1)
6    10.5    Element: HD PAP NOT DONE TEXT
7     15     Group: GP PAP HYST (1)
8    15.5    Element: CPT PAP HX
+ Next Screen - Prev Screen ?? More Actions >>>
ADD Add Element/Group DS Dialog Summary INQ Inquiry/Print
CO Copy Dialog DO Dialog Overview QU Quit
DD Detailed Display DT Dialog Text
DP Progress Note Text ED Edit/Delete Dialog
Select Item: Next Screen//
```

Dialog Editor – Detailed Display

The action Dialog Overview (DO) displays dialog element names and resolution detail for this reminder dialog (page 1 of 5 displayed below)

```
Dialog Edit List                               Oct 29, 2013 13:55:58                               Page: 1 of 5
REMINDER DIALOG NAME: IHS-PAP SMEAR 21-29Y 2013-2 (DISABLED - DISABLED IN EXCHAN
Item Seq. Detailed Display
1 1 Element: HD PAP 21-29Y
2 5 Group: GP PAP DONE TODAY 2013 (21-29)
3 5.5 Element: OI PAP ONLY 2013
      Finding: PAP [2098] (QUICK ORDER)
      Resolution: ORDERED
4 5.10 Element: OI PAP STD ORDER SET 2013
       Finding: PAP [2098] (QUICK ORDER)
       Resolution: ORDERED
5 10 Group: GP PAP NOT DONE 2009 (1)
6 10.5 Element: HD PAP NOT DONE TEXT
+ + Next Screen - Prev Screen ?? More Actions >>>
ADD Add Element/Group DS Dialog Summary INQ Inquiry/Print
CO Copy Dialog DO Dialog Overview QU Quit
DD Detailed Display DT Dialog Text
DP Progress Note Text ED Edit/Delete Dialog
Select Item: Next Screen//
```


Branching Logic

Four new fields have been added to the dialog editors to support this logic enhancement.

The following three will only be seen when editing a reminder element or group:

- **Reminder Term** This field is the pointer to the Reminder Term file and must be set for this functionality to work.
- **Term Status** This field is used as a condition statement and can only be set to a True/False value. If the reminder term evaluation matches this field, the specialized action will work. This field must be set for this functionality to work.
- **Replacement Element/Group** This is the pointer to Reminder Dialogs and will allow the users to pick an alternate dialog element or dialog group that will display if the evaluation of the Reminder Term is the same as the value of Term Status. This field may be left blank. If this field is left blank, the current item will be suppressed if the Reminder Term status matches the **term evaluations**.

This field will only be seen at the Reminder Dialog level:

- **Patient Specific** This is a field used by the EHR to determine if the Dialog text should be stored between patients or not. **This field must have a value of YES to work.**

Branching Logic (cont.)

How it works:

The EHR will evaluate any reminder term that is defined in the dialog element/group for a true/false status.

If the reminder term true/false status matches the true/false status defined in the Term Status field, the EHR will then look at the Replacement Reminder Element/Group Field.

- If something is defined here, the EHR will display the element/group that is defined.
- If nothing is defined in the Replacement Reminder Element/Group field, then the EHR will not display the current element/group.

Branching Logic (more)

New Branching/conditional logic has been added to dialog editing options that allows display of alternate checkboxes in dialogs (as seen in the EHR), depending on whether defined conditions meet certain criteria.

REMINDER REPORT ENHANCEMENTS

Reminder Report Enhancements

- PXRMR REMINDERS DUE – new option for Reminder Patient List
- Copy location list

REMINDER EXCHANGE ENHANCEMENTS

Exchange Reminder Components

- The ability to use reminder exchange to send individual components (reminder dialogs, terms, taxonomies, etc.) without having to send a reminder
- Installs are a little different.

REMINDER MANAGER MENUS

Reminder Managers Menu

Option	Option Name	Syn	Description
Reminder Computed Finding Management	PXRM CF MANAGEMENT	CF	This option provides tools for viewing or editing reminder computed findings.
