TEXT INTEGRATION UTILITIES (TIU)

TECHNICAL MANUAL

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Table of Contents

Introduction *1*

Purpose of TIU **1**

Functional Overview **1**

Implementation & Maintenance *3*

Pre-Implementation Considerations **3**

Patch GMRP*2.5*44 ..... **4**
Overview 4

Setting Up TIU **5**
TIU Conversions Menu 6
Setting TIU Parameters 7
Basic TIU Parameters 8
Implement Upload Utility 10
Applying the Upload Utility to New Document Types 19
Upload Menu for Transcriptionists 23
Router/Filer Notes 24
Document Parameter Edit 34
Progress Notes Batch Print Locations 41
Division - Progress Notes Print Params 42
Document Definitions 43
Document Definition Options 44
Matrix of Actions allowed per Status and Ownership 45

Creating Objects **47**

Authorization/Subscription Utility (ASU) **48**
User Class Management [USR CLASS MANAGEMENT MENU] 48
User Class Management [USR CLASS MANAGEMENT MENU] 49
Template Management [TIU IRM TEMPLATE MGMT] 50

Progress Notes Print Options **52**

Exported Routines *57*

Menu and Option Assignment *58*
Suggested Clinical Coordinator Menu 63
Menu Assignment 64
Actions/Functions Across Applications 65

TIU File Descriptions *76*

Cross-References *80*

Archiving and Purging *95*

External Relations, RPCs, and APIs *97*

Database Integration Agreements **98**
Remote Procedure Calls 99

Package-Wide Variables *108*

Online Documentation *110*
Intranet WWW Documentation **110**
KIDS Install Print Options **110**
Print Results of the Installation Process **111**
Other Kernel Print Options 112
XINDEX **113**
Data Dictionaries/ Files **113**
Glossary *115*
Troubleshooting & Helpful Hints *137*
FAQs (Frequently Asked Questions) **137**
Questions about Reports and Upload 141
Questions about Document Definition (Classes, Document Classes, Titles, Boilerplate text, Objects) 143
Facts— Helpful information **145**
Mnemonics on List Manager screens 145
Shortcuts 145
Visit Information 145
Visit Orientation 147
How many visits are created? 149
Troubleshooting & Helpful Hints for Document Definitions 150
ASU and User Class Information **153**
Relationship between User Class file and Person Class file 153
Amount of Set-up for User Class & Business Rules **154**
Initial Population of Basic User Classes 154
Appendix A: TIU Package Security *157*
Security Key **157**
User Class Assignment and Document Definition Ownership **157**
Menu Assignment **158**
Appendix B: Creating an Object *161*
Create a very simple Object **161**
Testing the Object 164
Making the Object More Realistic 168
Testing the More Realistic Object 170
Activating the object 173
Entering a Progress Note using the Object 175
Using the Object 176
Further Considerations 176
Action Descriptions **178**
Creating Additional Medications Objects **180**
Creating a New Medications Object 182
Creating an Object Based on Health Summary **186**

Example 187
Second Example 188
Actions Descriptions 191

Introduction

Purpose of TIU

Text Integration Utilities (TIU) is a set of software tools designed to handle clinical documents in a standardized manner, with a single interface for viewing, entering, editing, and signing clinical documents. The initial release of TIU will incorporate the Discharge Summary and Progress Notes packages.

Functional Overview

Although TIU will be released initially with Discharge Summary and Progress Notes, it has been designed to meet the needs of other clinical applications that address document handling.

TIU supports the following:

1. **Upload of ASCII formatted documents into V*IST*A**

2. **Uniform file structure for storage of documents**
   Clinical documentation resides in a single location within the database. This permits ease of inquiry for such uses as Incomplete Record Tracking, quality management, results reporting, order checking, research, etc.

3. **Consistent file structure for defining elements and parameters of a document**

4. **Expanded user actions; integrated user interface for various document types, if desired**

5. **Management of document types**
   - Entry, edit, deletion, printing, and viewing of the Document Definition hierarchy structure and its elements
   - Definition of components
   - Shared components
   - Ownership (personal or class) of document definitions
   - "Locking" and National Standard of document definitions
   - Boilerplate Text functionality
   - Interdisciplinary Notes consisting of a main note (parent) with related notes (children) attached to it.

6. Management functions

- Amendment
- Deletion
- Identification of signature
- Re-assignment
- Purge

7. Support of various Health Summary components

8. Flexibility

The utility has been designed to accept document input from a variety of data capture methodologies. Those initially supported are transcription and direct entry.

9. Linkages

TIU has interfaces with such applications as Problem List, Patient Care Encounter/Visit Tracking, Incomplete Record Tracking, and the Computerized Patient Record System (CPRS).

Implementation & Maintenance

See the *Text Integration Utilities Implementation Guide* for more detailed instructions about planning and setting up TIU.

Pre-Implementation Considerations

The TIU package contains many site-configurable features which should be considered before implementing it at your site. We recommend that each site consult a multidisciplinary committee composed of MAS and clinical service representatives, as well as individual services or product lines to define site parameters which reflect hospital-wide and service policies and practices. Some of the site-configurable features which must be addressed before implementation are:

- Conversion of Progress Notes and Discharge Summaries
- Document definition hierarchy
- User Class definition
- Document upload specifications
- Interdisciplinary Notes
- Signature, signature block, and electronic signature considerations
- Purging specifications
- Printer and printing definitions
- Clinician, MAS, and transcriptionist review/release issues

The following pages describe implementation processes.

Patch GMRP*2.5*44

Overview

Patch GMRP*2.5*44 prepares the Title File (121.2) of Progress Notes for TIU. This release of Text Integration Utilities (TIU) moves all data out of the Progress Notes Package and into TIU. Progress Notes will no longer exist as a standalone package.

The purpose of this patch is to help clean up the Generic Progress Notes File (#121) and the Generic Progress Notes Title File (121.2) begin populating the TIU Document Definition File (8925.1), which is roughly equivalent to file #121.2.
.

Although this patch was developed with the conversion of Progress Notes to TIU in mind, it contains many features to assist sites in managing day-to-day activities within the Progress Notes package. With the exception of the [GMRP TIU CONVERT TITLES] option, all options in this package may be invoked without installing TIU.

NOTE: TIU requires that this patch is installed and implemented before the Progress Notes conversion (#121) to TIU (#8925) is run. *See a detailed description of using the options contained in this patch in the TIU Implementation Guide.*

Setting Up TIU

Options on the IRM Maintenance Menu let IRM Staff set and modify the various parameters controlling the behavior of the Text Integration Utilities Package, as well as the definition of TIU documents. These options are described in the following pages of this section.
TIU Maintenance Menu {TIU IRM MAINTENANCE MENU}

```
1  TIU Parameters Menu...[TIU SET-UP MENU]
   1  Basic TIU Parameters [TIU BASIC PARAMETER EDIT]
   2  Modify Upload Parameters [TIU UPLOAD PARAMETER EDIT]
   3  Document Parameter Edit [TIU DOCUMENT PARAMETER EDIT]
   4  Progress Notes Batch Print Locations [TIU PRINT PN LOC PARAMS]
   5  Division - Progress Notes Print Params [TIU PRINT PN DIV PARAMS]
2  Document Definitions (Manager)...[TIUF DOCUMENT DEFINITION MGR]
   1  Edit Document Definitions [TIUFH EDIT DDEFS MGR]
   2  Sort Document Definitions/Objects [TIUFA SORT DDEFS MGR]
   3  Create Document Definitions [TIUFC CREATE DDEFS MGR]
   4  Create Objects  [TIUFO CREATE OBJECTS MGR]
3  User Class Management ...[USR CLASS MANAGEMENT MENU]
   1  User Class Definition [USR CLASS DEFINITION]
   2  List Membership by User [USR LIST MEMBERSHIP BY USER]
   3  List Membership by Class [USR LIST MEMBERSHIP BY CLASS]
   4  Edit Business Rules [USR EDIT BUSINESS RULES]
   5  Manage Business Rules [USR MANAGE BUSINESS RULES]
4  TIU Template Mgmt Functions ... [TIU IRM TEMPLATE MGMT]
   1  Delete TIU templates for selected user. [TIU TEMPLATE CAC USER DELETE]
   2  Edit auto template cleanup parameter. [TIU TEMPLATE USER DELETE PARAM]
   3  Delete templates for ALL terminated users. [TIU TEMPLATE DELETE TERM A
```

TIU Conversions Menu

The following options are only run during implementation, so are not included on the TIU Maintenance Menu shown above.

Option Text	Option Name	Description
Convert Discharge Summaries (*** BE CERTAIN ***	TIU DISCHARGE SUMMARY CONVERT	This option is used to invoke the process which converts Discharge Summaries from the Discharge Summary version 1 database and format to that supported by TIU. CAUTION: BE CERTAIN YOU ARE READY TO IMPLEMENT DISCHARGE SUMMARIES UNDER TIU BEFORE INVOKING THIS OPTION. ALTHOUGH REVERSAL IS POSSIBLE, IT MAY PROVE TO BE QUITE COMPLICATED.
Progress Note Conversion	TIU GMRPN CONVERSION	Menu containing options for moving progress notes from the Generic Progress Note File ^GMR(121 to the Text Integration Document File ^TIU(8925.
Initialize Membership of User Classes'	USR INITIALIZE MEMBERSHIP	This option populates the PROVIDER Class for operation of clinical applications, based on ownership of keys. It should be run ONCE when first implementing ASU.

Setting TIU Parameters

TIU Parameters Menu [TIU SET-UP MENU]

This menu contains options for setting up the basic parameters and upload parameters.

Option	Option Name	Description
Basic TIU Parameters	TIU BASIC PARAMETER EDIT	This option allows you to enter the basic or general parameters that govern the behavior of the Text Integration Utilities.
Modify Upload Parameters	TIU UPLOAD PARAMETER EDIT	This option allows the definition and modification of parameters for the batch upload of documents into **V*IST*A**.
Document Parameter Edit	TIU DOCUMENT PARAMETER EDIT	This option lets you enter the parameters which apply to specific documents (i.e., Titles), or groups of documents (i.e., Classes, or Document Classes).
Division - Progress Notes Print Parameters	TIU PRINT PN DIV PARAM	These parameters are used by the [TIU PRINT PN BATCH INTERACTIVE] and [TIU PRINT PN BATCH SCHEDULED] options. If the site desires a header other than what is returned by $$SITE^ VASITE the .02 field of the 1st entry in this file will be used. For example, Waco-Temple-Marlin can have the institution of their progress notes as "CENTRAL TEXAS HCF."
Progress Notes Batch Print Locations	TIU PRINT PN LOC PARAMS	Option for entering hospital locations used for [TIU PRINT PN OUTPT LOC] and [TIU PRINT PN WARD] options. If locations are not entered in this file they will not be selectable from these options.

Basic TIU Parameters

This option allows you to enter the basic or general parameters which govern the behavior of the Text Integration Utilities.

Example

```
Select TIU Maintenance Menu Option: 1  TIU Parameters Menu

   1      Basic TIU Parameters
   2      Modify Upload Parameters
   3      Document Parameter Edit
   4      Progress Notes Batch Print Locations
   5      Division - Progress Notes Print Params

Select TIU PARAMETERS Menu Option: BASIC TIU PARAMETERS Basic TIU PARAMETERS
First edit Division-wide parameters:

Select INSTITUTION:   <YOUR INSTITUTION NAME>
ENABLE ELECTRONIC SIGNATURE: YES// ??
   When set to 1, electronic signature will be enabled.  Prior to enabling
   electronic signature, it will be assumed that signatures are to be
   written on the chart copy of VAF 10-1000.
     Choose from:
       1        YES
       0        NO
ENABLE ELECTRONIC SIGNATURE: YES// <Enter>
ENABLE NOTIFICATIONS DATE:OCT 1, 1996// ??
     Examples of Valid Dates:
       JAN 20 1957 or 20 JAN 57 or 1/20/57 or 012057
       T   (for TODAY),  T+1 (for TOMORROW),  T+2,  T+7,  etc.
       T-1 (for YESTERDAY),  T-3W (for 3 WEEKS AGO), etc.
     If the year is omitted, the computer uses the CURRENT YEAR.
     When set to a valid date, notifications of Documents which
     are available or overdue for signature will be sent to the user whose
     signature is missing (i.e., either author or attending physician).

ENABLE NOTIFICATIONS DATE: OCT 1, 1996// <Enter>
GRACE PERIOD FOR SIGNATURE: 7// ??
     This is the number of days following transcription before an author or
     Attending Physician will be notified of a deficiency.
GRACE PERIOD FOR SIGNATURE: 7// <Enter>
GRACE PERIOD FOR PURGE: 100//??
     This is the number of days following transcription for which a report
     will be kept, prior to purge.
GRACE PERIOD FOR PURGE: 100//<Enter>
CHARACTERS PER LINE: 60// ??
     This value (default 60) will be divided into the total number of
     'actual' characters in a given Documents to derive the line
     count for that document.  By 'actual' characters, we mean all
     printable ASCII characters, with multiple white space characters
     stripped.
CHARACTERS PER LINE: 60// <Enter>
```

TIU Basic Parameter Edit Example cont'd

```
OPTIMIZE LIST BUILDING FOR: performance// ??
     This parameter specifies for the institution in question whether the
     list building functions of TIU should invoke Authorization/
     Subscription to determine whether documents which the user is not yet
     authorized to see should be excluded from the list (i.e., whether the
     list building should be optimized for security). This is the default
     behavior of TIU. If the impact of this "filtering" becomes
     unacceptable to users at your site, you may wish to set this parameter
     to optimize for Performance, which will bypass the record-wise
     evaluation of view privilege, and allow all records satisfying the
     search criteria to be included in the list.  Of course, when the user
     attempts to view documents from the resulting lists before he is
     authorized to do so, he will be prevented from doing so, with an
     explanatory message that looks like this:

     Reviewing Item #1

      You may not VIEW this UNSIGNED NURSE'S NOTE.

     RETURN to continue...<Enter>

     This feature is offered as a means of balancing the demands for rapid
     response with the concerns of many facilities for control of access to
     confidential information.
     Choose from:
       P        performance
       S        security
OPTIMIZE LIST BUILDING FOR: performance//<Enter>
SUPPRESS REVIEW NOTES PROMPT: YES// ??
     If this parameter is set to yes, TIU will suppress the prompt
     indicating how many notes are available to the user, when entering a
     indicating Progress Note.
     Choose from:
       1        YES
       0        NO
SUPPRESS REVIEW NOTES PROMPT: YES//<Enter>
ENABLE CHART COPY PROMPT: ??
     This parameter is used to enable Medical Record Technicians and MIS
     managers to be prompted whether prints of summaries are chart copies
     or not. If not enabled, when MR Techs and MIS Mgr print summaries,
     they will be chart copies.
     Choose from:
       1        YES
       0        NO
ENABLE CHART COPY PROMPT: <Enter>
BLANK CHARACTER STRING: ??
     This is a special string of characters which should be used by the
     transcriptionist to represent a "blank."  i.e., a word or phrase in
     the dictation which could not be understood and included in the
     transcription.
BLANK CHARACTER STRING: @@@
Press RETURN to continue...<Enter>

   1      Basic TIU Parameters
   2      Modify Upload Parameters
   3      Document Parameter Edit
   4      Progress Notes Batch Print Locations
   5      Division - Progress Notes Print Params

You have PENDING ALERTS
          Enter  "VA   VIEW ALERTS     to review alerts

Select TIU Parameters Menu Option:
```

Implement Upload Utility

There are two steps to enable uploading of reports into **V***IST***A**.

Step 1: Set up your Terminal Emulator

Step 2: Enter Upload Utility Parameters

Examples of these two steps are given on the following pages. Two examples are shown for entering upload parameters—ASCII and Kermit. If you are using a commercial word-processing program, documents must be saved to ASCII format.

Host File Server:

If the ASCII upload source is defined as (H)ost,, data will be an ASCII host file such as VMS or DOS.

Remote Computer:
If the ASCII upload source is defined as (R)emote, data will be read from an ASCII stream coming to **V***IST***A** from a terminal emulator. You may select either a Kermit or RAW ASCII transfer protocol for your station. However, we strongly recommend that you use Kermit, as it provides for error correction and handles line noise much more effectively than the RAW ASCII. If you plan to use the Kermit Protocol, skip to the set-up dialog on page 17.

NOTE: If your site has chosen to have clinicians enter the documents directly into V*IST*A, then you needn't implement the upload utility.

Step 1. Set up a Terminal Emulator

Determine which type of terminal emulator your site plans to use.

Raw ASCII file transfer protocol

This example shows possible combinations of terminal and ASCII transfer options using the appropriate configuration utilities provided by your terminal emulation software.

TERMINAL OPTIONS

```
A - Terminal emulation . . . . . VT100  K - EGA/VGA true underline . . . ON
B - Duplex . . . . . . . . . . . FULL   L - Terminal width . . . . . . . 80
C - Soft flow control (XON/XOFF) ON     M - ANSI 7 or 8 bit commands . . 8 BIT
D - Hard flow control (RTS/CTS). OFF
E - Line wrap. . . . . . . . . . ON
F - Screen Scroll. . . . . . . . ON
G - CR translation . . . . . . . CR
H - BS translation . . . . . . .DESTRUCTIVE
I - Break length (milliseconds). 2000
J - Enquiry (ENQ). . . . . . . . OFF
A - Echo locally . . . . . . . . NO     K - CR translation (download). . NONE
B - Expand blank lines . . . . . YES    L - LF translation (download). . NONE
C - Expand tabs. . . . . . . . . YES
D - Character pacing (millisec).  0
E - Line pacing (1/10 sec) . . . .0
F - Pace character . . . . . . . .62     [NOTE:  This MUST correspond to the
                                         PACE CHARACTER defined in the upload
                                         utility parameter edit dialog below]
G - Strip 8th bit. . . . . . . . NO
H - ASCII download timeout . . . 60 seconds
I - CR translation (upload). . . NONE
J - LF translation (upload). . . OFF
```

Also, be sure that the ASCII transfer option to "abort transfer if carrier detect (CD) is lost" is set to "NO."

Because of the significantly greater reliability of the Kermit file transfer protocol, we recommend that you use it rather than the Raw ASCII protocol. Try using the default settings for packet size, timeout, start and end of packet characters, and checksum size, as provided by your terminal emulation software. The **V***ISTA* Kermit server should work properly with these settings.

