

THE INDIAN HEALTH SERVICE

TIU Data Objects



Superior Health Information Management
Now and for the Future

Goals & Objectives

- Define an Object.
- Compare and Contrast TIU Objects and VA Health Summary Objects.
- Describe type of Objects that can be created using TIU Objects.
- Describe type of objects that can be created using the VAHS Objects.
- Create Health Summary Flowsheet Objects.

What is an object?

- A line of code that points to specific RPMS data.
- Once the code is inserted into a note the data is retrieved from the RPMS file and automatically populates the text into the note.
- Objects are surrounded by straight brackets when they are inserted into a note template.

| BMI WITH CAPTION |

Objects

- Does EHR have objects available to use right after it is installed or do I have to create all of them?
 - EHR comes with standard objects ready for use:
 - Medication
 - Allergies
 - BMI
 - Demographic Information
 - Immunizations
 - Problem List
 - Visit Orders, CPT/POV codes, Patient Education, Procedures, etc.

Objects

- What kind of objects can you make?

DATE LAST NOTE (SAMPLE)	I
LAST # LAB TEST (SAMPLE)	I
LAST # VITAL SIGN (SAMPLE)	I
LAST DIAGNOSIS DATE - SAMPLE	I
LAST EXAM - SAMPLE	I
LAST HEALTH FACTOR - SAMPLE	I
LAST LAB PANEL (SAMPLE)	I
LAST LAB TEST (SAMPLE)	I
LAST MED (SAMPLE)	I
LAST MED CLASS (SAMPLE)	I
LAST PROCEDURE DATE - SAMPLE	I

Objects

- Can you IMPORT and EXPORT objects with your note templates?
 - All objects embedded in a note template will be exported and imported:
 - Only the standard objects will be imported.
 - If you create site specific objects (i.e. lab) those objects will be imported with the note template, however you will get a message telling you which objects are not compatible with your sites EHR note templates.
 - When this occurs you can replace the imported object with your sites locally created object.

Objects

- TIU Objects:
 - Requires programming access
 - Appearance is different
 - Allows you to pull in data directly from the RPMS package (i.e. lab, pharmacy, etc.)
- VA Health Summaries Objects:
 - Does not require programming access
 - Need to have the VAHS patch released in the Summer 2006
 - Allows you to pull in data from the health summary (i.e. women's health data, flowsheets, etc.)

Programmer Access Required to Create or Copy TIU Data Objects

Cache TRM:2044

File Edit Help

Objects Oct 20, 2004 15:15:01 Page: 3 of 10

Objects

		Status
+		
29	GLUCOSE	A
30	HGBA1C	A
31	HS MEDS-CURRENT	A
32	HS MEDS-CURRENT NO SIG	A
33	IMMUNIZATIONS DUE	A
34	INACTIVE PROBLEMS	A
35	INR FOR WARFARIN DOSING	A
36	INSERT_USERS_ORDERS	I
37	LAB RESULTS (24HR)	A
38	LAST BP	A
39	LAST BREAST EXAM	A
40	LAST CALCIUM	A
41	LAST DIAGNOSIS DATE - SAMPLE	I
42	LAST EXAM - SAMPLE	I

+ ?Help >ScrollRight PS/PL PrintScrn/List +/- >>>

Find Detailed Display/Edit Copy/Move
Change View Try Quit
Create Owner

Select Action: Next Screen// COPY

Using Copy for a new TIU object

- Copy can be used if the program that finds the object data is generic.
- For the lab objects, the lookup routine passes the lab test name as a parameter so it can be used to copy.
- Copy can also be used for note titles, immunizations, health factors.
- Use the Create Objects option on the Document Definitions (Manager) menu on the TIU Maintenance Menu.