Reminder Definition Management	PXRM REMINDER MANAGEMENT	RM	This menu contains options for creating, copying, and editing reminder definitions, as well as the options for maintaining the parameters used by CPRS for reminder processing.
Reminder Sponsor Management	PXRM SPONSOR MANAGEMENT	SM	A Reminder Sponsor is the organization or group that sponsors a Reminder Definition, such as the Office of Quality and Performance. Options on this menu let you view, define, or edit Reminder Sponsors.

Reminder Managers Menu (cont.)

Option	Option Name	Syn	Description
Reminder Taxonomy Management	PXRM TAXONOMY MANAGEMENT	TXM	The REMINDER TAXONOMY file is used to define a range of coded values from ICD Diagnosis codes, ICD Operation/Procedures codes, and CPT codes that can be viewed as being part of a clinical category (taxonomy). Each entry has a low value and a high value. The software will search for matches on all the codes between the low and high values inclusive. If there is a match then the taxonomy finding will be true for the patient. This menu contains options for copying, editing taxonomies, as well as listing and inquiring about specific taxonomies.
Reminder Term Management	PXRM TERM MANAGEMENT	TRM	This menu allows you to edit, map, and view reminder terms.
Reminder Location List Management ***New***	PXRM LOCATION LIST MANAGEMENT	LM	Location Lists are a new kind of reminder finding, that allow you to define a list of locations and give it a name. When reminders are evaluated, the finding will be true if the patient had a visit at one of the locations in the list in the specified date range.

Reminder Managers Menu (more)

Option	Option Name	Syn	Description
Reminder Exchange	PXRM REMINDER EXCHANGE	RX	This option allows sites to exchange reminder definitions, dialogs, and other reminder components via MailMan messages and host files.
Reminder Test	PXRM REMINDER TEST	RT	This utility helps you test and troubleshoot your reminders when you create them or when you have problems.
Other Supporting Menus <i>***not used by IHS***</i>	PXRM OTHER SUPPORTING MENUS	OS	This option contains menus from related packages such as PCE and Health Summary.
Reminder Information Only Menu	PXRM INFO ONLY	INFO	This menu provides information-only options for users who need information about reminders but do not need the ability to make changes.
Reminder Dialog Management	PXRM DIALOG MANAGEMENT	DM	This menu allows maintenance of the parameters used by CPRS for reminder dialog processing.

Reminder Managers Menu

Option	Option Name	Syn	Description
CPRS Reminder Configuration	PXRM CPRS CONFIGURATION	CP	This menu contains options to maintain reminder categories and to set up dialogs within EHR
Reminder Reports	PXRM REMINDER REPORTS	RP	This is a menu of Clinical Reminder reports that clinicians can use for summary and detailed level information about patients' due and satisfied reminders. This option also contains reports that clinical coordinators can use to assign menus to specific users.
Reminders MST Synchronization Management <i>***not used by IHS***</i>	PXRM MST MANAGEMENT	MST	This option provides the Clinical Reminders MST management options. These options give you the ability to synchronize the MST History file #29.11 with MST data recorded elsewhere and to determine when the synchronization was last done.
Reminder Patient List Menu <i>***New***</i>	PXRM PATIENT LIST MENU	PL	This menu contains options to manage list rules and patient lists.

Reminder Managers Menu

Option	Option Name	Syn	Description
Reminder Parameters	PXRM REMINDER PARAMETERS	PAR	This menu contains the options, Edit Site Disclaimer and Edit Web Sites, which allow you to modify the parameters for these items.
Reminder Extract Menu ***New***	PXRM EXTRACT MENU	XM	This option allows management of extract definitions, extract runs, and extract transmissions.
GEC Referral Report ***not used by IHS***	PXRM GEC REFERRAL REPORT	GEC	This is the option that is used to generate GEC Reports. GEC (Geriatrics Extended Care) is used for referral of geriatric patients to receive further care

REMINDER DEFINITION MENU

Reminder Definition Menu

Syn.	Name	Option Name	Description
RA	Activate/Inactivate Reminders	PXRM (IN)/ACTIVATE REMINDERS	This option is used to make reminders active or inactive.