Step 2. Enter Upload Utility Parameters

Use the *Modify Upload Parameters* option located on the TIU Parameters menu to enter the upload utility's parameters.

Modify Upload Parameters—ASCII Protocol Example

In this example, the ASCII upload source is a remote computer and the upload protocol is defined as an ASCII Protocol. To optimize reliability and functionality when using the ASCII Protocol, we recommend a direct line rather than a modem for transfer of data.

```
Select TIU Maintenance Menu Option: 1  TIU Parameters Menu

   1      Basic TIU Parameters
   2      Modify Upload Parameters
   3      Document Parameter Edit
   4      Progress Notes Batch Print Locations
   5      Division - Progress Notes Print Params

Select TIU Parameters Menu Option: 2  Modify Upload Parameters
First edit Institution-wide upload parameters:

Select INSTITUTION: YOUR HOSPITAL
ASCII UPLOAD SOURCE: remote computer// <Enter>
UPLOAD PROTOCOL:  ??
     This is the preferred upload protocol.
     Choose from:
       a        ASCII
       k        KERMIT
UPLOAD PROTOCOL: ASCII <Enter>
PACE CHARACTER:  ??
   This is the ASCII value of the character which VISTA will send to the
   remote computer to acknowledge receipt of the last text line transmitted
   and to prompt the remote to transmit another line.  If you are using the
   same remote to upload both MailMan messages and textual reports, then we
PACE CHARACTER: 62
END OF MESSAGE SIGNAL: ??
   This is the free text signal to the upload process that the entire
   transmission is successfully finished, and no more lines of data need to
   be read from the input stream.
END OF MESSAGE SIGNAL: $END
UPLOAD HEADER FORMAT: ??
   This field determines whether the ASCII protocol upload/router/filer will
   expect delimited string or captioned formats for the header of each
   report.
```

Modify Upload Parameters

```
     Choose from:
       C        captioned
       D        delimited string
UPLOAD HEADER FORMAT: captioned
RECORD HEADER SIGNAL:  ??
   This is a free text signal to the upload process that a new report record
   header has been encountered.  It may be as simple as the three-character
   string "MSH" or as complex as "HEADERBEGIN". The signal used by the
   Surgery Package option to transmit operative notes (i.e., "@@@") will
   also
RECORD HEADER SIGNAL: MSH
BEGIN REPORT TEXT SIGNAL: ??
   This is the signal to the upload processor that the fixed-field header
   for a given report record has been fully read, and that the body of the
   narrative report follows.
BEGIN REPORT TEXT SIGNAL: $TXT
RUN UPLOAD FILER IN FOREGROUND: ??
   This parameter specifies whether the filer for the upload process should
   be run in the foreground, rather than in the background (i.e., as a
   Task).
     If no preference is specified the default will be to run the filer as a
     BACKGROUND task.
     Choose from:
       1        YES
       0        NO
RUN UPLOAD FILER IN FOREGROUND: NO

Now Select upload error alert recipients:
Select ALERT RECIPIENT: RUELL,JOE
  Are you adding 'RUELL,JOE' as  a new UPLOAD ERROR ALERT RECIPIENT (the
  1ST for this TIU PARAMETERS)? Y  (Yes)
Select ALERT RECIPIENT: <Enter>
Now edit the DOCUMENT DEFINITION file:
Select DOCUMENT DEFINITION: Discharge Summary
     1   Discharge Summary  DISCHARGE SUMMARY        TITLE
     2   Discharge Summary  DISCHARGE SUMMARY        DOCUMENT CLASS
CHOOSE 1-2: 1  DISCHARGE SUMMARY
ABBREVIATION: DCS
LAYGO ALLOWED?: ??
   This Boolean field indicates whether or not a new entry can be created in
   the TARGET FILE for this document type.
     Choose from:
       0        NO
       1        YES
LAYGO ALLOWED?: YES
UPLOAD TARGET FILE:  ??
   Enter the VA FileMan file in which the fixed-field header information and
   associated text will be stored.
   NOTE:  Only files which include the TIU Application Group may be
   selected.
   NOTE:  Upload fields (fields 1.01, 1.02, 1.03, 1.04, 4, 4.5, 4.6, 4.7,
   4.8 and multiple fields 1 and 2) apply to Document Definitions of Type
   Class, Document Class, and Title.
Choose from:
   70              RAD/NUC MED PATIENT
   74              RAD/NUC MED REPORTS
   8925            TIU DOCUMENT
   8925.1          TIU DOCUMENT DEFINITION
   8925.97         TIU CONVERSIONS
UPLOAD TARGET FILE: TIU DOCUMENT 8925  TIU DOCUMENT
```

The example here shows the setup for Discharge Summaries. See the *TIU Implementation Guide* for other document types.

Modify Upload Parameters—ASCII Protocol Example cont'd

These are field #s, which is why there isn't a #1.

```
Select TARGET TEXT FIELD:  ??
Choose from:
   2               REPORT TEXT
   3               EDIT TEXT BUFFER
Select TARGET TEXT FIELD: REPORT TEXT
UPLOAD LOOK-UP METHOD: D LOOKUP^TIUPUTU// <Enter>
UPLOAD POST-FILING CODE: D FOLLOWUP^TIUPUTU(TIUREC("#"))
           Replace <Enter>
UPLOAD FILING ERROR CODE: D GETPAT^TIUCHLP// <Enter>
Select CAPTION: ??

Choose from:
   ATTENDING PHYSICIAN
   DATE OF ADMISSION
   DICTATED BY
   DICTATION DATE
   PATIENT SSN
   TRANSCRIPTIONIST
   URGENCY
     This is the caption to be associated with a given field in the message
     header and the target file (e.g., Patient Name:).
Select CAPTION: PATIENT SSN
  CAPTION: PATIENT SSN// <Enter>
  ITEM NAME: SSN
  FIELD NUMBER: .02// <Enter>
  LOOKUP LOCAL VARIABLE NAME: ??
     This field specifies the local variable name required by the lookup
     routine into which this item will be set.
     Enter the required local variable into which this item will be set.
  LOOKUP LOCAL VARIABLE NAME:
  TRANSFORM CODE: S:X?3N1P2N1P4N.E X=$TR(X,"-/","")
           Replace <Enter>
  EXAMPLE ENTRY: PRIORITY// <Enter>
  CLINICIAN MUST DICTATE: YES// <Enter>
  REQUIRED FIELD?: YES// ??
     This field is used to determine whether a given header item is required
     by the application (e.g., Author and Attending Physician may be
     required for the ongoing processing of a Discharge Summary).  Records
     lacking required fields WILL be entered into the target file, if
     possible, but will generate Missing Field Error Alerts.
     Choose from:
       1        YES
       0        NO

Select CAPTION: <Enter>  CAPTION: DATE OF ADMISSION// <Enter>
  ITEM NAME: ADMISSION DATE// <Enter>
  FIELD NUMBER: .07// <Enter>
  LOOKUP LOCAL VARIABLE NAME: TIUADT// <Enter>
  EXAMPLE ENTRY: 03/30/97// <Enter>
  CLINICIAN MUST DICTATE: YES// <Enter>
   REQUIRED FIELD?: YES// <Enter>
```

NOTE: Some of these prompts and defaults only appear if you have programmer access.

Modify Upload Parameters—ASCII Protocol Example cont'd

```
Select CAPTION: DATE OF DISCHARGE
  ITEM NAME: DISCHARGE DATE
  FIELD NUMBER: .08
  LOOKUP LOCAL VARIABLE NAME: <Enter>
  TRANSFORM CODE:  <Enter>
  EXAMPLE ENTRY: <Enter>
CLINICIAN MUST DICTATE: Y  YES
  REQUIRED FIELD?: Y  YES
Select CAPTION: DICTATED BY
  CAPTION: DICTATED BY// <Enter>
  ITEM NAME: DICTATING PROVIDER// <Enter>
  FIELD NUMBER: 1202// <Enter>
  LOOKUP LOCAL VARIABLE NAME: <Enter>
  TRANSFORM CODE:  <Enter>
  EXAMPLE ENTRY: DOOGEY P. HOWSER, M.D.  Replace <Enter>
  CLINICIAN MUST DICTATE: YES// <Enter>
  REQUIRED FIELD?: Y  YES
Select CAPTION: DICTATION DATE
  CAPTION: DICTATION DATE// <Enter>
  ITEM NAME: DICTATION DATE// <Enter>
  FIELD NUMBER: 1307// <Enter>
  LOOKUP LOCAL VARIABLE NAME: TIUDICDT// <Enter>
  TRANSFORM CODE:  <Enter>
  EXAMPLE ENTRY: 04/03/97// <Enter>
  CLINICIAN MUST DICTATE: YES// <Enter>
  REQUIRED FIELD?: Y  YES
Select CAPTION: ATTENDING PHYSICIAN
  CAPTION: ATTENDING PHYSICIAN// <Enter>
  ITEM NAME: ATTENDING PHYSICIAN// <Enter>
  FIELD NUMBER: 1209// <Enter>
  LOOKUP LOCAL VARIABLE NAME: <Enter>
  TRANSFORM CODE:  <Enter>
  EXAMPLE ENTRY: MARCUS C. WELBY, M.D.  Replace <Enter>
  CLINICIAN MUST DICTATE: YES// <Enter>
  REQUIRED FIELD?: Y  YES
Select CAPTION: TRANSCRIPTIONIST
  CAPTION: TRANSCRIPTIONIST// <Enter>
  ITEM NAME: TRANSCRIPTIONIST ID/ <Enter>/
  FIELD NUMBER: 1302// <Enter>
  LOOKUP LOCAL VARIABLE NAME: <Enter>
  TRANSFORM CODE:  <Enter>
  EXAMPLE ENTRY: T1212// <Enter>
  CLINICIAN MUST DICTATE: NO// <Enter>
  REQUIRED FIELD?: NO  NO
Select CAPTION: <Enter>
```

Modify Upload Parameters—ASCII Protocol Example cont'd

```
The header for the Discharge Summary Document Definition is now defined as:
$HDR:                                   DISCHARGE SUMMARY
SOCIAL SECURITY NUMBER:                 555-12-1234
DATE OF ADMISSION:                      03/30/97
DICTATED BY:                            DOOGEY P. HOWSER, M.D.
DICTATION DATE:                         04/03/97
ATTENDING PHYSICIAN:                    MARCUS C. WELBY, M.D.
TRANSCRIPTIONIST:                       T1212
URGENCY:                                PRIORITY
$TXT
  DISCHARGE SUMMARY Text
*** File should be ASCII with width no greater than 80 columns.
*** Use "@@@" for "BLANKS" (word or phrase in dictation that isn't
*** understood).
```

Modify Upload Parameters—Kermit Protocol Example

This example demonstrates the ASCII upload source as a remote computer and the upload protocol is defined as a Kermit Protocol. Experience at sites suggests that the Kermit Protocol is the preferred protocol to transfer data because of its simple set-up and reliable functionality.

```
Select TIU Parameters Menu Option: 2  Modify Upload Parameters
First edit Institution-wide upload parameters:

Select INSTITUTION: 660
     1   660  SALT LAKE CITY       UT                              660
     2   660AA  SALT LAKE DOM      UT                      VAMC    660AA
CHOOSE 1-2: 1  SALT LAKE CITY
         ...OK? Yes// <Enter>  (Yes)

ASCII UPLOAD SOURCE: r  remote computer
UPLOAD PROTOCOL: k  KERMIT
UPLOAD HEADER FORMAT: c  captioned
RECORD HEADER SIGNAL: $HDR
BEGIN REPORT TEXT SIGNAL: $TXT
RUN UPLOAD FILER IN FOREGROUND: NO//   NO

Now Select upload error alert recipients:

Select ALERT RECIPIENT: FAN,TAN
  Are you adding 'FAN,TAN' as a new UPLOAD ERROR ALERT RECIPIENT (the 1ST for
  this TIU PARAMETERS)? Y (Yes)
Select ALERT RECIPIENT: SCHLAMENA,PAMELA
  Are you adding 'SCHLAMENA,PAMELA' as a new UPLOAD ERROR ALERT RECIPIENT (the
  2ND for this TIU PARAMETERS)? Y  (Yes)
Select ALERT RECIPIENT: <Enter>
Now edit the DOCUMENT DEFINITION file:
DOCUMENT DEFINITION: ^
```

In this example we assume that you define upload captions for specific document types elsewhere. See the *TIU Implementation Guide* for

Modify Upload Parameters con'td

When configured this way, report text with the following format can be successfully uploaded and routed to the appropriate records in the TIU DOCUMENT File (#8625):

```
$HDR:               DISCHARGE SUMMARY
NAME OF PATIENT:          DOE, JOHN D.
SOCIAL SECURITY NUMBER:   555-12-1212
DATE OF ADMISSION:         01/15/93
DATE OF DISCHARGE:         02/23/93
ATTENDING PHYSICIAN:      HAR GOOD, M.D.
$TXT
DISCHARGE DIAGNOSIS:
                    1. Acute Ischemic Heart Disease.
                    2. Congestive Heart Failure.
                    3. Tachycardia.
PROCEDURES:         Cardiac Catheterization, Echocardiagram,
                    12-lead EKG.
                    .
                    .
$HDR:               DISCHARGE SUMMARY
NAME OF PATIENT:          ANON, AMOS A.
SOCIAL SECURITY NUMBER:   555-12-1212
DATE OF ADMISSION:         01/27/93
DATE OF DISCHARGE:         02/23/93
ATTENDING PHYSICIAN:      HAR GOOD, M.D.
URGENCY:                  PRIORITY
$TXT
DISCHARGE DIAGNOSIS:
                    1. Acute abdominal pain of unknown etiology.
                    2. Diabetes mellitus type II.
                    3. Tachycardia.
PROCEDURES:         There were no invasive procedures done
                    during this hospitalization.

$END
```

Applying the Upload Utility to New Document Types

With the emergence of new types of documents, TIU from time to time extends the TIU Upload Utility for use in uploading new types of documents. This section describes some of the steps involved in extending the TIU Upload Utility.

There are two main parts to the process. The first part is determining what header data should be included in transcribed reports of the given document type and defining the upload header accordingly. The second involves writing new code for several parts of the upload process, namely, for document lookup, and for filing error resolution.

Lookup Method code identifies the record the report should be uploaded into, in the target file, or perhaps creates a new record. Upload Filing Error code gathers information from users alerted when a report fails to file, and attempts to re-file the report, after corrections are made. A new, document type-specific Lookup Method is *required* for new document types. New Upload Filing Error Code is *recommended* but not required.

Lookup Methods

In the absence of a document type-specific Lookup Method, the TIU Upload Utility performs a generic lookup, using just the document internal file number. Experience has shown that this generic lookup is not reliable: a single error in dictation or transcription of header data can cause the report to upload into the wrong record. New types of documents therefore *must have* their own, document type-specific Lookup Method code, rather than relying on the generic lookup.

Lookup Methods are written in conjunction with an upload header definition for the given document type. They must be tested prior to use to make sure they deal adequately with potential user errors in dictation and transcription by cross-checking data for consistency and completeness. They should also deal with the possibility of sites erroneously setting field numbers in upload header definitions, for captions which should not have field numbers. Routine TIUPUTSX is well documented and provides a model for writing upload Lookup Methods when uploading into files other than the TIU Document file [#8925]. See routine TIUPUTCN for an example of a lookup method for documents uploaded into the TIU Document file.

Upload Filing Error Code

In the absence of custom filing error resolution code, the TIU Upload Utility attempts to resolve filing errors by permitting the user to edit the temporary buffer record. The user is then asked if they wish to re-file the record. If the user chooses to re-file, the same process used to attempt to file the document in the first place is called again.

Custom filing error resolution code, in contrast to the utility's generic process, generally prompts the user for all the information necessary to file the record, and then proceeds automatically to file the record, without further user activity. If the document still fails to file, the user is given the opportunity to revert to the generic filing error resolution process. Since custom filing error resolution code generally does its own filing, it requires the writing of new filing code for the particular type of document, with checks for data consistency similar to those performed in the Lookup Method. Although the generic error resolution process can be considered technically reliable, custom filing error resolution code is generally written as a

convenience for users, who may not otherwise have access to the information needed to correct the buffer record.

Experience has shown that it is *not* advisable to call Filing Error Upload code written for a different document type. If new code cannot be written, the generic process should be used, rather than calling code for a different document type. For an example of the serious problems caused by using Filing Error Upload Code written for a different document type, see patch TIU*1*131, on FORUM. If the generic process is used, care must be exercised to ensure that the document type does not inherit custom error resolution code from an ancestor in the document definition hierarchy.

Routines TIUPNFIX and TIUCNFIX contain filing error resolution code for Progress Notes and for Consults. They are well documented and may serve as models when writing filing error resolution code for other document types. Further information on those routines is provided, below.

An alternative, intermediate approach to filing error resolution code is modeled in routine TIUPUTSX. This approach prompts the user for necessary information, redisplays the selected data, but then relies on the user to make the necessary corrections and to refile the document. Such code is simpler to write than the usual full-blown filing error resolution code, and still provides the user with the information needed to correct the document.

Models for TIU Upload Filing Error Code

With patch TIU*1*131, the Upload Filing Error Code for Progress Notes and for Consults has been restructured to permit cross-checks on transcribed data. This new code can be used as a model when writing filing error resolution code for other types of documents.

The new filing error resolution code subroutines for Progress Notes and for Consults, PNFIX^TIUPNFIX, and CNFIX^TIUCNFIX have the same basic structure. They:

1. Call generic* module LOADHDR^TIUFIX2 to load header data from the upload buffer record into an array, TIUFLDS.
2. Call document-type specific module GETCHECK (GETCHECK^TIUPNFIX for Progress Notes or GETCHECK^TIUCNFIX for Consults). This module prompts the user for data and validates that the data is consistent and complete.
3. Call generic* module MAKE^TIUFIX1, which creates a document (or uses an existing stub) and uploads into the document.

In more detail:

LOADHDR^TIUFIX2

Header data from the transcribed buffer record are loaded at the beginning of the filing error resolution process so that they can be used as default values when prompting the user for data in GETCHECK, and so that the header data array TIUFLDS can be updated in GETCHECK before its data are filed in MAKE^TIUFIX1. If a caption has no transcribed data, and the caption is listed in the upload header definition as REQUIRED, the corresponding node of TIUFLDS is loaded with the value, ** REQUIRED FIELD MISSING FROM UPLOAD**, so that it (along with any other invalid data) will fail to file later in MAKE^TIUFIX1, thus generating a missing field error. LOADHDR is intended to apply generically* to document types beyond Progress Notes and Consults; the target file need not be the TIU DOCUMENT file (#8925).