Using Copy

- Using copy only works if the routine has a parameter for the item to find.
 - `S X=$$LASTHF^BTIULO2(+$G(DFN),"FACTORNAME")`
- Other objects such as this one for allergies do not have a parameter that could be copied.
 - `S X=$$MAIN^TIULADR(DFN,1,"^TMP("TIULADR",,$J)",0)`

New TIU Object

```
Select Entry to Copy: (29-42):  
40  
Copy into (different) Name:  
LAST LAB TEST (SAMPLE)// LAST  
MAGNESIUM
```

```
OBJECT copied into File Entry  
#1302
```

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

Please test the new object and activate it when it is ready for users to embed it in boilerplate text.

1. Pick the lab test to copy making sure it is visible on the screen.
2. Give it a new name.
3. Press return a couple of times.
4. It now needs to be edited.

New TIU Object

The screenshot shows a window titled "Cache TRM:2044" with a menu bar (File, Edit, Help) and a status bar (Oct 20, 2004 15:15:52, Page: 4 of 10). The main area displays a list of objects with columns for object ID, name, and status. A context menu is open over the list, showing options like ?Help, >ScrollRight, PS/PL PrintScrn/List, +/-, and >>>. The menu also includes Find, Change View, Create, Detailed Display/Edit, Try, Owner, Copy/Move, and Quit. The status bar at the bottom of the menu indicates "Select Action: Next Screen//".

	Objects	Status
52	LAST MAGNESIUM	I
53	LAST MAMM	A
54	LAST PAIN	A
55	LAST PAP	A
56	LAST PELVIC EXAM	A
57	LAST PNEUMOVAX	A
58	LAST PNEUMOVAX DATE	A
59	LAST PPD	A
60	LAST PROCEDURE DATE - SAMPLE	I
61	LAST PULSE	A
62	LAST RECTAL EXAM	I
63	LAST RESPIRATION	A
64	LAST TD	A
65	LAST TD ADULT	A

Context Menu Options:

- ?Help
- >ScrollRight
- PS/PL PrintScrn/List
- +/-
- >>>
- Find
- Change View
- Create
- Detailed Display/Edit
- Try
- Owner
- Copy/Move
- Quit

Select Action: Next Screen//

Edit the new TIU object

Cache TRM:2044

File Edit Help

Detailed Display Oct 20, 2004 15:18:06 Page: 1 of 1

Object LAST MAGNESIUM

Basics

Name: LAST MAGNESIUM

Abbreviation:

Print Name:

Type: OBJECT

IFN: 1302

National

Standard: NO

Status: INACTIVE

Owner: CLINICAL COORDINATOR

Technical Fields

Object Method: S X=\$\$SLAB^BTIU PCC (DFN, "CALCIUM")

? Help +, - Next, Previous Screen PS/PL

Basics Try Delete

Technical Fields Find Quit

Select Action: Quit//

Edit – part 2

- Edit the technical fields and change the name to the new one.

- Be sure you know the real laboratory name.

Select Action: Quit// TEC Technical Fields

OBJECT METHOD:

```
S X=$$SLAB^BTIUPCC(DFN,"LAB TEST NAME")
```

Replace LAB TEST NAME With MAGNESIUM

- Edit the Basic fields and make it active.
- User must be defined as a Clinical Coordinator.

Edit TIU Objects

Cache TRM:2044

File Edit Help

Detailed Display Oct 20, 2004 15:20:32 Page: 1 of 1

Object LAST MAGNESIUM

Basics

Name: LAST MAGNESIUM

Abbreviation:

Print Name:

Type: OBJECT

IFN: 1302

National

Standard: NO

Status: ACTIVE

Owner: CLINICAL COORDINATOR

Technical Fields

Object Method: S X=\$\$SLAB^BTIU PCC (DFN,"MAGNESIUM")

? Help +, - Next, Previous Screen PS/PL

Basics	Try	Delete
Technical Fields	Find	Quit

Select Action: Quit//

New Objects

- Once activated, this object will appear in the list of objects when making a template.
- Users need to log off and back on to the EHR before the new objects display.