RE	Add/Edit Reminder Definition	PXRM DEFINITION EDIT	This option is used to create or edit Clinical Reminder Definitions. Nationally distributed reminder definitions items all have a "VA-" prefix. VA- for Ambulatory Care EP reminders and VA-* for National Center for Health Promotion reminders.
RC	Copy Reminder Definition	PXRM DEFINITION COPY	This option allows you to copy an existing reminder definition into a new reminder definition in the Clinical Reminder Definition file (#811.9). Once a new name is defined for the new reminder definition, the new reminder definition can be edited to reflect the local reminder definition.
RI	Inquire about Reminder Definition	PXRM DEFINITION INQUIRY	This option allows you to display a clinical reminder definition in an easy to read format.
RL	List Reminder Definitions	PXRM DEFINITION LIST	This option provides a brief summary of selected Clinical Reminder definitions.
RH	Reminder Edit History ***New***	PXRM REMINDER EDIT HISTORY	This option allows you to display a reminder definition's edit history. Edit history was formerly displayed as part of the Definition Inquiry , but was removed and made available within this option.

REMINDER DIALOG MENU

Reminder Dialog Menu

Name	Option Name	Syn	Description
Dialog Parameters	PXRM DIALOG PARAMETERS	DP	This menu allows maintenance of parameters used in dialog generation: RS - Resolution Statuses FP - Finding Type Parameters FI - Finding Item Parameters HR - Health Factor Resolutions TD - Taxonomy Dialogs
Reminder Dialogs	PXRM DIALOG/COMPONENT EDIT	DI	A reminder dialog contains questions (dialog elements) and/or groups of questions (dialog groups) that are related to the reminder findings. Dialog file entries may be created or amended with this option.
Dialog Reports ***New***	PXRM DIALOG TOOLS MENU	DR	This sub-menu contains two options that can be used as dialog maintenance tools: Reminder Dialog Elements Orphan Report and Empty Reminder Dialog Report
Inactive Codes Mail Message ***New***	PXRMCS INACTIVE DIALOG CODES	IA	This option is used to search the Dialog File #801.41 for ICD and CPT Codes that have become inactive and send the report in a mail message to the Clinical Reminders mail group

REMINDER REPORTS MENU

Reminder Reports

Name	Option Name	Syn	Description
Reminders Due Report	PXRM REMINDERS DUE	D	For a selected reminder the report lists any reminders that are currently due.
Reminders Due Report (User)	PXRM REMINDERS DUE (USER)	R	Reminders Due Reports may be run from any report template allocated to this user.
User Report Templates	PXRM REPORT TEMPLATE (USER)	U	This option allows you to modify the PXRM REPORT TEMPLATE (USER) parameter. This parameter defines which reminder report templates are available to a restricted user.
Extract EPI Totals ***not used by IHS***	PXRM EXTRACT EPI TOTALS	T	This option is used to summarize total counts for each type of finding item that was extracted for the target date range of the LREPI extract option run.
Extract EPI List by Finding and SSN ***not used by IHS***	PXRM EXTRACT EPI FINDING LIST	L	This option allows you to print extract results stored in the Reminder Extract Summary file (810.3). Extracted data is listed by finding item and social security number.

Reminder Reports (cont.)

Name	Option Name	Syn	Description
Extract Queri Totals ***not used by IHS***	PXRM EXTRACT QUERI TOTALS	Q	This option prints reminder and finding totals for extract summaries created by automatic extracts.
Review Date Report ***New***	PXRM REVIEW DATES	V	The Review Date Report may be run for the following files: Computed Findings, Reminder Definition, Reminder Dialogs, and Reminder Taxonomies. A cutoff date may be entered and all review dates prior or equal to that date in the file selected are reported.
GEC Referral Report ***not used by IHS***	PXRM GEC REFERRAL REPORT NOT USED BY IHS	G	This is the option that is used to generate GEC Reports. GEC (Geriatrics Extended Care) are used for referral of geriatric patients to receive further care.

QUESTIONS?

Resources

Clinical Applications Documentation repository

http://www.ihs.gov/RPMS/index.cfm?module=Applications&option=View&AC_ID=0