GETCHECK—GETCHECK^TIUPNFIX for Progress Notes or GETCHECK^TIUCNFIX for Consults

GETCHECK prompts the user for all data needed to look up or create a document of the given type. GETCHECK also prompts for any additional data which must be checked before being filed in the document. User-supplied data are either collected in a manner which enforces consistency, or cross-checked for consistency. GETCHECK modules must be written specifically for each type of document.

MAKE^TIUFIX1:

MAKE^TIUFIX1 receives all data needed to either look up or create a TIU document. That is, it either receives the internal file number (IFN) for an existing stub document, or it receives the document title, patient DFN, and a visit array TIU. If no stub IFN is received, title, patient, and visit data are used to create a new TIU document. A newly created document is then stuffed with data derived from the visit, and with other data already known, such as Method of Capture. For both newly created documents and for existing stubs, all received nodes of array TIUFLDS are then filed, and all fields which fail to file create missing field errors. The text is then uploaded from the buffer record into the document.

Note that the error resolution process essentially ignores those data from the buffer record which are used in the initial upload process to create or look up a document. Since the

document failed to file, one or more of these data elements must be faulty. Therefore, for filing error resolution, these data are taken directly from the user, and the document is created with user-supplied data rather than with transcribed, buffer data. Those nodes of buffer array TIUFLDS which contain document creation/lookup data are killed before TIUFLDS is passed to MAKE^TIUFIX1, to prevent transcribed data from overwriting fields filed during the document creation process. Any nodes of TIUFLDS which contain fields *not* filed during the document creation process, but which *are supplied* by the user (so they can be checked in GETCHECK), are updated. Remaining nodes of TIUFLDS are then filed after the document is created, in MAKE^TIUFIX1. Lastly, the buffer record is used to file the text of the report. MAKE is intended to apply generically* to document types beyond Progress Notes and Consults, but only to types which upload into the TIU DOCUMENT file (#8925). Routines TIUFIX, TIUFIX1, and TIUFIX2 also contain other sub-modules intended for generic* use in resolving filing errors.

*Generic modules:

These modules are intended to apply to document types other than just Progress Notes and Consults. Some will be useful only for documents uploaded into the TIU DOCUMENT file (#8925). Others may be used regardless of target file.
None of these generic modules have been tested against document types other than Progress Notes and Consults; further use requires further testing.

Note: The generic modules are subject to change by the TIU development staff without notice. Use these routines with caution.

Upload Menu for Transcriptionists

The Upload Menu contains sub-options that allow the transcriptionist to upload a batch of documents or get help about the header formats expected for each document type, by the upload process, as defined for your site.

Option	Option Name	Description
Upload Documents	TIU UPLOAD DOCUMENTS	This option lets transcriptionists upload transcribed ASCII documents in batch mode, either from remote microcomputers, using ASCII or KERMIT protocol upload, or from Host Files (i.e., DOS or VMS ASCII files) on the host system. Your site may define the preferred file transfer protocol and the destination within **V*IST*A** to which each report type (e.g., discharge summary, progress notes, Operative Report, etc.) should be routed.
Help for Upload Utility	TIU UPLOAD HELP	This option displays information on the formats of headers for dictated documents that are transcribed off-line and uploaded into **V*IST*A**. It also displays "blank" character, major delimiter, and end of message signal as defined by your site.

The upload utility permits mixed report types within a single batch. This allows the transcriptionist to enter each report in arrival sequence into a single ASCII file on the remote computer (e.g., using a proprietary word-processing program), and to transmit the text to the **V*IST*A** host system as a one-step process. As this ASCII data arrives at the **V*IST*A** host, it is read into a "buffer" file, and stored for subsequent "filing" by a special background process, called the "Router/filer."

Router/Filer Notes

Each record in the batch file is preceded by a captioned header, the first line of which MUST begin with the MESSAGE HEADER SIGNAL as defined for your site (in this case $HDR), followed by a colon, followed by the document type name.

Router/Filer Notes, cont'd

All other captioned fields may appear in any sequence, provided that the captions are appropriately spelled, followed by colons, followed by the values of the corresponding fields. Tabs may be used (they will be stripped), but *all other non-ASCII characters (including formatting commands) must be omitted (i.e., the batch file MUST be saved as TEXT ONLY WITH LINE FEEDS, with no boldface or underlining, and NO PAGE BREAKS, PAGE HEADERS, or PAGE FOOTERS).*

Notice that the first record lacked an URGENCY value, and that the format defined in file 8925.1 excludes captions for TYPE OF RELEASE and WARD NUMBER. The upload utility will simply ignore such missing or irrelevant data (i.e., the release type and ward at discharge are already known to **V***IST***A** and will be displayed on the 10-1000, whether the author dictates them, and the transcriptionist includes them or not).

The Router/filer is queued upon completion of transmission of a given batch of reports, and will proceed to "read" each line of the buffer file, looking for a header. When a header is encountered, the filer will determine whether the record corresponds to a known document type, as defined by your site, and if so, it will attempt to direct the record to the appropriate file and fields in **V***IST***A**.

On occasion, the Router/filer will not be able to identify the appropriate record in the target file, and will therefore be unable to file the record. When this happens, the process will leave the record in the buffer file and send an alert to a group of users identified by the site as being able to respond to such filing errors.

When ***any*** of the alert recipients chooses to act on one of these alerts (by entering "VA" at any menu prompt, and choosing the alert on which they wish to act), they will be shown the header of the failed report, and offered an opportunity to inquire to the patient record. They will then be presented with their preferred **V***IST***A** editor, and will then be allowed to edit the buffer (e.g., correct a bad social security number, admission date, etc.) and retry the filer.
With each attempt to correct the buffered data and retry the filer, all alerts associated with that record will be deleted (and if the condition remains uncorrected, re-sent), until all records are successfully filed.

You may also use the Review Upload Filing Events option on the MRT menu to correct such filing errors.

Batch Upload Reports

Kermit Protocol Upload

If your site is using the upload option to transfer batches of discharge summaries from a remote computer using the Kermit transfer protocol, start the upload process by following the sequence below:

1. Choose UP from your Upload Menu.

```
   UP     Batch upload reports
   HLP    Display upload help

You have PENDING ALERTS
          Enter  "VA   VIEW ALERTS     to review alerts

Select Upload menu Option: UP  Batch upload reports

                     K E R M I T   U P L O A D
Now start a KERMIT send from your system.
Starting KERMIT receive.
#N3
```

2. When you see the #N3 prompt, initiate the Kermit file transfer from your computer.

Try the default settings for the Kermit protocol as provided by your terminal emulation software. If you have problems, consult your terminal emulator user manual or contact your local IRM Service.

3. When the transfer is complete, you'll see this message:

```
File transfer was successful.  (1515 bytes)
Filer/Router Queued!

Press RETURN to continue...<Enter>
   UP     Batch upload reports
   HLP    Display upload help
Select Upload menu Option:  <Enter>
```

ASCII Protocol Upload

If your site is using the upload option to transfer batches of discharge summaries from a remote computer using the ASCII transfer protocol, start the upload process by following the example shown below:

Choose UP from your Upload Menu.

```
   UP     Batch upload reports
   HLP    Display upload help

Select Upload menu Option: UP  Batch upload reports

A S C I I   U P L O A D
```

When the "Initiate upload procedure:" prompt appears, initiate the ASCII file transfer from your computer.

NOTE: If you have problems, consult your local IRM Service to see if the Terminal and Protocol Set-up parameters have been set up as shown earlier in this section, or check the user manual for your terminal emulator.

```
Initiate upload procedure:
$HDR:                                   DISCHARGE SUMMARY
>PATIENT NAME:                          DOE,JOHN A.
>SOC SEC NUMBER:                        555-12-1212
>ADMISSION DATE:                        02/20/97
>DISCHARGE DATE:                        02/25/97
>DICTATED BY:                           BENJAMIN P. CASEY, M.D.
>DICTATION DATE:                        02/26/97
>ATTENDING PHYSICIAN:                   MARCUS C. WELBY, M.D.
>TRANSCRIPTIONIST ID:                   T1212
>URGENCY:                               PRIORITY
>DIAGNOSIS:
>1.  Acute pericarditis.
>2.  Status post transmetatarsal amputation, left foot.
>3.  Diabetes mellitus requiring insulin.
>4.  Diabetic neuropathy.
>
>Operations/Procedures performed during current admission:
>1.  Status post transmetatarsal amputation of left foot on 3/17/93.
>2.  Echocardiogram done 3/17/93.
.
.
.
$END
Filer/Router Queued!

Press RETURN to continue...<Enter>
```

Handling upload errors

ASCII protocol upload / with alert

```
--- Transcriptionist Menu ---

   1      Enter/Edit Discharge Summary
   2      Enter/Edit Document
   3      Upload Menu ...

DOE,W C (D6572): 07/22/91 DISCHARGE SUMMARY is missing fields.
          Enter  "VA   VIEW ALERTS     to review alerts

Select Text Integration Utilities (Transcriptionist) Option: VA

1.FILING ERROR: DIABETES EDUCATION  Record could not be found or
created
2.FILING ERROR: ~3 DISCHARGE SUMMARY Invalid Report Type encountered.
3.FILING ERROR: PROGRESS NOTES  Record could not be found or created.
4.DOE,W C (D6572): 07/22/91 DISCHARGE SUMMARY is missing fields.
5.ANDERSON,H C (A3456): 08/14/95 ADVERSE REACTION/ALLERGY is missing
fie
          Select from 1 to 5
          or enter ?, A I, F, P, M, R, or ^ to exit: 1

The header of the failed record looks like this:

$HDR: PROGRESS NOTES
TITLE: DIABETES EDUCATION
PATIENT: DOE,WILLIAM
SSN: 243236572
VISIT/EVENT DATE: 04/18/96@10:00
AUTHOR: HOWSER,DOOGEY
TRANSCRIBER: SCRIPTION
DATE/TIME OF DICT: T
LOCATION: NUCLEAR MED
$TXT

Inquire to patient record? YES// <Enter>
Select PATIENT NAME: DOE,WILLIAM C.       09-12-44     243236572
YES
 SC VETERAN
            (7 notes)  C: 05/20/97 17:01
            (1 note )  W: 02/21/97 09:19
                       A: Known allergies
            (3 notes)  D: 03/26/97 10:52

This patient is not currently admitted to the facility...

Is this note for INPATIENT or OUTPATIENT care? OUTPATIENT// <Enter>
```

ASCII protocol upload / with alert, cont'd

```
The following VISITS are available:

   1>  MAY 21, 1997@08:30                 PULMONARY CLINIC
   2>  APR 11, 1997@08:00                 DIABETIC EDUCATION-INDIV-
MOD B
   3>  APR 18, 1996@10:00                 GENERAL MEDICINE
   4>  FEB 21, 1996@08:40                 PULMONARY CLINIC
   5>  FEB 20, 1996@10:00  NO-SHOW        ONCOLOGY
CHOOSE 1-5
<RETURN> TO CONTINUE
OR '^' TO QUIT: 3  APR 18 1996@10:00
Progress Note Identifiers...
              Patient Name:  DOE,WILLIAM C.
               Patient SSN:  243-23-6572
          Patient Location:  GENERAL MEDICINE
        Date/time of Visit:  04/18/96 10:00
   ...OK? YES// <Enter>
TITLE: ADV
     1   ADVANCE DIRECTIVE          TITLE
     2   ADVERSE REACTION/ALLERGY          TITLE
CHOOSE 1-2: 2
Filing Record/Resolving Error...Done.

Opening Adverse React/Allergy record for review...
```

```
Browse Document            Jun 13, 1997 15:56:18   Page:    1 of    1
                              Adverse React/Allergy
DOE,W C     243-23-6572   GENERAL MEDICINE Visit Date:
04/18/96@10:00

DATE OF NOTE: JUN 13, 1997         ENTRY DATE: JUN 13,
1997@15:56:16
      AUTHOR: HOWSER,DOOGEY      EXP COSIGNER:
     URGENCY:                          STATUS: UNVERIFIED

The new antihistamine is working.




          + Next Screen  - Prev Screen  ?? More actions
     Find                       Edit                       Copy
     Verify/Unverify            Send Back                  Print
     On Chart                   Reassign                   Quit
Select Action: Quit// V   Verify/Unverify
Do you want to edit this Adverse React/Allergy? NO// <Enter>
VERIFY this Adverse React/Allergy? NO// YES
```

ASCII protocol upload / with alert, cont'd

```
Adverse React/Allergy VERIFIED.

 1.   FILING ERROR: ~3 DISCHARGE SUMMARY Invalid Report Type encountered.
 2.   FILING ERROR: PROGRESS NOTES  Record could not be found or created.
 3.   DOE,W C (D6572): 07/22/91 DISCHARGE SUMMARY is missing fields.
 4.   ANDERSON,H C (A3456): 08/14/95 ADVERSE REACTION/ALLERGY is missing
fields.
          Select from 1 to 4
          or enter ?, A I, F, P, M, R, or ^ to exit: 3

You may now enter the correct information:

DOE,W C (D6572): 07/22/91 DISCHARGE SUMMARY is missing fields.

Diplay ENTIRE existing record? NO// YES

DOCUMENT TYPE: Discharge Summary        PATIENT: DOE,WILLIAM C.
  VISIT: JUL 22, 1991@11:06
  PARENT DOCUMENT TYPE: DISCHARGE SUMMARIES
  STATUS: UNVERIFIED
  EPISODE BEGIN DATE/TIME: JUL 22, 1991@11:06
  EPISODE END DATE/TIME: FEB 12, 1996@13:56:50
  LINE COUNT: 73                        VISIT TYPE: H
```

ASCII protocol upload / with alert, cont'd

```
  ENTRY DATE/TIME: JUN 13, 1997@15:55:31
  AUTHOR/DICTATOR: HOWSER,DOOGEY        EXPECTED SIGNER: HOWSER,DOOGEY
  HOSPITAL LOCATION: 1A                 EXPECTED COSIGNER: RUSSELL,JOEL
  ATTENDING PHYSICIAN: RUSSELL,JOEL     VISIT LOCATION: 1A
  REFERENCE DATE: FEB 12, 1996@13:56:50 ENTERED BY: BS
  CAPTURE METHOD: upload                RELEASE DATE/TIME: JUN 13, 1997@15:55:40
  DICTATION DATE: JUN 10, 1997
  PATIENT MOVEMENT RECORD: JUL 22, 1991@11:06
  TREATING SPECIALTY: SURGERY           COSIGNATURE NEEDED: YES
  VISIT ID: 11HR-TEST
 REPORT TEXT:

Enter RETURN to continue or '^' to exit: <Enter>
 DIAGNOSIS:
 1.  Status post head trauma with brain contusion.
 2.  Status postcerebrovascular accident.
 3.  End stage renal disease on hemodialysis.
 4.  Coronary artery disease.
 5.  Congestive heart failure.
 6.  Hypertension.
 7.  Non insulin dependent diabetes mellitus.
 8.  Peripheral vascular disease, status post thrombectomies.
 9.  Diabetic retinopathy.
 10. Below knee amputation.
 11. Chronic anemia.
 OPERATIONS/PROCEDURES:
 1. MRI.
 2. CT SCAN OF HEAD.
 HISTORY OF PRESENT ILLNESS: Patient is a 49-year-old, white male with past
 medical history of end stage renal disease, peripheral vascular disease,
 status post BKA, coronary artery disease, hypertension, non insulin
 dependent diabetes mellitus, diabetic retinopathy, congestive heart failure,
 status post CVA, status post thrombectomy admitted from Anytown VA after a
 fall from his wheelchair in the hospital.  He had questionable short lasting
 loss of consciousness but patient is not very sure what has happened.  He
 denies headache, vomiting, vertigo.  On admission patient had CT scan which
 showed a small area of parenchymal hemorrhage in the right temporal lobe
 which is most likely consistent with hemorrhagic contusion without mid line
 shift or incoordination.
 ACTIVE MEDICATIONS:  Isordil 20 mgs p.o. t.i.d., Coumadin 2.5 mgs p.o. qd,
 ferrous sulfate 325 mgs p.o. b.i.d., Ativan 0.5 mgs p.o. b.i.d., Lactulose
 15 ccs p.o. b.i.d., Calcium carbonate 650 mgs p.o. b.i.d. with food,
 Betoptic 0.5% ophthalmologic solution gtt OU b.i.d., Nephrocaps 1 tablet
 p.o. qd,  Pilocarpine 4% solution 1 gtt OU b.i.d., Compazine 10 mgs p.o.
 t.i.d. prn  nausea, Tylenol 650 mgs p.o. q4 hours prn.
 Patient is on hemodialysis, no known drug allergies.
 PHYSICAL EXAMINATION:  Patient had stable vital signs, his blood pressure
 was 160/85, pulse 84, respiratory rate 20, temperature 98 degrees.  Patient
 was alert, oriented times three, cooperative.  His speech was fluent,
 understanding of spoken language was good.  Attention span was good.  He had
 moderate memory impairment, no apraxia noted.  Cranial nerves patient was
 blind, pupils are not reactive to light, face was asymmetric, tongue and
 palate are mid line.  Motor examination showed muscle tone and bulk without
 significant changes.  Muscle strength in upper extremities 5/5 bilaterally,
```