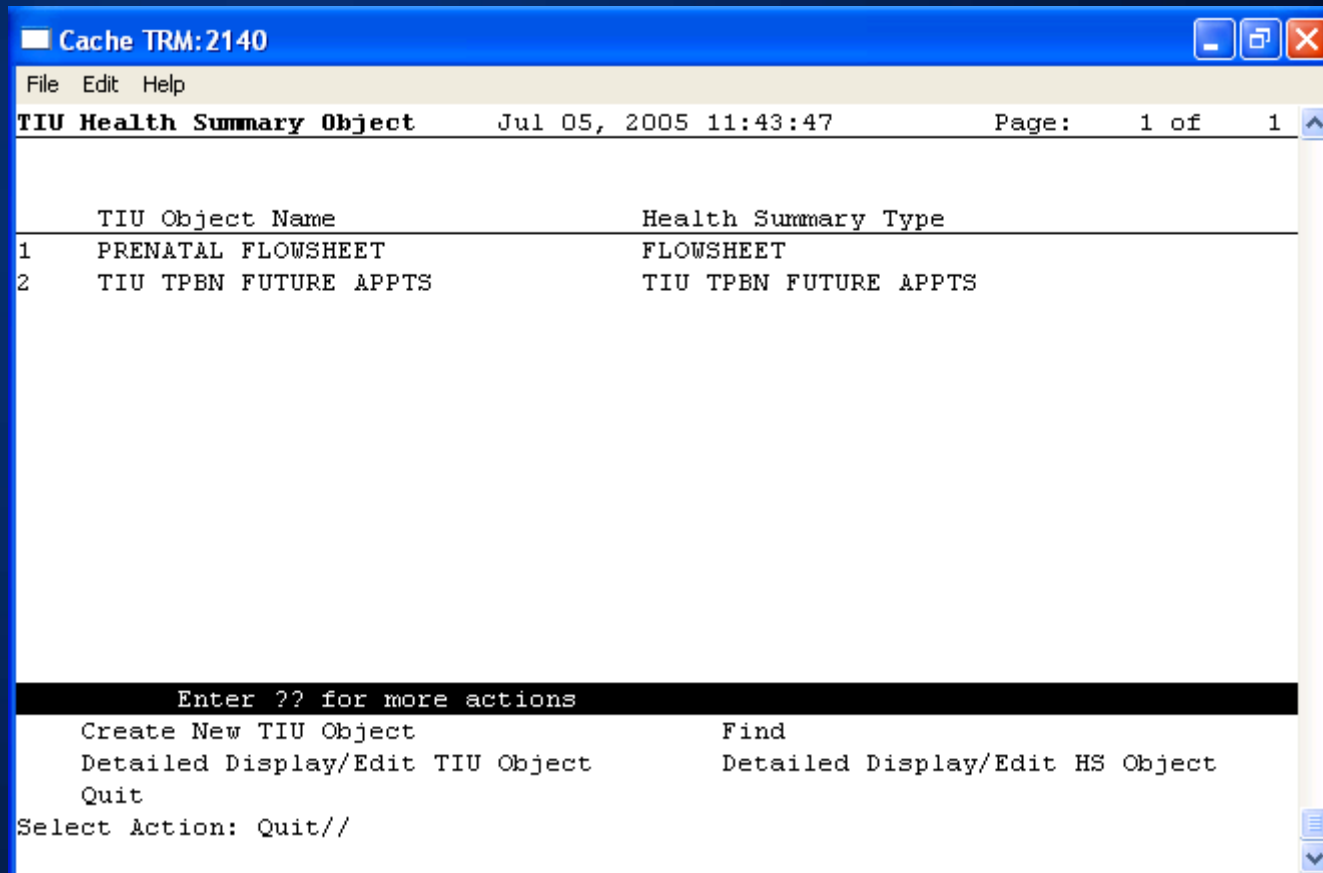
Creating Objects without Programmer Access

- Another way to make objects is to create health summary objects.
- Health summary types and components **MUST** be VA health summary types.
- Most IHS components have been converted to VA HS components.