ASCII protocol upload / with alert, cont'd

```
 sensory examination revealed intact light touch, pinprick and vibratory
 sensation.  Reflexes 1+ in upper extremities, coordination finger to nose
 test  within normal limits bilaterally.  Alternating movements without
 significant  changes bilaterally.  Neck was supple.
 LABORATORY:  Showed sodium level 135, potassium 4.6, chloride 96, CO2 26,
 BUN 39, creatinine 5.3, glucose level 138.  White blood cell count was 7,
 hemoglobin 11, hematocrit 34, platelet count 77.
 HOSPITAL COURSE:  Patient was admitted after head trauma with multiple

Enter RETURN to continue or '^' to exit: <Enter>
medical problems.  His coumadin was held.  Patient had cervical spine x-rays
 which showed definite narrowing of C5, C6 interspace, slight retrolisthesis
 at this level, promient spurs at this level as well as above and below.  CT
 scan on admission showed a moderate amount of scalp thinning with
 subcutaneous air overlying the left frontal lobe.  A small area of left
 parenchymal hemorrhage adjacent to the right petros bone in the temporal
 lobe which most likely represents a hemorrhagic contusion.  The basal
 cisterns are patent and there is no mid line shift or uncal herniation.
 Patient has also a remote left  posterior border zone infarct with
 hydrocephalus ex vaccuo of the left occipital horn, a rather large remote
 infact in the inferior portion of the left cerebellar hemisphere.  Repeated
 CT scan on 5/13/94 didn't show any  progressive changes.  Patient remained
 in stable condition.  He had  hemodialysis q.o.d.  He restarted treatment
 with Coumadin.  His last PT was  11.9, PTT 31.  Patient refused before
 hemodialysis new blood tests.  His  condition remained stable.
 DISCHARGE MEDICATIONS:  Isordil 20 mgs p.o. t.i.d., Ferrous sulfate 325 mgs
 p.o. b.i.d., Ativan 0.5 mgs p.o. b.i.d., Lactulose 15 ccs p.o. b.i.d.,
 Calcium carbonate 650 mgs p.o. b.i.d., Compazine 10 mgs p.o. t.i.d. prn
 nausea,  Betoptic 0.5% OU b.i.d., Nephrocaps 1 p.o. qd, Pilocarpine 4%
 solution 1 gtt OU b.i.d., Coumadin 2.5 mgs p.o. qd, Tylenol 650 mgs p.o. q6
 hours prn pain.
 DISPOSITION/FOLLOW-UP: Recommend follow PT/PTT.  Patient is on coumadin and
 CBC with differential because patient has chronic anemia and
 thrombocytopenia.

 Patient will be transferred to Anytown VA in stable condition on 5/19/94.

URGENCY: ~0 PRIORITY// P  priority

 1.   FILING ERROR: ~3 DISCHARGE SUMMARY Invalid Report Type encountered.
 2.   FILING ERROR: PROGRESS NOTES  Record could not be found or created.
 3.   ANDERSON,H C (A3456): 08/14/95 ADVERSE REACTION/ALLERGY is missing fie
          Select from 1 to 3
          or enter ?, A I, F, P, M, R, or ^ to exit: <Enter>

                         --- Transcriptionist Menu ---

   1      Enter/Edit Discharge Summary
   2      Enter/Edit Document
   3      Upload Menu ...

          Enter  "VA   VIEW ALERTS     to review alerts

Select Text Integration Utilities (Transcriptionist) Option: <Enter>
```

In the example above, notice that patient John Doe had no admission on 11/17/96, and so the filer could not create a record in the target file for this discharge summary record. The user acts on the alert to correct the admission date as 11/16/96, and retries the filer, which is now able to file the record appropriately, and the alerts are removed for all recipients.

Display Upload Help

Transcriptionists may select this sub-option in the Upload Menu to display the formats expected by the upload process for the report types defined at your site.

The captioned headers may be captured as ASCII data and used to build macros using commercial word-processors (e.g., Word Perfect or Microsoft Word), and thereby avoid retyping the captioned headers, while minimizing the risk of spelling errors or inconsistencies with the formats expected by the host system.

```
   UP     Batch upload reports
   HLP    Display upload help

You have PENDING ALERTS
          Enter  "VA   VIEW ALERTS     to review alerts
Select Upload menu Option: HLP  Display upload help
Select REPORT TYPE: DISCHARGE SUMMARY// <Enter>  Discharge Summary

$HDR:                                   DISCHARGE SUMMARY
SOC SEC NUMBER:                         555-12-1212
ADMISSION DATE:                         02/21/96
DISCHARGE DATE:                         02/25/96
DICTATED BY:                            BENJAMIN P. CASEY, M.D.
DICTATION DATE:                         02/26/96
ATTENDING:                              MARCUS C. WELBY, M.D.
TRANSCRIPTIONIST ID:                    T1212
URGENCY:                                PRIORITY
$TXT
  DISCHARGE SUMMARY Text
$END

*** File should be ASCII with width no greater than 80 columns.
*** Use "___" for "BLANKS" (word or phrase in dictation that isn't understood).
Press RETURN to continue...<Enter>
```

Document Parameter Edit

[TIU DOCUMENT PARAMETER EDIT]

This option allows the definition and modification of parameters for the batch upload of documents into **V*IST*A**.

Example

```
Select TIU Maintenance Menu Option: 1  TIU Parameters Menu

   1      Basic TIU Parameters
   2      Modify Upload Parameters
   3      Document Parameter Edit
   4      Progress Notes Batch Print Locations
   5      Division - Progress Notes Print Params

You have PENDING ALERTS
          Enter  "VA   VIEW ALERTS     to review alerts

Select TIU Parameters Menu Option: 3      Document Parameter Edit
First edit Institution-wide parameters:

Select DOCUMENT: PROGRESS NOTES          CLASS
         ...OK? Yes// <Enter>  (Yes)

DOCUMENT NAME: PROGRESS NOTES//<Enter>
REQUIRE RELEASE: NO// ??
      This parameter determines whether the person entering the
      document will be required (and prompted) to release
      the document from a draft state, upon exit from the
      entry/editing process.

      Though designed for Discharge Summaries, release may be used for any
      kind of TIU document.

     Choose from:
       1        YES
       0        NO
REQUIRE RELEASE: NO// <Enter>
REQUIRE MAS VERIFICATION: UPLOAD ONLY // ??
     This parameter determines whether verification by MAS is
     required, prior to public access, and signature of the
     document.

      Though designed for Discharge Summaries, verification may be used for any
      kind of TIU document, and is particularly helpful for documents that are
      uploaded from a transcription service.

      Allowable values are:  0       NO
                             1       YES, ALWAYS
                             2       UPLOAD ONLY
                             3       DIRECT ENTRY ONLY

      where 1 indicates that these documents require verification regardless of
      how they originate; 2 indicates that verification is required only when
      only when documents are entered directly into VISTA.
```

Document Parameter Edit Example cont'd

```
     Choose from:
       1        YES, ALWAYS
       0        NO
       2        UPLOAD ONLY
       3        DIRECT ENTRY ONLY
REQUIRE MAS VERIFICATION: UPLOAD ONLY// <Enter>
REQUIRE AUTHOR TO SIGN: YES// ??
     Currently applies only to Discharge Summaries. This field indicates
     whether or not the author should sign the document before the expected
     cosigner (attending).

     If parameter is set to NO, only the expected cosigner is alerted for
     signature. Although the unsigned document appears in the author's unsigned
     list, and he is ALLOWED to sign it, his signature is not REQUIRED.

     If set to YES, then the author is alerted for signature, and if the
     expected cosigner should attempt to sign the document first, he is
     informed that the author has not yet signed.
     Choose from:
       1        YES
       0        NO
REQUIRE AUTHOR TO SIGN: YES//<Enter>
ROUTINE PRINT EVENT(S): ??
        A document of the given type, and of ROUTINE urgency, is automatically
        printed whenever one of these events occurs.

        For example, a site may specify that ROUTINE documents print only upon
        Completion (i.e., signature or cosignature), while STAT documents print
        upon Release from Transcription, MAS Verification, or both, in addition to
        printing upon completion.

        If print events are not specified, and a CHART COPY DEVICE is defined for
        the Medical Center Division, then the document will be auto-printed only
        upon completion.

        If field MANUAL PRINT AFTER ENTRY is set to YES, then auto-print is
        ignored entirely.

        If urgency is not specified for some document, then its urgency is
        considered to be routine, and the document prints when a routine print
        event occurs.

     Choose from:
       R        release
       V        verification
       B        both
ROUTINE PRINT EVENT(S): <Enter>
STAT PRINT EVENT(S): ??
     This field is identical to ROUTINE PRINT EVENT(S), except that it applies
     to documents of STAT urgency rather than ROUTINE urgency.
     Choose from:
       R        release
       V        verification
       B        both
STAT PRINT EVENT(S): <Enter>
```

Document Parameter Edit Example cont'd

```
MANUAL PRINT AFTER ENTRY: YES// ??
     This parameter is used for documents where a manually-printed hard copy
     is desired following document entry. If the parameter is set to YES, the
     user is prompted to print a copy on exit from their preferred editor, and
     auto-printing (as described in fields ROUTINE/STAT PRINT EVENT(S)) is
     ignored.
     Choose from:
       1        YES
       0        NO
MANUAL PRINT AFTER ENTRY: YES// <Enter>
ALLOW CHART PRINT OUTSIDE MAS: YES// ??
     This field determines whether non-MAS users (for example, providers) are
     asked if they want WORK copies or CHART copies when they print a document.
     If the field is NOT set to YES, they are not asked, and the printout is a
     WORK copy.

     Generally, this is set to YES for PROGRESS NOTES, which are likely to be
     printed on the Ward or in the Clinic for immediate inclusion in the chart.
     For DISCHARGE SUMMARIES, which are typically printed centrally, it is
     usually set to NO, since duplicate CHART COPIES are a particular problem.
     Choose from:
       1        YES
       0        NO
ALLOW CHART PRINT OUTSIDE MAS: YES// <Enter>
ALLOW >1 RECORDS PER VISIT: YES// ??
     For example, it is often appropriate to enter
     multiple PROGRESS NOTES for a single HOSPITALIZATION or CLINIC VISIT, whereas
     only one DISCHARGE SUMMARY is usually entered per HOSPITALIZATION.
     Choose from:
       1        YES
       0        NO
ALLOW >1 RECORDS PER VISIT: YES//<Enter>
ENABLE IRT INTERFACE: ??
     This enables TIU's interface with Incomplete Record Tracking, (IRT)
     which updates IRT's deficiencies when transcription, signature,
     or cosignature (review) events are registered for a given
     document.

     NOTE: IRT is designed for DISCHARGE SUMMARIES, and is appropriate only for
     types of documents where only one document is expected per patient
     movement. We therefore ask you to leave this parameter undefined (or set
     it to NO) for PROGRESS NOTES.
     Choose from:
       0        NO
       1        YES
ENABLE IRT INTERFACE: <Enter>
```

Document Parameter Edit Example cont'd

```
SUPPRESS DX/CPT ON NEW VISIT: NO// ??
        This parameter applies only to documents for outpatient care. Together
        with parameter ASK DX/CPT ON ALL OPT VISITS, it determines whether or not
        a user is prompted for diagnoses and procedures after signing or editing a
        document.

        If this parameter is set to YES (for suppress), the user is not prompted
        for this information.

        If this parameter is set to NO or is blank, the user may or may not be
        prompted, depending on the type of visit and on parameter ASK DX/CPT ON
        ALL OPT VISITS.

        If a site elects to suppress diagnoses and procedures, the site must
        capture this information by some other means (such as an AICS encounter
        form), in order to receive workload credit for these visits.
     Choose from:
       1        YES
       0        NO
SUPPRESS DX/CPT ON NEW VISIT: NO// <Enter>
FORCE RESPONSE TO EXPOSURES: ??
        When set to YES, this parameter forces the user to respond when
        asked to specify a veteran's Service Connection Classification
        (AO, IR, or EC),when creating a standalone visit.

     Choose from:
       1        YES
       0        NO
FORCE RESPONSE TO EXPOSURES: <Enter>
ASK DX/CPT ON ALL OPT VISITS: ??
        This parameter applies only to documents for outpatient care,
        and is IGNORED if SUPPRESS DX/CPT ON ENTRY is set to YES.

        If DX/CPT prompts are NOT suppressed, and ASK DX/CPT ON ALL
        OPT VISITS is set to YES, the user is prompted for DX/CPT
        information for scheduled as well as unscheduled (stand-alone)
        visits.

        If DX/CPT prompts are NOT suppressed, and ASK DX/CPT ON ALL OPT
        VISITS is set to NO, the user is prompted for DX/CPT information
       for unscheduled visits ONLY.

     Choose from:
       1        YES
       0        NO
ASK DX/CPT ON ALL OPT VISITS: <Enter>
SEND ALERTS ON ADDENDA: ??
        This parameter determines whether AUTHORS and COSIGNERS of a
        document of this kind (and any of its descendent types) will
        receive an informational alert when addenda are added by other
        persons. Like all document parameters, it may be overridden at
        descendent levels of the Document Definition Hierarchy. DEFAULT
        is NO.

     Choose from:
       1        YES
       0        NO
SEND ALERTS ON ADDENDA: <Enter>
```

Document Parameter Edit Example cont'd

```
ORDER ID ENTRIES BY TITLE: ??
        This prompt applies only to notes with interdisciplinary entries
        Under them.

        When an ID note is displayed or printed, the child entries are
        Normally ordered by reference date under the parent entry. In some
        cases it may be preferable to order them alphabetically by title.
        If this parameter is set to YES, child entries are displayed by
        title rather than by date.

        The default order is by date.
     Choose from:
       1        YES
       0        NO
ORDER ID ENTRIES BY TITLE: <Enter>
SEND ALERTS ON NEW ID ENTRY: YES// ??
        This parameter applies only to interdisciplinary parent notes.

        If this parameter is set to YES, the signer (cosigner) of an
        interdisciplinary parent note is alerted when a new entry is added
        to the note.

        The default is NO.
     Choose from:
       1        YES
       0        NO
SEND ALERTS ON NEW ID ENTRY: YES// <Enter>
EDITOR SET-UP CODE: ??
     This is M code which is executed prior to invoking the user's preferred
     editor.  It ordinarily sets local variables, which are then used in the
     editor's header, etc.

     For example, code written at Boston VAMC sets a local array containing
     patient demographics.  An M-based editor used at the site can then display
     demographic information in a fixed header when a user edits a document.

EDITOR SET-UP CODE: <Enter>

If document is to be uploaded, specify Filing Alert Recipients:
Select FILING ERROR ALERT RECIPIENTS: RUELL,JOE
         // ??
   RUELL,JOE

        You may enter a new FILING ERROR ALERT RECIPIENTS, i
        These persons receive alerts from the upload filer p
        of the given type cannot be filed/located, or has a

        If a document being uploaded has a missing/bad title
        recipients defined at the title level cannot be foun
        recipients named at the class level are alerted. For
        Progress Note is being uploaded and has a missing/ba
        Note-level recipients are alerted.

        If recipients are not specified, then alert recipients named in parameter
        UPLOAD ERROR ALERT RECIPIENTS in the TIU PARAMETER file are alerted as
        defaults.

Choose from:
   ANDERS,CURTISY      CLA            PHYSICIAN
   ARUS,DUSTY      RA
   ARC,CHAS      CA
 . . .
   '^' TO STOP: ^
```

If your site wishes to route alerts for filing errors to different recipients by document type (Discharge Summary alerts to one MRT, Operative Report alerts to another, etc.), this is where to specify that.

Document Parameter Edit Example cont'd

```
Select FILING ERROR ALERT RECIPIENTS: RUELL,JOE
         // <Enter>

Now enter the USER CLASSES for which cosignature will be required:

Select USERS REQUIRING COSIGNATURE: INTERN// ??

Choose from:
   INTERN
   PAYROLL TECHNICIAN
   STUDENT

        You may enter a new USERS REQUIRING COSIGNATURE, if you wish
        Applies to all types of documents EXCEPT DISCHARGE SUMMARIES.

        Please indicate which groups of users (i.e., User Classes) require
        cosignature for the type of document in question.  For example, STUDENTS,
        INTERNS, LPNs, and other user classes may be identified as requiring a
        cosignature for PROGRESS NOTES.

        NOTE: Independent of this parameter, DISCHARGE SUMMARIES ALWAYS require
        cosignature by the ATTENDING PHYSICIAN, EXCEPT when the ATTENDING
        PHYSICIAN dictates the summary himself.

Choose from:
   ACCOUNTANT
   ACCOUNTS PAYABLE EMPLOYEE
.
.
.
   '^' TO STOP: ^
Select USERS REQUIRING COSIGNATURE: INTERN// <Enter>

Now enter the DIVISIONAL parameters:
Select DIVISION: SALT LAKE CITY// ?
 Answer with DIVISION:
   SALT LAKE CITY

     You may enter a new DIVISION, if you wish
     Please indicate the Medical Center Division
 Answer with MEDICAL CENTER DIVISION NUM, or NAME, or FACILITY NUMBER:
   1               SALT LAKE CITY      660

Select DIVISION: SALT LAKE CITY// <Enter>
  CHART COPY PRINTER: ??
        This parameter is primarily useful for DISCHARGE SUMMARIES, or other
        documents where automatic central printing of chart copies on site-
        configurable events are most useful (e.g., INTERIM SUMMARIES or
        OPERATIVE REPORTS at some point in the future).

        When defined along with a STAT CHART COPY PRINTER, this is the device to
        which chart copies of documents with ROUTINE urgencies will be sent
        automatically.  If no STAT CHART COPY PRINTER is defined, then ALL
        documents of the current type will be sent to this device, regardless of
        their urgencies.

        Note: If field MANUAL PRINT AFTER ENTRY is set to YES, then auto-print
        is ignored.
```

Document Parameter Edit Example cont'd

```
Choose from:
   AFJX RESOURCE     IRM      AFJX RESOURCE
   BROKER DEVICE     SYSTEM       _BG
   HFS     Host File Server      DSA4:[MUMPS.OERMGR]
   HOME     HOME       _LTA:
   INTERMEC 4100     LABEL TABLE      _LTA370:
   S-DJ     Slaved Deskjet      0
   '^' TO STOP: ^
  CHART COPY PRINTER: <Enter>
  STAT CHART COPY PRINTER: ??
        This parameter is primarily useful for DISCHARGE SUMMARIES, or other
        documents where automatic central printing of chart copies on site-
        configurable events are most useful (e.g., INTERIM SUMMARIES or
        OPERATIVE REPORTS at some point in the future).

        When defined along with a CHART COPY PRINTER, this is the device to
        which chart copies of documents with STAT urgencies will be sent
        automatically.

        Note: If field MANUAL PRINT AFTER ENTRY is set to YES, then auto-print
        is ignored.

Choose from:
   AFJX RESOURCE     IRM      AFJX RESOURCE
   BROKER DEVICE     SYSTEM       _BG
   HFS     Host File Server      DSA4:[MUMPS.OERMGR]
   HOME     HOME       _LTA:
   INTERMEC 4100     LABEL TABLE      _LTA370:
   S-DJ     Slaved Deskjet      0
   '^' TO STOP: ^

  STAT CHART COPY PRINTER: <Enter>
Select DIVISION: <Enter>
Press RETURN to continue...<Enter>

   1      Basic TIU Parameters
   2      Modify Upload Parameters
   3      Document Parameter Edit
   4      Progress Notes Batch Print Locations
   5      Division - Progress Notes Print Params
Select TIU Parameters Menu Option:<Enter>
```

Progress Notes Batch Print Locations

[TIU PRINT PN LOC PARAMS]

These parameters are used by the [TIU PRINT PN BATCH INTERACTIVE] and [TIU PRINT PN BATCH SCHEDULED] options. If the site wants a header other than what is returned by $$SITE^ VASITE the .02 field of the 1st entry in this file will be used. For example, Waco-Temple-Marlin can have the institution of their progress notes as "CENTRAL TEXAS HCF."

```
Select TIU Maintenance Menu Option: 1  TIU Parameters Menu

   1      Basic TIU Parameters
   2      Modify Upload Parameters
   3      Document Parameter Edit
   4      Progress Notes Batch Print Locations
   5      Division - Progress Notes Print Params

Select TIU Parameters Menu Option: 4  Progress Notes Batch Print Locations

Select Clinic or Ward: TELEPHONE TRIAGE - PSYCHIATRY
PROGRESS NOTES DEFAULT PRINTER: LASERJET 4SI// <Enter>
EXCLUDE FROM PN BATCH PRINT: ?
 Set to '1' progress notes for this location will not be included
 in the progress notes outpatient batch print job [TIU PRINT PN
 BATCH].You would do this if you wanted to print the CHART copies
 of the notes for this location in the clinic and not in the file
 room.
     Choose from:
       1        YES
```

Division - Progress Notes Print Params

[TIU PRINT PN DIV PARAMS]

Use this option for entering hospital locations used for [TIU PRINT PN OUTPT LOC] and [TIU PRINT PN WARD] options. If locations are not entered in this file they will not be selectable from these options.

```
Select TIU Maintenance Menu Option: 1  TIU Parameters Menu

   1      Basic TIU Parameters
   2      Modify Upload Parameters
   3      Document Parameter Edit
   4      Progress Notes Batch Print Locations
   5      Division - Progress Notes Print Params

Select TIU Parameters Menu Option: 5  Division - Progress Notes Print Params

Select Division for PNs Outpatient Batch Print: ?
 Answer with TIU DIVISION PRINT PARAMETERS, or NUMBER:
   1               SALT LAKE CITY

     You may enter a new TIU DIVISION PRINT PARAMETERS, if you
     wish. Select the DIVISION these print parameters apply to.
 Answer with MEDICAL CENTER DIVISION NUM, or NAME:
   1               SALT LAKE CITY      660

Select Division for PNs Outpatient Batch Print: YOUR HOSPITAL
         ...OK? Yes// <Enter>  (Yes)

LOCATION TO PRINT ON FOOTER: ??
     The name of this division as it should appear in the footer
     of the progress notes and forms printed using the terminal
     outpatient sort.  This is useful for sites that want
     digit something other than what the external value of
     this division returned by $$SITE^VASITE.  For example, the
     Waco division of the Central Texas Health Care System may
     want Central Texas HCS- Waco to appear in the footer instead
     of WACO VAMC.
LOCATION TO PRINT ON FOOTER: CENTRAL ANYWHERE
PROGRESS NOTES BATCH PRINTER: WARD LASERJET 4SI
```

Document Definitions

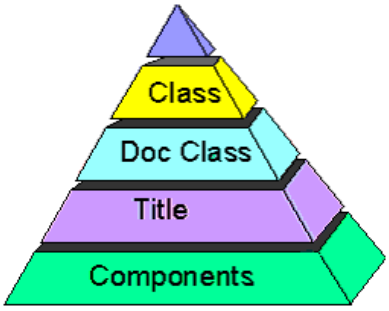
[TIUF DOCUMENT DEFINITION MGR]

Whenever a provider enters a TIU document (such as a report, a progress note, a discharge summary, or other documentation), that document is linked to a Document Definition in the Document Definition hierarchy. This Document Definition stores the behavior of the document (for example, signature requirements) and is called a Title. It also stores boilerplate/ overprint text, if desired.

Plan the Document Definition Hierarchy your site or service will use before installing TIU and converting Progress Notes. Patch GMRP*2.5*44 helps you do this, by cleaning up and organizing your files before the conversion.

For more detailed information describing the hierarchy, see the field descriptions for the Document Definition File in the data dictionary.

Document Definition Layers:



The layer linked to individual documents is the *Titles* layer, which is the lowest of the Hierarchy. Titles can be composed of Components (e.g., a SOAP note is composed of the components Subjective, Objective, Assessment, and Plan).

The two higher layers of definition are *Document Class* and *Class*. These layers group Document Definitions within a meaningful organization. These two layers also store some behaviors, which are inherited by associated Titles.

TIU permits nested **levels** of Class. TIU allows only one Document Class **level** beneath a Class **level**. This level, however, can contain as many Document Classes as necessary. TIU allows only one **level** of Titles beneath a Document Class. This level however, can contain as many Titles as necessary.

Document Definition Options

Option Text	Option Name	Description
Create Document Definitions	TIUFC CREATE DDEFS	The Create Document Definitions option lets you create new entries of any type (Class, Document Class, Title, Component) except Object, placing them where they belong in the hierarchy. Although entries can be created using the Edit and Sort options, the Create option streamlines the process. The Create option permits you to view, edit, and create entries (if the entry is not marked National Standard). The Create Option doesn't let you copy an entry.
Edit Document Definitions	TIUFH EDIT DDEFS	The Edit Document Definitions Option lets you view and edit entries. Since Objects don't belong to the hierarchy, they can't be viewed or edited using the Edit Option.
Sort Document Definitions	TIUFA SORT DDEFS	The Sort Document Definitions option lets you view and edit entries by selected sort criteria (displayed in alphabetic order by name rather than in hierarchy order). Entries can include Objects.
Create Objects	TIUFJ CREATE OBJECTS MGR	This option lets you create new objects or edit existing objects. Existing objects are displayed for you within a selected alphabetical range.
View Objects	TIUFJ VIEW OBJECTS CLIN	This option lets you review existing objects within a selected alphabetical range.

Document Definition Terminology

Term	Definition
CLASS	A group of groups which may contain one or more CLASSES or DOCUMENT CLASSES. For example: Progress Notes, Discharge Summary, and History and Physical Examinations.
DOCUMENT CLASS	A grouping which may contain one or more TITLES; for example: Medical Service Notes, Nursing Service Notes, Surgical Service Notes,
TITLE	A single entity at the lowest level. For example: Endocrinology Note, OPC/Psychology, Primary Care Note, etc.
BOILERPLATE TEXT	Template-like blocks of text that use OBJECTS and embedded text to allow quick creation of notes.
COMPONENT	A reusable block of text that is predefined for a specific purpose, such as a SOAP components (Subjective, Objective, Assessment, Plan).
OBJECT	A predefined placeholder that allows patient-specific text to be inserted into a document when a user enters a TIU document. Objects are names representing executable M code, which may be "embedded" in the Default Text of either a component or a document, to produce an effect (e.g., the Object "Patient AGE" may be invoked to insert the value of the patient's age at an arbitrary location within a document).

Matrix of Actions allowed per Status and Ownership

User: For Document Definition, IRM, Clinical Coordinators, or service managers authorized to maintain the Document Definition Hierarchy. Only programmers can create objects or edit Technical Fields.
Owner: Either Personal Owner or Class Owner; the person who creates or is assigned responsibility for the document type being acted on. Items under the relevant type may have separate owners (that is, A may own the Document Class, but B could own a Title under the Document Class.
Status: A=Active, I = Inactive, T=Test

Type	Status	User	Actions	Limitations
Class, Document Class	A	Any	Edit Status, Owner Add new items to Class *(Class or Document Class),* or to Document Class (*Titles*).	Nat'l Standards can't be edited. Must own the *items.*
	I	Any	Edit Basics and Upload Fields.	
	I	Owner	Delete as entry from file.	Entry can't be In Use.
Title	**A, T**	**Any**	**Edit Status and the Owner.**	
	I	Any	Add items (*components*). Edit Basics and Boilerplate Text .	Only owners can add non-Shared Components. Item can't already have a parent.
	I	Owner	Delete file entry.	If not In Use.
Component	**A,T**	**Any**	**Edit the Owner.**	
	I	Any	Add new items (*components*). Edit or delete its items. Edit Basics and Boilerplate Text.	Users must own items.
	I	Owner	Delete entry from file.	If not In Use.

Shared Component	**N/A**	**Any**	**Add entry as an item to a Title or Component.**	
		Owner	Edit Basics and Boilerplate Text.	All parents must be Inactive.
Object		**Any**	**Embed Object in Boilerplate Text.**	
	I	Any	Edit Owner.	Component or Title must be Inactive.
	I	Owner	Edit Object Basics and Technical Fields.	Only programmers can edit Technical Fields.

Creating Objects

Objects are predefined placeholders that allow patient-specific text to be inserted into a document when a user enters a TIU document.

Objects are names representing executable M code, which may be "embedded" in the Default Text of either a component or a document, to produce an effect (e.g., the Object "Patient AGE" may be invoked to insert the value of the patient's age at an designated location within a document).

General Information
Objects must always have uppercase names, abbreviations, and print names. When embedding objects in boilerplate text, users may embed any of these three (name, abbreviation, print name) in boilerplate text, enclosed by an "|" on both sides. Objects must always be embedded in uppercase.

Objects are stored in the Document Definition File, but are not part of the Hierarchy. They are accessible through the options *Create Objects* and *Sort Document Definitions (*by selecting Sort by Type and selecting Type Object).

TIU exports a small library of Objects. Sites can also create their own. Future versions of TIU are expected to export a much more extensive library of nationally supported objects.

Only an owner can edit an object and should do so only after consulting with others who use it. The object must be Inactive for editing. It should be thoroughly tested. (See Object Status, under Status.)
Objects must initially be written by programmers. (See description in TIU Technical Manual.)
Once defined, Objects may be used any number of times within an unlimited number of different titles.
As sites develop their own Objects, they can be shared with other sites through a mailbox entitled TIU OBJECTS in SHOP,ALL (reached via FORUM).

NOTE: Object routines used from SHOP,ALL are *not* supported by the Field Offices. Use at your own risk!

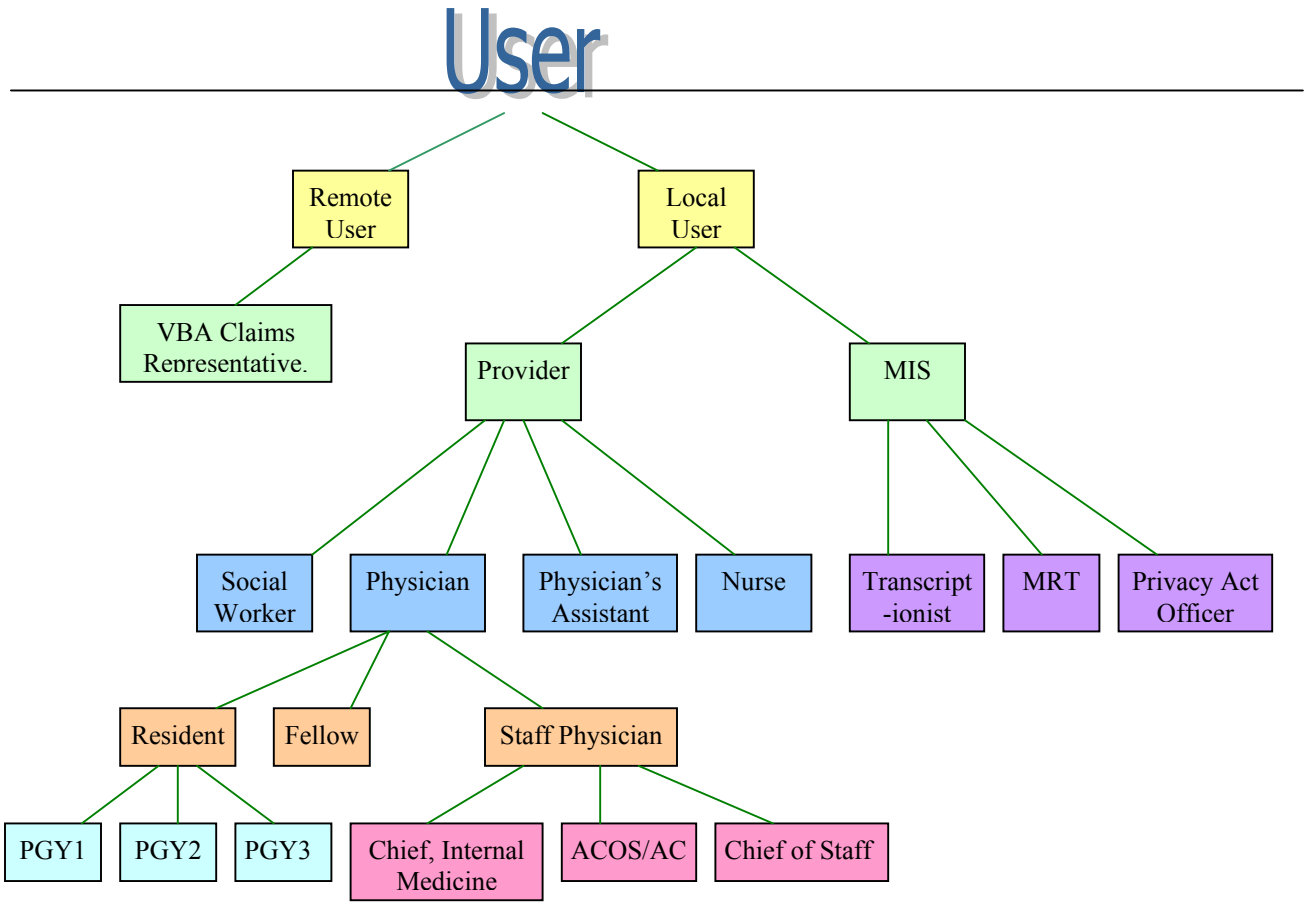
See Appendix B in this manual for an example of creating an object.

Authorization/Subscription Utility (ASU)

The Authorization/Subscription Utility (ASU) implements a User Class Hierarchy which is useful for identifying the roles that different users play within the hospital. It also provides tools for creating business rules that apply to documents used by members of such groups. ASU provides a method for identifying who is AUTHORIZED to do something (for example, sign and order). Future versions of ASU will provide tools for identifying a group of persons who SUBSCRIBE to receive something (for example, the Medical House Staff Officer may receive an alert to cosign all Schedule II narcotic orders, etc.).

ASU originated in response to the long recognized demand for a "Scope of Practice" model, which was first discussed during the analysis and design of OE/RR. The immediate driving force behind ASU's development was the complexity of Text Integration Utilities' (TIU's) document definition needs. Current security key capabilities were unable to efficiently manage the needs of clinical documentation (Discharge Summaries, Progress Notes, etc.).

Hierarchy Example:



User Class Management [USR CLASS MANAGEMENT MENU]

This is a menu of options for management of User Class Definition and Membership. See the *Authorization/Subscription Utility (ASU) Technical Manual* for information on using these options. TIU uses ASU to help manage clinical documents.

Option	Option Name	Description
User Class Definition	USR CLASS DEFINITION	This option allows review, addition, editing, and removal of User Classes.
List Membership by User	USR LIST MEMBERSHIP BY USER	This option allows review, addition, editing, and removal of individual members to and from User Classes.
List Membership by Class	USR LIST MEMBERSHIP BY CLASS	This option allows review, addition, editing, and removal of individual members to and from User Classes.
Edit Business Rules	USR EDIT BUSINESS RULES	This option allows the user to enter Business Rules authorizing specific users or groups of users to perform specified actions on documents in particular statuses (e.g, an UNSIGNED PROGRESS NOTE may be EDITED by a PROVIDER who is also the EXPECTED SIGNER of the note, etc.).
Manage Business Rule	USR BUSINESS RULE MANAGEMENT	This option allows you to list the Business rules defined by ASU, and to add, edit, or delete them, as appropriate.

Template Management [TIU IRM TEMPLATE MGMT]

When a user's access is terminated or deactivated, certain cleanup actions are desirable. If the terminated user possessed TIU templates, a site may wish to remove them upon termination, either automatically or manually. To allow flexibility at individual site locations, a new parameter will allow the site to specify that non-shared templates for a terminated user may be automatically removed - or the site may disable such automatic action and manually remove templates for the user.

Option	Option Name	Description
Delete TIU templates for selected user.	TIU TEMPLATE CAC USER DELETE	Removes all templates created by a selected user. This option performs the delete at the time the option is executed.
Edit auto template cleanup parameter.	TIU TEMPLATE USER DELETE PARAM	Sets a parameter indicating whether or not a template cleanup should be automatically performed at the any user is deactivated.
Delete templates for ALL terminated users.	TIU TEMPLATE DELETE TERM ALL	Removes all templates created by deactivated users. This option performs the delete at the time the option is executed.

The 3 above options allow the CAC to delete non-shared templates for any individual user, to toggle automatic cleanup of non-shared templates for terminated users ON or OFF (based on Kernel's User terminate event [XU USER TERMINATE] option), and to delete all existing non-shared templates for users who have been terminated previous to the current date.

NOTE: The third option above traverses the TIU TEMPLATE (file# 8927) file's AROOT x-ref recursively and can take a while to complete. Before using the option, CAC's are advised to disable TIU template editing options and assure that the process is implemented at an off-peak time.

A new OPTION named Delete user's TIU templates. [TIU TEMPLATE USER DELETE] is installed, but is used to link the call KUSER^TIUSRVT3 to Kernel's Kernel's User terminate event [XU USER TERMINATE] event option, and hence the new option does not appear on any menus.

☞ **NOTE** Users terminated with future dates are not handled by Kernel or by this patch unless the Kernel Automatic Deactivation of Users [XUAUTODEACTIVATE] option is activated and scheduled at the local site. A related issue is that users terminated from the Edit a User's Options [EDIT A USER'S OPTIONS] option rather than the Deactivate a User [XUSERDEACT] option will also require the option [XUAUTODEACTIVATE] to be activated and scheduled. To assure reliable cleanup upon termination, sites should schedule the [XUAUTODEACTIVATE] option to run nightly, or should confirm that it is in fact already so scheduled.