Document Definitions

DDM1	Edit Document Definitions
DDM2	Sort Document Definitions
DDM3	Create Document Definitions
DDM4	Create Objects
DDM5	List Object Descriptions
DDM6	Create TIU/Health Summary Objects

Create TIU/HS Object



Cache TRM:2140

File Edit Help

TIU Health Summary Object Jul 05, 2005 11:43:47 Page: 1 of 1

	TIU Object Name	Health Summary Type
1	PRENATAL FLOWSHEET	FLOWSHEET
2	TIU TPBN FUTURE APPTS	TIU TPBN FUTURE APPTS

Enter ?? for more actions

Create New TIU Object	Find
Detailed Display/Edit TIU Object	Detailed Display/Edit HS Object
Quit	

Select Action: Quit//

Create TIU Object

```
Enter a New TIU OBJECT NAME: FAMILY HISTORY
Object Name: FAMILY HISTORY
Is this correct? YES// YES
Use a pre-existing Health Summary Object? NO// NO
Checking FAMILY HISTORY (TIU) with Health Summary...
Creating Health Summary Object 'FAMILY HISTORY (TIU)'
Select Health Summary Type: FAMILY HISTORY
Are you adding 'FAMILY HISTORY' as a new HEALTH SUMMARY
TYPE (the 26th)? No//YES
```

VA Health Summary Menu/Keys

- VAHS Health Summary Overall Menu ...
[GMTS MANAGER]

Select EHR SETUP MENU Option

VAHS Health Summary Overall Menu:

- 1 Health Summary Coordinator's Menu
- 2 Health Summary Enhanced Menu
- 3 Health Summary Menu
- 4 Health Summary Maintenance Menu

Health Summary Maintenance Menu

1. Disable/Enable Health Summary Component [GMTS IRM/ADPAC ENABLE/DISABLE]
2. Create/Modify Health Summary Components [GMTS IRM/ADPAC COMP EDIT]
3. Edit Ad Hoc Health Summary Type [GMTS IRM/ADPAC ADHOC EDIT]
4. Rebuild Ad Hoc Health Summary Type [GMTS IRM/ADPAC ADHOC LOAD]
5. Resequence a Health Summary Type [GMTS IRM/ADPAC TYPE RESEQUENCE]

Health Summary Maintenance Menu

6. Create/Modify Health Summary Type [GMTS TYPE ENTER/EDIT]
7. Edit Health Summary Site Parameters [GMTS IRM/ADPAC PARAMETER EDIT]
8. Health Summary Objects Menu [GMTS OBJ MENU]
9. CPRS Reports Tab 'Health Summary Types List' Menu [GMTS GUI REPORTS LIST MENU]
10. CPRS Health Summary Display/Edit Site Defaults [GMTS GUI SITE DEFAULTS]

IHS Health Summary Menu/Keys

BEH RPMS-EHR Configuration Master Menu

THEN

RPT Report Configuration ...

THEN

HSM Health Summary Configuration ...

THEN

IHS IHS Health Summary Configuration ...

(BEHORPHS IHS MAIN)