A new Parameter, Y/N auto cleanup upon termination [TIU TEMPLATE USER AUTO DELETE], has been created for toggling the automatic TaskMan cleanup of non-shared templates for terminated users ON or OFF. Editing is provided at the SYSTEM, DIVISION, and PACKAGE levels via the new Edit auto template cleanup parameter. [TIU TEMPLATE USER DELETE PARAM] menu option as described above.

Progress Notes Print Options

Option	Option Name	Description
Author– Print Progress Notes	TIU PRINT PN AUTHOR	This option produces chart or work copies of progress notes for an author, for a selected date range.
Location– Print Progress Notes	TIU PRINT PN LOC	This option prints chart or work copies of progress notes for all patients who were at a specific location when the notes were written. The patients whose progress notes are printed on this report may not still be at that location. If chart is selected, each note will start on a new page.
Patient– Print Progress Notes	TIU PRINT PN PT	This option prints or displays progress notes for a selected patient by selected date range.
Ward– Print Progress Notes	TIU PRINT PN WARD	This option lets you print progress notes for all patients who are now on a ward for a selected date range. This option is only for ward locations.

MAS Options to Print Progress Notes [TIU PRINT PN MAS MENU]

Option		Description
Admission- Prints all PNs for Current Admission	TIU PRINT PN ADMISSION	This option prints all progress notes for a selected patient for the current admission if patient is an inpatient or LAST admission if the patient has been discharged.
Batch Print Outpt PNs by Division	TIU PRINT PN BATCH INTERACTIVE	This option batch prints outpatient progress notes in terminal digit order by division. Sites can exclude Locations from this job by editing field #3 in file #8925.93. Locations not entered in file #8925.93 will be included in the batch print.
Outpatient Location- Print Progress Notes	TIU PRINT PN OUTPT LOC	This option is designed to be used primarily by MAS. It produces CHARTABLE notes and tracks the last note printed for the selected outpatient location. Output is sorted in alphabetical by patient order.
Ward- Print Progress Notes	TIU PRINT PN WARD	This option will allow the printing of Progress Notes for ALL patients on the ward at the time the job is queued to print. All of the notes for a selected date range (regardless of the location of the note) will print. This option is only for WARD locations and ***only prints to printers (not to your screen).***

Progress Notes Print Options contd

Clinical users can print progress notes, but the more complex printing is geared towards MAS and managing this function on a medical center level. The software also supports a hybrid approach.

1. LIST MANAGER—Users may print all types of documents using a variety of methods from the List Manager interface for TIU, including Forms, Progress Notes, Discharge Summaries, Consults, etc. Work and Chart copies are possible. Chart copies are the recommended type of printed copy, but many sites still want to print Work copies. For example, you may want to print WORK copies of UNSIGNED notes.

Other than the above List Manager printing, all other print options are on print menus. Only SIGNED notes are available from these options.

2. [TIU PRINT PN USER MENU]—All of the options on this menu support the printing of CHART or WORK copies. Patient, Author, and Location are the current choices. TITLE sorts will be added. It should be noted that this LOCATION print is an option that will print for any location there is a signed note entered for— it doesn't track anything.

MAS Print Options

Two files drive the CHART printing process:
TIU PRINT PARAMETERS FILE #8925.93
TIU DIVISION PRINT PARAMETERS FILE #8925.94 (supports batch printing outpatient Progress Notes)

In order to use any of the MAS print options (except ADMISSION), the location will have to be entered in one (inpatient locations) or both (outpatient locations) of the above files.

File #8925.93 TIU PRINT PRAMETERS FILE is used for the [TIU PRINT PN WARD] and [TIU PRINT PN OUTPT LOC] options. Field #1.02 tracks the last note that was printed for a selected location. This will be presented as the default PRINT FROM THIS POINT ON: YES//. The user may select another date/time to initialize.

FUN FACTS: This field is in an interesting format. FileMan DATE/TIME ';' IEN of Note. Although it is possible to reset this using FM, it is much easier to just pick the date/time you want to go forward from.

Progress Notes Print Options contd

The PROGRESS NOTES DEFAULT PRINTER field brings this device up as the default for the user when queuing notes for this location. At the present time these print options are not automated to queue up without user interaction.

Field #3 EXCLUDE FROM PN BATCH PRINT is a flag designed to be used for those outpatient locations the site doesn't want to auto-print in the batch print job.

Options keyed off file #8925.93:
[TIU PRINT PN WARD]—This option is usually used by the night ward clerk. The output is in RM/BED order to facilitate filing. It will print all notes after the last time they were printed. This option will print the notes for ALL current inpatients on the ward, regardless of whether the location of the note is that ward—a nice feature for transferred patients or patients with outpatient clinic appointment notes.

There is also an option [TIU PRINT PN ADMISSION] that will print all the patient's note for the last admission; done on discharge, to consolidate the chart.

[TIU PRINT PN OUTPT LOC]—Unlike the user's LOC print, this option does track the last note printed. This option is designed for sites that have specific clinics on electronic progress notes (EPN) and don't want to batch print in the file room. The clerk can print all the notes and file them in the clinic. This would work best for mental health-type clinics where patients are seen frequently.

This option was intended to support the transition to electronic progress notes—it has a specific place. Remember to turn on field #3 if you want to take this approach with a clinic. It should be noted that if a patient is seen in other clinics and those other clinics are batch-printed, the notes from the flagged clinic will also be printed in that batch. This is to preclude gaps in sequence—clinical information overlooked because it fits in between two other notes.

Progress Notes Print Options contd

BATCH PRINTING OUTPATIENT PROGRESS NOTES
There are two new batch print options [TIU PRINT PN BATCH INTERACTIVE] and [TIU PRINT PN BATCH SCHEDULED]. These options are identical except the latter is set up in file 19.2 to run unaccompanied. The batch print is sorted in terminal digit order for the file room. It prints out a page of possible problems and what to check if no notes print. In theory, the MAS person would bring this to IRM to have them troubleshoot. You wouldn't want to do this every night—most test sites do it once a month. Inpatient notes *will not* print in this option. Inpatient and outpatient notes are supposed to be filed in different sections of the charts. Progress Notes V. 2.5 did not support this.

Helpful Hints
CHART vs. WORK copies—There are certain situations when only a WORK copy is appropriate, such as when the document is not signed. The current version has an easy way of disallowing anyone other than MAS from printing progress notes. This is only feasible for those sites that are almost completely electronic. Otherwise, users will be asked if they want a WORK or a CHART copy. The WORK copy has the patient phone number on it and doesn't have a form number (a nifty little trick to keep MAS from filing them in the CHART!). The WORK copy is clearly marked as NOT FOR MEDICAL RECORD.

CONTIGUOUS vs. SEPARATE PAGES—This is where clairvoyant prowess comes into play. Users are sometimes mystified as to why they sometimes get asked the question and sometimes not. If users have selected a sort that will only produce CHART copies if the notes are on separate pages (location, title (when avail), author) there wouldn't be any point in asking them if that is how they want them. If they want WORK copies, they can only have them in CONTIGUOUS (save trees wherever possible) format. Also, if there is only one note, it wouldn't make sense to ask if they want it on a separate page.

DUPLEXing— It makes sense that you would want to print notes all through the patient's admission and then print them again upon discharge, duplexing them to save paper. Actually it does make the chart thinner.

TECHNICAL TIDBITS
Avoid trying to change the paging of Progress Notes. Just for your information, TIUFLAG controls CHART/WORK and TIUSPG does CONTIGUOUS/ SEPARATE. These variables are sometimes hard-set and passed in by the option. Other times it's an interactive thing.

Progress Notes Print Options contd

Notes are not set in the print cross-references until they are signed. ALOCP, AAUP, and APTP give all the possible sorts. Soon we will need an ATITP for the TITLE print.

In order to run all the Progress Notes printing off the same print driver, there had to be some peculiar setting of ^TMP. The first subscript TIUI contains both a '$' delimiter as well as a ';' delimiter. This gives you the print group and header in the '$' piece and the terminal digit, alpha name or room/bed in the 1st semi-colon piece and the DFN in the second semicolon piece. This allows the paging to be controlled when a hodgepodge of Forms and notes is thrown at it. It is also how you get the form number and header on the FORMS.

Exported Routines

TIU110	TIU11001	TIUADD	TIUALRT	TIUALRT1	TIUAPIOK	TIUAUDIT	TIUBPEDT
TIUBR	TIUBR1	TIUBRWS	TIUCHLP	TIUCNSLT	TIUCP	TIUCPCL	TIUCVFIX
TIUDD	TIUDD0	TIUDD01	TIUDD1	TIUDD8	TIUDD98	TIUDDT	TIUDEV
TIUDIRH	TIUDIRT	TIUDPEDT	TIUDSCN1	TIUDSCNV	TIUEDI1	TIUEDI2	TIUEDI3
TIUEDI4	TIUEDIM	TIUEDIT	TIUEDITR	TIUEDIU	TIUEDS	TIUEDS1	TIUEDS2
TIUEDS3	TIUEDS4	TIUEDS5	TIUEDS6	TIUELST	TIUEN96	TIUENV	TIUEPN
TIUEPN1	TIUEPRNT	TIUESFIX	TIUEXPRT	TIUFA	TIUFA1	TIUFC	TIUFC1
TIUFD	TIUFD1	TIUFD2	TIUFD3	TIUFD4	TIUFH	TIUFH1	TIUFHA
TIUFHA1	TIUFHA2	TIUFHA3	TIUFHA4	TIUFHA5	TIUFHA6	TIUFHA7	TIUFHA8
TIUFHA9	TIUFHLP	TIUFHLP1	TIUFJ	TIUFL	TIUFL1	TIUFLA	TIUFLA1
TIUFLD	TIUFLD1	TIUFLF	TIUFLF1	TIUFLF2	TIUFLF3	TIUFLF4	TIUFLF5
TIUFLF6	TIUFLF7	TIUFLF8	TIUFLJ	TIUFLJ1	TIUFLLM	TIUFLLM1	TIUFLLM2
TIUFLLM3	TIUFLT	TIUFLX	TIUFPR	TIUFT	TIUFT1	TIUFX	TIUFXHL1
TIUFXHLX	TIUFZZ01	TIUFZZ43	TIUFZZ60	TIUFZZ65	TIUFZZ8	TIUGBR	TIUGEDI1
TIUGEDIT	TIUGR	TIUGR1	TIUGR2	TIUHELP	TIUIL	TIUIL1	TIUIL10
TIUIL2	TIUIL3	TIUIL4	TIUIL5	TIUIL6	TIUIL7	TIUIL8	TIUIL9
TIULA	TIULA1	TIULA2	TIULA3	TIULA4	TIULAB	TIULADR	TIULAPI
TIULAPIC	TIULAPIS	TIULC	TIULC1	TIULD	TIULE	TIULEXP	TIULF
TIULG	TIULIP	TIULM	TIULMED	TIULMED1	TIULO	TIULO1	TIULORM
TIULP	TIULP1	TIULQ	TIULQ2	TIULRR	TIULS	TIULS1	TIULV
TIULX	TIUMOVE	TIUNTEG	TIUNTEG0	TIUO38	TIUO68	TIUO70	TIUOBJ
TIUPD	TIUPEDSP	TIUPEFIX	TIUPEVN1	TIUPEVNT	TIUPI14	TIUPL	TIUPLST
TIUPNAPI	TIUPNCCK	TIUPNCV	TIUPNCV1	TIUPNCV2	TIUPNCV3	TIUPNCV4	TIUPNCV5
TIUPNCV6	TIUPNCV7	TIUPNCV8	TIUPNCVU	TIUPNCVX	TIUPNCW	TIUPOST	TIUPP1
TIUPP2	TIUPP3	TIUPP4	TIUPP5	TIUPP6	TIUPPAC	TIUPPHLP	TIUPPR1
TIUPPR2	TIUPR96	TIUPRCN	TIUPRD	TIUPRDS	TIUPRDS1	TIUPRDS2	TIUPREF
TIUPREL	TIUPRPN	TIUPRPN1	TIUPRPN2	TIUPRPN3	TIUPRPN4	TIUPRPN5	TIUPRPN6
TIUPRPN7	TIUPRPN8	TIUPS100	TIUPS104	TIUPS108	TIUPS109	TIUPS14	TIUPS17
TIUPS65	TIUPS76	TIUPS79	TIUPS93	TIUPS96	TIUPS98	TIUPUTA	TIUPUTC
TIUPUTC1	TIUPUTCN	TIUPUTD	TIUPUTPN	TIUPUTU	TIUPXAP1	TIUPXAP2	TIUPXAPC
TIUPXAPI	TIUPXAPM	TIUPXAPS	TIUR	TIUR1	TIUR2	TIURA	TIURA1
TIURA2	TIURB	TIURB1	TIURB2	TIURC	TIURC1	TIURD	TIURD1
TIURD2	TIURD3	TIURD4	TIURE	TIURECL	TIURECL1	TIURECL2	TIURENDX
TIURH	TIURHX	TIURL	TIURL1	TIURL2	TIURM	TIURM1	TIURMH
TIUROR	TIUROR1	TIURORL	TIURP	TIURPL	TIURPN	TIURPTT1	TIURPTTL
TIURS	TIURS1	TIURT	TIURTIT1	TIURTITH	TIURTITL	TIUSIG2	TIUSRV
TIUSRV1	TIUSRVA	TIUSRVD	TIUSRVE	TIUSRVF	TIUSRVF1	TIUSRVG	TIUSRVI
TIUSRVL	TIUSRVL1	TIUSRVLC	TIUSRVLI	TIUSRVLL	TIUSRVLO	TIUSRVLV	TIUSRVP
TIUSRVP1	TIUSRVPL	TIUSRVR	TIUSRVR1	TIUSRVR2	TIUSRVR3	TIUSRVT	TIUSRVT1
TIUSRVT2	TIUSRVT3	TIUSRVT4	TIUSTA	TIUSTS	TIUSTT	TIUT	TIUTHLP
TIUTSK	TIUTU	TIUU	TIUUPEDT	TIUUPLD	TIUVFIX	TIUVFIX1	TIUVFR
TIUVISIT	TIUVSIT	TIUVSIT1	TIUVSITH	TIUXRC	TIUXRC1	TIUXRC2	TIUXRC3
TIUXRC4	TIUXRC5	TIUXRC6	TIUXRC7	TIUXRC8	TIUZCKJ	TIUZR	TIUZZ65
TIUZZLC	TIUZZXF						

Menu and Option Assignment

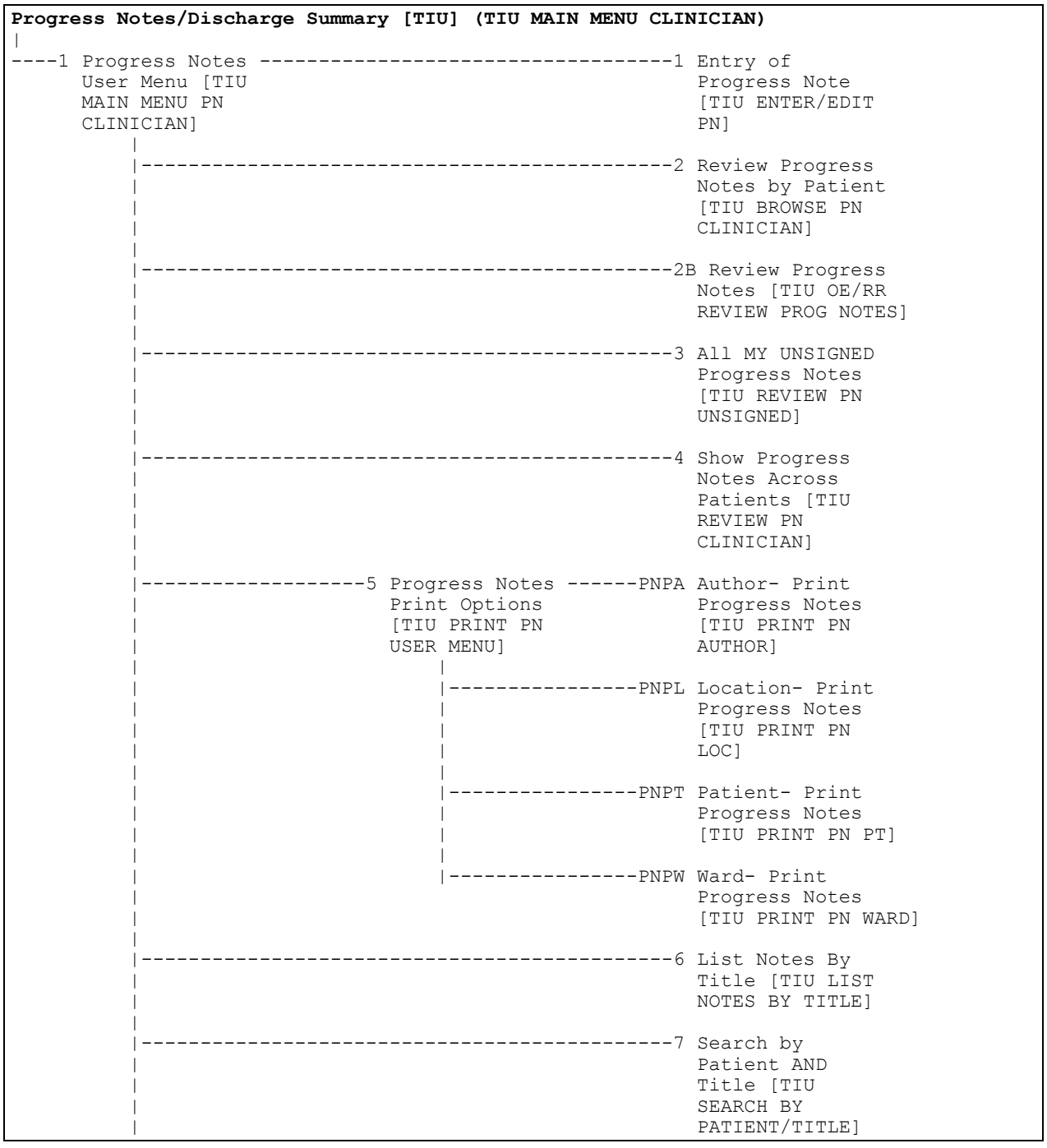
TIU menus and options are not exported on a single big menu, but as smaller menus directed at categories of users. These are described in earlier sections of this manual and also depicted below. Sites may rearrange these as needed.