IHS Health Summary Configuration Menu/Keys

DF Delete Health Summary Flowsheet [BEHORPHS IHS FSDEL]**> Locked with APCHZMGR
DI Delete Health Summary Flowsheet Item [BEHORPHS IHS FIDEL]**> Locked with
APCHZMGR
DM Delete Measurement Panel Definition [BEHORPHS IHS MDEL]**> Locked with
APCHZMGR
DS Delete Health Summary Type [BEHORPHS IHS TDEL]**> Locked with APCHZMGR
FMMT Create/Modify Health Summary Type using Fileman [BEHORPHS IHS TED FM]
HM Health Maintenance Reminders ... [BEHORPHS IHS MENU HEALTH MAIN]
HS Generate Health Summary [BEHORPHS IHS SUM]
HSSP Update Health Summary Site Parameters [BEHORPHS IHS SITE PARAMETER]
IS Inquire About a Health Summary Type [BEHORPHS IHS INQ]
LC List Health Summary Components [BEHORPHS IHS CINQ]
LF List Health Summary Flowsheets [BEHORPHS IHS FSINQ]
LI List Health Summary Flowsheet Items [BEHORPHS IHS FIINQ]
LM List Measurement Panel Types [BEHORPHS IHS MINQ]
LS List Health Summary Types [BEHORPHS IHS TINQ]
MF Create/Modify Flowsheet [BEHORPHS IHS FSED]
MI Create/Modify Flowsheet Item [BEHORPHS IHS FIED]
MM Create/Modify Measurement Panel [BEHORPHS IHS MED] **> Locked with APCHSMGR
MS Create/Modify Health Summary Type [BEHORPHS IHS TED]
PP Print Health Maintenance Item Protocols [BEHORPHS IHS HMIP]
TYP IHS Health Summary Types [BEHORPHS IHS TYPES]

IHS Health Summary via PCC

```
** Health Summary Maintenance Menu **
IS      Inquire About a Health Summary Type
HM      Health Maintenance Reminders ...
PP      Print Health Maintenance Item Protocols
LS      List Health Summary Types
LC      List Health Summary Components
LM      List Measurement Panel Types
LF      List Health Summary Flowsheets
LI      List Health Summary Flowsheet Items
MS      Create/Modify Health Summary Type
MM      Create/Modify Measurement Panel
MF      Create/Modify Flowsheet
MI      Create/Modify Flowsheet Item
DS      Delete Health Summary Type
DM      Delete Measurement Panel Definition
DF      Delete Health Summary Flowsheet
DI      Delete Health Summary Flowsheet Item
HS      Generate Health Summary
BP      Best Practice Prompt Menu ...
FMMT    Create/Modify Health Summary Type using Fileman
HSSP    Update Health Summary Site parameters
IPT     Update the Minor Procedures CPT Taxonomy
MPT     Update the Major Procedures CPT Taxonomy
PWH     Patient Wellness Handout Menu ...
```

Creating VA HS Objects

- 1st step:
 - BEHO - RPMS-EHR Configuration Master Menu
 - RPT - Report Configuration
 - HSM - Health Summary Configuration
 - VHA - VHA Health Summary Configuration
 - BLD - Build Health Summary Type Menu
 - EDT - Create/Modify Health Summary Type
 - Select Health Summary Type:
 - Setup Occurrence Limit and/or a Time Limit

Creating VA HS Objects

- 2nd Step:
 - TIU Menu for Medical Records
 - TIU Maintenance Menu
 - Document Definitions (Manager)
 - Create TIU/Health Summary Objects with the same name you created in the first step
- 3rd Step:
 - Test the object you created in EHR

VA HS Object

----- SLT - Lab Tests Selected (max 10 occurrences or 1 year) -----

Collection DT	Specimen	Test Name	Result	Units	Ref Range
01/18/2007 12:04	SERUM	CREATININE-SFIH	7.1 H	mg/dL	.6 - 1.3
11/20/2006 09:16	SERUM	CREATININE-SFIH	6.7 H	mg/dL	.6 - 1.3
10/23/2006 09:06	SERUM	CREATININE-SFIH	5.8 H	mg/dL	.6 - 1.3
09/11/2006 09:21	SERUM	CREATININE-SFIH	6.1 H	mg/dL	.6 - 1.3
08/07/2006 09:54	SERUM !!	CREATININE-SFIH	6.4 H	mg/dL	.6 - 1.3
06/08/2006 09:25	SERUM	CREATININE-SFIH	5.8 H	mg/dL	.6 - 1.3
05/10/2006 14:57	SERUM	CREATININE-SFIH	5.3 H	mg/dL	.6 - 1.3
03/31/2006 09:05	SERUM	CREATININE-SFIH	5.7 H	mg/dL	.6 - 1.3
03/10/2006 09:00	SERUM	CREATININE-SFIH	5.5 H	mg/dL	.6 - 1.3

!! Indicates COMMENTS AVAILABLE...Refer to Interim Lab Report.