Recommended assignments are also listed on the following pages. Since many sites may wish to create a Clinical Coordinator's Menu, we have included an example of a possible one.

```
Text Integration Utilities (Transcriptionist) (TIU MAIN MENU TRANSCRIPTION)
|
----1 Enter/Edit Discharge Summary [TIU ENTER/EDIT DS]

----2 Enter/Edit Document [TIU ENTER/EDIT TRANSCRIBER]

----3 Upload Menu [TIU UPLOAD MENU] --------1 Upload Documents [TIU UPLOAD
          |                                  DOCUMENTS]
          |
          |---------------------------------2 Help for Upload Utility [TIU
                                             UPLOAD HELP]
```

```
Text Integration Utilities (MRT) (TIU MAIN MENU MRT)
|
----1 Individual Patient Document [TIU BROWSE DOCUMENT MRT]

----2 Multiple Patient Documents [TIU REVIEW SCREEN MRT]

----3 Review Upload Filing Events [TIU REVIEW FILING EVENTS]

----4 Print Document Menu [TIUP ------------1 Discharge Summary Print [TIUP
      PRINT MENU]                            PRINT DISCHARGE SUMMARIES]
          |
          |---------------------------------2 Progress Note Print [TIUP
          |                                  PRINT PROGRESS NOTES]
          |
          |---------------------------------3 Clinical Document Print [TIUP
                                             PRINT DOCUMENTS]

-----5 Released/Unverified Report [TIU RELEASED/UNVERIFIED REPORT]

-----6 Search for Selected Documents [TIU SEARCH LIST MRT]
```

TIU Menus, cont'd



TIU Menus, cont'd

```
          |
          |-------------------8 Personal ---------------1 Personal
                                Preferences [TIU          Preferences [TIU
                                PERSONAL                  PERSONAL
                                PREFERENCE MENU]          PREFERENCES]
                                    |
                                    |-------------------2 Document List
                                                          Management [TIU
                                                          PREFERRED
                                                          DOCUMENT LIST]
```

```
Text Integration Utilities (MIS Manager) (TIU MAIN MENU MGR)
|
|
-------------------------------------------1 Individual Patient Document
                                             [TIU BROWSE DOCUMENT MGR]

-------------------------------------------2 Multiple Patient Documents
                                             [TIU REVIEW SCREEN MIS
                                             MANAGER]

----3 Print Document Menu [TIUP ------------1 Discharge Summary Print [TIUP
      PRINT MENU]                            PRINT DISCHARGE SUMMARIES]
          |
          |----------------------------------2 Progress Note Print [TIUP
          |                                  PRINT PROGRESS NOTES]
          |
          |----------------------------------3 Clinical Document Print [TIUP
                                             PRINT DOCUMENTS]


-------------------------------------------4 Search for Selected Documents
                                             [TIU SEARCH LIST MGR]

----5 Statistical Reports [TIU ------------TR TRANSCRIPTIONIST Line Count
      STATISTICAL REPORTS]                   Statistics [TIU DS LINE COUNT
          |                                  BY TRANSCR]
          |
          |---------------------------------AU AUTHOR Line Count Statistics
          |                                  [TIU DS LINE COUNT BY AUTHOR]
          |
          |---------------------------------SVC SERVICE Line Count Statistics
                                             [TIU DS LINE COUNT BY SERVICE]
```

```
Text Integration Utilities (Remote User) (TIU MAIN MENU REMOTE USER)
|
|
----1 Individual Patient Document [TIU BROWSE DOCUMENT READ ONLY]

----2 Multiple Patient Documents [TIU REVIEW SCREEN READ ONLY]
```

TIU Menus, cont'd

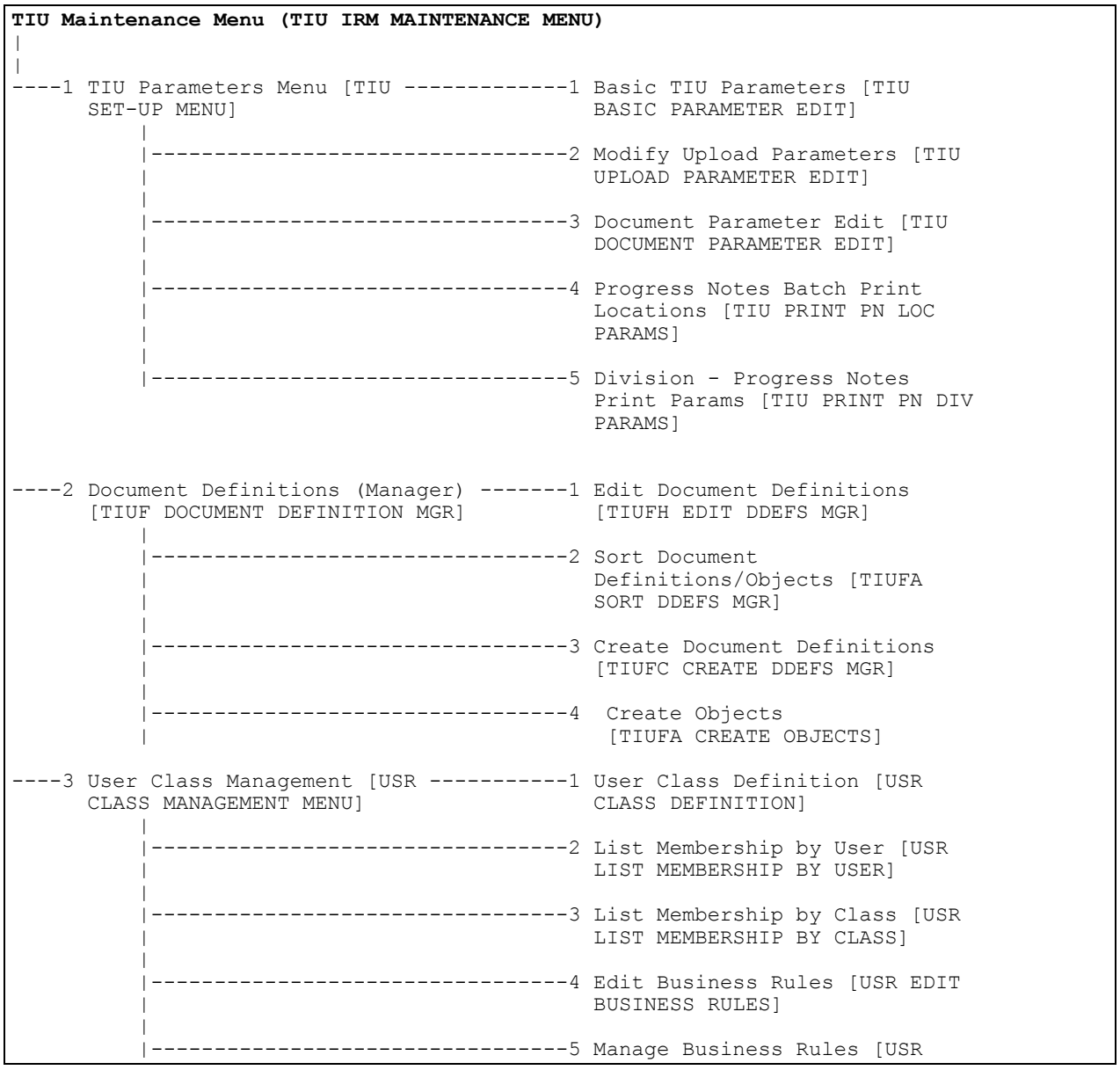
```
Progress Notes Print Options (TIU PRINT PN)
|
|
---PT Patient- Print Progress Notes [TIU PRINT PN PT]

----- Author- Print Progress Notes [TIU PRINT PN AUTHOR]

----- Location- Print Progress Notes [TIU PRINT PN LOC]
```

```
MAS Progress Notes Print Options (TIU PRINT PN MAS MENU)
|
|
----- Admission- Prints all PNs for Current Admission [TIU PRINT PN ADMISSION]

----- Batch Print Outpt PNs by Division [TIU PRINT PN BATCH INTERACTIVE]

----- Outpatient Location- Print Progress Notes [TIU PRINT PN OUTPT LOC]

----- Ward- Print Progress Notes [TIU PRINT PN WARD]
```

```
Document Definitions (Clinician) (TIUF DOCUMENT DEFINITION CLIN)
|
|
----1 Edit Document Definitions [TIUFH EDIT DDEFS CLIN]

----2 Sort Document Definitions [TIUFA SORT DDEFS CLIN]

----3 Create Objects [TIUFA CREATE OBJ]
```

```
TIU Conversions Menu (TIU CONVERSIONS MENU)
|
|
-------------------------------------------1 Convert Discharge Summaries
                                             (*** BE CERTAIN ***) [TIU
                                             DISCHARGE SUMMARY CONVERT]

----2 Progress Note Conversion [TIU -------CV Convert Progress Notes [TIU
      GMRPN CONVERSION]                      GMRPN CONVERT]
          |
          |---------------------------------PM Monitor Progress Note
          |                                    Conversion [TIU GMRPN MONITOR]
          |
          |---------------------------------RS Restart Progress Note
          |                                    Conversion [TIU GMRPN RESTART]
          |
          |---------------------------------SG Single Progress Note
                                               Conversion [TIU GMRPN SINGLE]


-------------------------------------------3 Initialize Membership of User
                                             Classes [USR INITIALIZE
                                             MEMBERSHIP]
```

TIU Menus, cont'd



Suggested Clinical Coordinator Menu

TIU doesn't export a Clinical Coordinator Menu. However, sites may wish to create one that includes most of the other menus and options, except possibly the IRM options that require programmer access, depending on the Coordinator's knowledge of M and FileMan.

```
Text Integration Utilities (Transcriptionist) ...
Text Integration Utilities (MRT) ...
Progress Notes(s)/Discharge Summary [TIU] ...
Text Integration Utilities (MIS Manager) ...
Text Integration Utilities (Remote User) ...
Progress Notes Print Options ...
Document Definitions (Clinician) ...
  1    Edit Document Definitions
  2    Sort Document Definitions/Objects
TIU Parameters Menu...
User Class Management ...
```

The Document Definitions (Clinician) menu could be assigned (with due caution, of course) to Clinicians who are particularly interested in setting up personal Titles with boilerplate text, or who want to edit boilerplate text.

Menu Assignment

We recommend assignment of TIU menus and options as described below:

Option	Option Name	Description	Assign to:
Text Integration Utilities (Transcriptionist)	TIU MAIN MENU TRANSCRIPTION	Main Text Integration Utilities menu for transcriptionists.	Transcrip-tionists
Text Integration Utilities (MRT)	TIU MAIN MENU MRT	Main Text Integration Utilities menu for Medical Records Technicians.	Medical Records Technicians.
Text Integration Utilities (MIS Manager)	TIU MAIN MENU MGR	Main Text Integration Utilities menu for MIS Managers.	MIS Managers.
Progress Notes/ Discharge Summary [TIU]	TIU MAIN MENU CLINICIAN	Main Text Integration Utilities menu for Clinicians.	Clinicians
Progress Notes User Menu	TIU MAIN MENU PN CLINICIAN	Main Progress Notes menu, for staff who primarily use Progress Notes and don't use Discharge Summary or other clinical documents that might be accessed through TIU.	Clinicians, nurses, psychologists, social workers, etc.
Text Integration Utilities (Remote User)	TIU MAIN MENU REMOTE	This option allows remote users (e.g., VBA RO personnel) to access only those documents which have been completed), to facilitate processing of claims on a need-to-know basis.	VBA RO personnel, etc.
Progress Notes Print Options	TIU PRINT PN USER MENU	Menu for printing Progress Notes.	ADPACs, Managers, clinicians
MAS Progress Notes Print Options	TIU PRINT PN MAS MENU	Menu for printing Progress Notes by individual or by batch for specified locations.	MAS personnel
Document Definition (Clinician)	TIUF DOCUMENT DEFINITION CLIN	Document Definition menu for Clinicians. Lets you view any entry, and edit an entry if you own it. In particular, lets you enter/edit boilerplate text for an entry you own.	Clinical Coordinators, Selected Clinicians
TIU Maintenance Menu	TIU MAINTENANCE MENU	Options on this menu allow IRM Staff to set/modify the various parameters controlling the behavior of the Text Integration Utilities Package, as well as the definition of TIU documents.	IRM; some of the options to some Clinical Coordinators
TIU Conversions Menu	TIU CONVERSIONS MENU	A menu of options for running Progress Notes and Discharge Summary conversions to TIU	IRM

Actions/Functions Across Applications

KEY:

NA: Not Available

Menus:
DDEF: Document Definitions menu
IRM: Maintenance menu
MAS: MAS Progress Note Print Options menu
MD: Progress Note/Discharge Summary menu
MGR: MIS Manager menu
MRT: MRT menu
PRINT: Progress Notes Print Options menu
REM: Remote User menu
TR: Transcriptionist menu

Options:
AMUD: All MY UNSIGNED Documents
AMUDS: All MY UNSIGNED Discharge Summaries
EED: Enter/Edit Document
EEDS: Enter/Edit Discharge Summary
EPN: Entry of Progress Note
IPD: Individual Patient Document
IPDS: Individual Patient Discharge Summary
LNT: List Notes by Title
MPD: Multiple Patient Documents
MPDS: Multiple Patient Discharge Summaries
RPN: Review Progress Notes
RPNP: Review Progress Notes by Patient
SPNAP: Show Progress Notes Across Patients
SPT: Search by Patient and Title
SSD: Search for Selected Documents

ACTION/FUNCTION	TIU LMGR	OE/RR LMGR	CPRS GUI V15.10
Add to Signature List	Options (can exit note without signing, and sign via another action or alert): TR: EED, EEDS MD: EED, MPD, MPDS, EPN, RPN, AMUPN, SPNAP, LNT, SPT, AMUD	Can exit note without signing, and sign via another action or alert: Clinician Nurse Ward Clerk	Notes & D/C Summ tabs: Action & Pop-up Menus
Amend	Options: MGR: IPD, MPD, SSD	NA	NA
Browse	Options: MRT: MPD, SSD REM: MPD MGR: MPD, SSD MD: MPD, MPDS, RPN, AMUPN, SPNAP, LNT, SPT, AMUD	Clinician Nurse Ward Clerk	Notes & D/C Summ tabs: Basically, the pane is "browsing"
Change Ordering Info (can change patient location, requesting clinician)	Can change hospital location with Edit action (same thing?)	Clinician Nurse Ward Clerk	All tabs: File Menu: Update Provider/Location
Change Title	Options: MRT: IPD, MPD, SSD REM: IPD MGR: IPD, MPD, SSD MD: IPD, MPD, IPDS, MPDS, EPN, RPNP, RPN, AMUPN, SPNAP, LNT, SPT, AMUD	Clinician Nurse Ward Clerk	Notes & D/C Summ tabs: Action Menu: Edit Progress Note

ACTION/FUNCTION	TIU LMGR	OE/RR LMGR	CPRS GUI V15.10
Change View (can change by: status, clinical document types, start/end dates, and *italicized* by search category also)	Options: *MRT:* MPD*, SSD* *REM: MPD* *MGR: IPD,* MPD*, SSD* *MD: MPD, MPDS, AMUPN, SPNAP, LNT, SPT, AMUD*	See: Select Search & Check for my unsigned Also: Notes, Consults, D/C Summ chart contents	See: Select Search & Check for my unsigned Also: Notes, Consults, D/C Summ tabs
Check for my unsigned	Options: MD: AMUD, AMUDS, AMUPN	Change View: my unsigned, my uncosigned Clinician Nurse Ward Clerk	Notes tab: View Menu: unsigned notes, uncosigned notes See Select Search Can also view only signed list in pane
Check grammar/spelling	XTENSIBLE editor (PF4-S)	XTENSIBLE editor (PF4-S)	Notes & D/C Summ tabs: Pop-up Menu
Complete Note(s) (Sign/Edit/Delete)	Options: MD: RPN	Can sign/edit/delete with: Clinician Nurse Ward Clerk	Can sign/edit/delete with a number of options
Copy (note to another note)	Options: MRT: IPD, MPD, SSD MGR: MPD, SSD MD: IPD, MPD, IPDS, MPDS, EPN, RPNP, AMUPN, SPNAP, LNT, SPT, AMUD	Clinician Nurse Ward Clerk	NA
CWAD	Options: MRT: IPD, MPD, SSD REM: IPD, MPD MGR: IPD, MPD, SSD MD: IPD, MPD, IPDS, MPDS, EPN, RPNP, RPN, AMUPN, SPNAP, LNT, SPT, AMUD	Clinician Nurse Ward Clerk	All tabs: Postings CWAD button

ACTION/FUNCTION	TIU LMGR	OE/RR LMGR	CPRS GUI V15.10
Delete	Options: MGR: IPD, MPD, SSD MD: IPD, MPD, IPDS, MPDS, EPN, RPNP, AMUPN, SPNAP, AMUD	Clinician Nurse Ward Clerk	Notes & D/C Summ tabs: Action & Pop-up Menus
Detailed Display	Options: MRT: IPD, MPD, SSD REM: IPD, MPD MGR: IPD, MPD, SSD MD: IPD, MPD, IPDS, MPDS, EPN, RPNP, RPN, AMUPN, SPNAP, LNT, SPT, AMUD	Clinician Nurse Ward Clerk	Notes & D/C Summ tabs: View Menu: Details
Document Definitions	Options: DDEF: Create/edit/sort, Create objects IRM: Create/edit/sort, Create objects	NA	NA
Edit	Options: MRT: IPD, MPD, SSD MGR: IPD, MPD, SSD MD: IPD, MPD, IPDS, MPDS, EPN, RPNP, AMUPN, SPNAP, LNT, SPT, AMUD	Clinician Nurse Ward Clerk	Notes & D/C Summ tabs: Action & Pop-up menus
Encounter Edit	Options: MD: IPD, MPD, IPDS, MPDS, EPN, RPNP, AMUPN, SPNAP, AMUD	Clinician Nurse Ward Clerk	Encounter Drawer