VA HS Object

----- WHB - Women's Health Brief -----

* * * Patient Profile * * *

Chart#: 999999

Case Manager: SCHNEIDER,LORRY

Facility: SANTA FE HOSPITAL

Cx Tx Need : Routine PAP (by 02/2000)

Inact Date: NO DATE

PAP Regimen : Pqy (annually) (began NO DATE)

Income Elig: NOT DETERMINED

Br Tx Need : Clinical Breast Exam (by 02/2000)

Income Date: NO DATE

DATE STATUS	PROCEDURE	RESULTS/DIAGNOSIS	
09/07/2000	PAP	WNL/Normal	CLOSED
02/04/1999	PAP	WNL/Normal	CLOSED
05/15/1998	MAMS	NOT ENTERED	DELINQ
08/24/1994	PAP	WNL/Normal	CLOSED

*** END ***** CONFIDENTIAL AD HOC SUMMARY pg. 1 *****

- 1st Step:
 - VAHS - Health Summary Maintenance Menu
 - HSH - Health Summary Menu
 - MF Create/Modify Flowsheet
- 2nd Step:
 - VAHS - Health Summary Overall Menu
 - Health Summary Maintenance Menu (^HSM)
 - Create/Modify Health Summary Type
 - Select Health Summary Type: _____
 - Setup Occurrence Limit &/or a Time Limit

Creating a Flowsheet Object

- 3rd Step:
 - TIU - Menu for Medical Records
 - TIU - Maintenance Menu
 - Document Definitions (Manager)
 - Create TIU/Health Summary Objects with the same name you created in the first step
- 4th Step:
 - Test the object you created in EHR

VA HS Flowsheet Object

----- FLO - Flowsheet (max 20 occurrences or 2 years) -----

RENAL ANEMIA

	HGB	HCT	IRON	%TSAT	TIBC	FERRITIN
01/18/2007	:11.7	:34.6	:	:	:	:
	:L	:L	:	:	:	:
11/20/2006	:12.5	:36.2	:59	:21	:280	:
	:L	:L	:	:	:	:
10/23/2006	:12.3	:34.7	:	:	:	:
	:L	:L	:	:	:	:

VA HS Flowsheet Object

CVD ASSESSMENT

	CHOL	HDL	LDL	TG	CHL/HDL
01/18/2007	:127	:	:	:	:

VA HS Flowsheet Object

METABOLIC BONE DISEASE

	CA+	PHOS	PTH	ALB
01/18/2007	: 9.3	: 5.8 H	:	: 3.5
11/20/2006	: 8.8	: 5.8 H	: 242 H	: 3.7
10/23/2006	: 8.9	: 5.6 H	:	: 3.5

Lessons Learned

- Only create 5-10 TIU objects & VAHS Objects at a time and then test them out in EHR to make sure they work before moving onto the next batch.
- Test the objects on patients that have the data in their files – i.e. lab.
- If you find that your VAHS object works in some patients but not others – review your occurrence and time limit settings.
- If you can not determine why a TIU object is not working contact the package administrator to make sure that you have the right name for the object – i.e. lab.
- When you edit objects in VAHS you do not have to log off of EHR and back on – the effects “should” work immediately after you make your changes you only have to log off and back on when creating the object.
- Create a local folder in the shared templates folder with local site objects for providers to click and drop into their notes – too many objects can clutter a note.



Questions and Discussion