ACTION/FUNCTION	TIU LMGR	OE/RR LMGR	CPRS GUI V15.10
Expand/Collapse Entry	Options: MRT: MPD, SSD MGR: MPD, SSD MD: MPD, MPDS, RPN, AMUPN, SPNAP, LNT, SPT, AMUD	NA	Notes & D/C Summ tabs: Pop-up Menu (expand all, expand selected, collapse all, collapse selected)
Find	Options: MRT: IPD, MPD, SSD REM: IPD, MPD MGR: IPD, MPD, SSD MD: IPD, MPD, IPDS, MPDS, EPN, RPNP, RPN, AMUPN, SPNAP, LNT, SPT, AMUD	Clinician Nurse Ward Clerk	Notes & D/C Summ tabs: Pop-up Menu
Identify Signers / Identify Additional Signers	Options: MD: IPD, MPD, IPDS, MPDS, EPN, RPNP, AMUPN, SPNAP, AMUD	Clinician Nurse Ward Clerk	Notes & D/C Summ tabs: Action & Pop-up Menus
Interdisciplinary Note	Options: MRT: IPD, MPD, SSD MGR: IPD, MPD, SSD MD: IPD, MPD, EPN, RPNP, RPN, AMUPN, SPNAP, LNT, SPT, AMUD	Clinician Nurse Ward Clerk	Notes tab: Action & Pop-up Menus: Add New Entry to Interdisciplinary Note, Detach from Interdisciplinary Note
Link (Problem(s), Patient/Visit, with Request) See also: Reassign (for Patient/Visit Link)	Options: MD: IPD, MPD, IPDS, MPDS, EPN, RPNP, AMUPN, SPNAP, LNT, SPT, AMUD	Clinician Nurse Ward Clerk	See Link with Request
Link with Request	Options (also see Link): MRT: MPD, SSD MGR: MPD, SSD	See: Link	Consults tab: Action Menu: Consult Results: Complete/Update Results

ACTION/FUNCTION	TIU LMGR	OE/RR LMGR	CPRS GUI V15.10
Make Addendum	Options: MD: IPD, MPD, IPDS, MPDS, EPN, RPNP, RPN, AMUPN, SPNAP, LNT, SPT, AMUD	Clinician Nurse Ward Clerk	Notes & D/C Summ tabs: Action & Pop-up Menus
New Note / New Document / Add Document / Write New Note / New Discharge Summary	Options: TR: EED, EEDS MD: EED, MPD, MPDS, EPN, RPN, AMUPN, SPNAP, LNT, SPT, AMUD	Clinician Nurse Ward Clerk	Notes & D/C Summ tabs: Action Menu New Note Drawer
On Chart	Options: MRT: IPD, MPD, SSD MGR: IPD, MPD, SSD	NA	NA
Parameters	Options: IRM: Basic, Upload, Document Parameter, Batch Print Locations, Division Print Params	NA	NA

ACTION/FUNCTION	TIU LMGR	OE/RR LMGR	CPRS GUI V15.10
Personal Preferences	Options: MD: Personal Preferences Document List Management (document list and default document) Personal Preferences (DEFAULT LOCATION, REVIEW SCREEN SORT FIELD, REVIEW SCREEN SORT ORDER, DISPLAY MENUS, PATIENT SELECTION PREFERENCE, ASK 'Save changes?' AFTER EDIT, ASK SUBJECT FOR PROGRESS NOTES, NUMBER OF NOTES ON REV SCREEN, SUPPRESS REVIEW NOTES PROMPT, DEFAULT COSIGNER, DAY OF WEEK for HOSPITAL LOCATION)	Clinician Nurse Ward Clerk GUI Parameters – General (Auto-Save Interval, Verify Default Title) Tab Default Chart Preferences (Notes tab: Begin Date, End Date, Status, Author, Occurrence Limit, Show/Hide Subject) Tab Default Chart Preferences (D/C Summ tab: Begin Date, End Date, Status, Author)	All tabs: Tools Menu: Options (document list, default document, autosave, default cosigner, ask subject, verify note title)
Print Copy/Print (single patient)	Options: MRT: IPD, MPD, Discharge Summary, Progress Note, Clinical Document, SSD REM: IPD, MPD MAS: Admission MGR: IPD, MPD, Discharge Summary, Progress Note, Clinical Document, SSD MD: IPD, MPD, IPDS, MPDS, EPN, RPNP, RPN, AMUPN, SPNAP, LNT, SPT, AMUD	Clinician Nurse Ward Clerk	All tabs: File Menu

ACTION/FUNCTION	TIU LMGR	OE/RR LMGR	CPRS GUI V15.10
Print (multiple patients)	Options: PRINT: Author, Location, Patient, Ward MAS: Batch Print, Outpatient Location, Ward MD: Author, Location, Patient, Ward	NA	NA
Print List	Options: MRT: MPD, SSD MGR: MPD, SSD MD: MPD, MPDS, RPN, AMUPN, SPNAP, LNT, SPT, AMUD	Clinician Nurse Ward Clerk	NA
Reassign	Options: MRT: IPD, MPD, SSD MGR: IPD, MPD, SSD	NA	NA
Released/Unverified Report	Option: MRT: Released/Unverified Report	NA	NA
Reload Boilerplate Text	NA	NA	Notes & D/C Summ tabs: Action Menu: Edit Progress Note
Reset to All Signed	Options (see Select Search also): MD: RPN	See Select Search	See Select Search Can also view only signed list in pane
Save without Signature	Options (not a specified action): TR: EED, EEDS MD: EED, MPD, MPDS, EPN, RPN, AMUPN, SPNAP, LNT, SPT, AMUD	Can exit note without signing, and sign via another action or alert: Clinician Nurse Ward Clerk	Notes & D/C Summ tabs: Action & Pop-up Menus

ACTION/FUNCTION	TIU LMGR	OE/RR LMGR	CPRS GUI V15.10
Search List (See also: Find)	NA	Clinician Nurse Ward Clerk	NA
Select New Patient	Options: MD: RPN	Clinician Nurse Ward Clerk	All tabs: File Menu
Select Search / Change View (signed notes/summaries (all), signed notes/summaries /author, signed notes/summaries /dates) see also: Change View	Select Search Options: (in addition, has: unsigned notes, uncosigned notes) MD: RPN	Change View: (in addition, has: my unsigned, my uncosigned, Show/Hide Subject, Save as Preferred View, Remove Preferred View): Clinician Nurse Ward Clerk	Notes & D/C Summ tabs: View & Pop-up Menus: (in addition, has: Unsigned Notes/Summaries (my), Uncosigned Notes/Summaries (my), Custom View, Save as Default View, Return to Default View)
Send Back	Options: MRT: IPD, MPD, SSD MGR: IPD, MPD, SSD	NA	NA
Show Reassignment History	Options: MGR: MPD, SSD	NA	NA
Sign/Cosign / Sign Note Now	Options: MD: IPD, MPD, IPDS, MPDS, EPN, RPNP, AMUPN, SPNAP, LNT, SPT, AMUD	Clinician Nurse Ward Clerk	Notes & D/C Summ tabs: Action & Pop-up Menus
Statistical Reports	Options: MGR: Transcriptionist, Service, Author Line Counts	NA	NA

ACTION/FUNCTION	TIU LMGR	OE/RR LMGR	CPRS GUI V15.10
Templates (user)	NA	NA	Notes & D/C Summ tabs: Options Menu: Edit Templates, Create New Template, Edit Shared Templates, Create New Shared Template, Edit Template Fields Notes & D/C Summ tabs: Pop-up Menu: Copy into New Template Templates Drawer
Templates (mgr)	Options: IRM: Delete for selected user, Delete for all terminated users, Edit parameter	NA	NA
Upload (misc.)	Options: TR: Upload Documents, Help for Upload Utility MRT: Review Upload Filing Events	NA	NA
User Class Membership	Options: IRM: Definition, List by User, List by Class, Manage Business Rules	NA	NA
Verify/Unverify	Options: MRT: IPD, MPD, SSD MGR: IPD, MPD, SSD	NA	NA

TIU File Descriptions

File #	File Name	Description
8925	TIU DOCUMENT	This file stores textual information for the clinical record database. Although it is designed to initially accommodate Progress Notes, Consult Reports, and Discharge Summaries, it is intended to be sufficiently flexible to accommodate textual reports or provider narrative of any length or type, and to potentially accommodate such data transmitted from remote sites, which may be excluded from the corresponding local **V*IST*A** Package databases (e.g., Operative Reports, Radiology Reports, Pathology Reports, etc.) to avoid confusion with local workload.
8925.1	TIU DOCUMENT DEFINITION	This file stores Document Definitions, which identify and define behavior for documents stored in the TIU DOCUMENTS FILE (#8925). For consistency with the V-file schema, it may be viewed as the "Attribute Dictionary" for the Text Integration Utilities. It also stores Objects, which can be embedded in a Document Definition's Boilerplate Text (Overprint). Objects contain M code which gets a piece of data and inserts it in the document's Boilerplate Text when a document is entered. Some entries in this file are developed Nationally and exported across the country. Others are created by local sites. Entries in the first category are marked National Standard and are not editable by sites. This file does *not* allow multiple entries *of the same type* with the same name. That is, within a given Type, there are no duplicate names. (This refers to the .01 field, the Technical name of the entry.) This file does not allow a parent to have items with the same name, even if the items have different internal file numbers (i.e. are different file entries). Again, this refers to the .01 Technical name of the entry. Because of ownership considerations, the file does *not* allow an entry to be an item under more than 1 parent. If the same item is desired under more than one parent, the item must be copied into a new entry. There is one exception: Document Definitions of Type Component that have been marked Shared may have more than one parent.

TIU File Descriptions, cont'd

File #	File Name	Description
8925.1	TIU DOCUMENT DEFINITION cont'd	Users are expected to use the Document Definition Utility TIUF to enter, edit, and delete file entries. In fact, the file prohibits the deletion of entries through generic Fileman Options. It also prohibits the edit through generic Fileman of a few critical fields: Type, Status, Shared, and National Standard. Adding and Deleting (but not editing) Items is also prohibited through generic Fileman options. This does NOT imply that it is *safe* to use generic Fileman to edit other fields. Users are cautioned that edit through generic Fileman bypasses many safeguards built in to the Document Definition Utility and can create havoc unless the user *thoroughly understands* the File and its uses. If users find needs which are not met through TIUF, please communicate them to the TIU development team.
8925.2	TIU UPLOAD BUFFER	This file buffers uploaded ASCII reports during the upload process, until they can be successfully routed to their respective destinations within **V***IST***A**. It will support the development of tools for responding to error messages (e.g., the correction of errors experienced during routing/filing) by the appropriate users, so as to avoid the necessity of making all edits on the client system and re-initiating the upload in response to an error condition.
8925.3	TIU UPLOAD ERROR DEFINITION	This file defines allowable error codes, and their corresponding names and textual messages for the error handler module of the ASCII upload process.
8925.4	TIU UPLOAD LOG	This file is used by the filer module of the upload process to log both successfully filed records and non-fatal errors which may occur during routing/ filing of one or more records in a given batch.
8925.5	TIU AUDIT TRAIL	This file maintains an audit trail of TIU transactions.
8925.6	TIU STATUS (including data)	This file contains the allowable statuses which may be applied to a TIU document during its path through the system.
8925.7	TIU MULTIPLE SIGNATURE	This file is intended to accommodate the case where multiple cosignatures are applied to a document (e.g., team or multidisciplinary notes, discharge planning check-lists, etc.). Rather than adding a multiple to the TIU Document file, this file supports a 3NF decomposition, allowing multiple cosignatures to be applied to the same document.
8925.8	TIU SEARCH CATEGORIES	This file stores parameters which modify the processing requirements of individual document types, and their descendants.

TIU File Descriptions, cont'd

File #	File Name	Description
8925.9	TIU PROBLEM LINK	This file allows a many-to-many relationship between TIU Documents and Problems to be maintained.
8925.91	TIU EXTERNAL DATA LINK FILE	This file is intended to allow the definition of many-to-one linkages between TIU Documents and external data objects (i.e., non-MUMPS data) such as Images or BLOBs.
8925.93	TIU PRINT PARAMETERS	This file describes the parameters for controlling the Printing of Progress Notes.
8925.94	TIU DIVISION PRINT PARAMETERS	This file describes the parameters for the batch printing of progress notes for filing by Medical Center Division.
8925.95	TIU DOCUMENT PARAMETERS	This file stores parameters which modify the processing requirements of individual document types, and their descendants.
8925.97	TIU CONVERSIONS	This file contains information concerning the conversion of legacy files such as ^GMR(121, Generic Progress Note File, to ^TIU(8925, TIU Document File.
8925.98	TIU PERSONAL DOCUMENT TYPE LIST	This file is used to store "pick-lists" of documents (by class), for selection by users.
8925.99	TIU PARAMETERS	This file contains the site-configurable parameters for TIU. It will have one entry for each division, to support variable definition of package behavior at multidivisional facilities.
8926	TIU PERSONAL PREFERENCES	This file allows the definition of Personal Preferences with respect to a variety of TIU's functions (e.g., Review Screen sort field and order, Default cosigner, default locations, location by day-of-week, suppression of review notes prompt on Progress note entry, etc.).
8927	TIU TEMPLATE FILE	This file stores TIU Templates, which are on-the-fly boilerplates that can be added to any note or addendum in the CPRS GUI. All shared and personal templates, as well as template hierarchy, are stored within this file. Maintenance of this file should only be performed using the Template Editor, which is contained within the CPRS GUI. Bypassing the template editor can cause file structure problems.
8927.1	TIU TEMPLATE FIELD FILE	Contains advanced template objects such Edit Boxes and Radio Buttons.

Cross-References

The following cross-references are included in this package (listed here by file and field number).

TIU DOCUMENT File (#8925)

Field #	Field Name	X-ref	Description
.01	DOCUMENT TYPE	B	Regular cross-reference
		APT	This MUMPS-type, multi-field cross-reference by PATIENT, DOCUMENT TYPE, STATUS, and INVERSE ENTRY/ DICTATION DATE facilitates look-ups by patient.
		AAU	This MUMPS-type, multi-field cross-reference by AUTHOR, DOCUMENT TYPE, STATUS, and INVERSE ENTRY/DICTATION DATE facilitates look-ups by author.
		ASUP	This multi-field, MUMPS-type cross-reference by (EXPECTED COSIGNER), DOCUMENT TYPE, STATUS, INVERSE ENTRY/DICTATION DATE/TIME is used for look-ups and queries.
		AV	This MUMPS-type cross-reference by patient, document type, and visit number will allow for a candidate key to determine whether a given document exists for a particular patient visit.
		ATS	This multi-field, MUMPS-type cross-reference by DOCUMENT TYPE, STATUS, and INVERSE ENTRY/DICTATION DATE/TIME facilitates look-ups by treating specialty.
		ATC	This multi-field, MUMPS-type cross-reference by TRANSCRIPTIONIST ID, DOCUMENT TYPE, STATUS, and INVERSE ENTRY/DICTATION DATE/TIME will facilitate look-ups by transcriptionist.
		ALL	This multi-field cross-reference is used for building the review screen across all categories (Author, Attending Physician, Patient, Transcriptionist, or treating specialty).
		ASUB	This MUMPS-style multi-field cross-reference is used for queries by subject.

TIU DOCUMENT File (#8925), cont'd

Field #	Field Name	X-ref	Description
.01	DOCUMENT TYPE	ASVC	This MUMPS-type, multi-field cross-reference by SERVICE, DOCUMENT TYPE, STATUS, and INVERSE ENTRY/DICTATION DATE facilitates look-ups by service.
		AE	This multi-field, MUMPS-type cross-reference by Patient, inverse Date, and Report Type is to optimize searching by entity, time, and attribute.
		ALOC	This MUMPS-type, multi-field cross-reference is optimized for searching hospital location, document type, status, and date range.
		APRB	This multi-field, MUMPS-type cross-reference by Problem, Document Type, Status, and Inverse Reference Date facilitates query for documents by problem.
		AVSIT	This multi-field, MUMPS-type cross-reference by Patient, clinical document class, and inverse Reference Date facilitates look-up by Visit.
		APTCL	This multi-field, MUMPS-type cross-reference by Patient, Root Class, and inverse Reference Date facilitates look-up by Patient.
		ACLPT	This MUMPS-Type, Multi-field cross-reference on Cosignature Date/time will assure that the cosigned notes are included in the ACLPT x-ref (completed, by patient) upon cosignature.
		ACLAU ACLEC	This x-ref is used to extract lists based on context.
		ACLSB	This x-ref is used to extract lists based on context.
		APTLDO	This MUMPS-type, multi-field cross-reference by PT, TITLE, "LOC;VPT;VTYYP", DA is used for optimizing checks for documents for a particular visit.
.02	PATIENT	AA	This MUMPS-type, multi-field cross-reference by PATIENT, DOCUMENT TYPE, STATUS, and INVERSE VISIT/DATE will help to identify documents by patient and time.
		APT	This multi-field, MUMPS-type cross-reference by Patient, Document Type, Status, and Inverse Entry/Dictation Date will facilitate look-up by Patient.
		AE	This multi-field, MUMPS-type cross-reference by Patient, Inverse Visit Date, and Report Type is to optimize searching by entity, time, and attribute.

TIU DOCUMENT File (#8925), cont'd

Field #	Field Name	X-ref	Description
.O2	PATIENT	C	This REGULAR FileMan type cross-reference is used for look-up by patient.
		AV	This MUMPS-type, multi-field cross-reference by patient, document type, and visit record number will serve as a candidate key to determine whether a given document exists for a particular patient visit.
		APTP	This MUMPS-type, multi-field cross-reference by Patient and REGULAR Signature Date/Time is used to maintain the daily print queue for batch printing of documents (currently, just Progress Notes) on signature.
		ADCPT	This MUMPS-type, multi-field cross-reference by PATIENT, DOCUMENT CLASS, STATUS, and INVERSE REFERENCE DATE facilitates look-ups by PATIENT and DOCUMENT CLASS (e.g., all SIGNED Violence Postings for patient John Doe).
		APTCL	This MUMPS-type, multi-field cross-reference by PATIENT, CLINICAL DOCUMENT CLASS, and INVERSE REFERENCE DATE facilitates look-ups by patient.
		2270	This x-ref is used to extract lists based on context.
		ACLAU	This x-ref is used to extract lists based on context.
		ACLSB	This x-ref is used to extract lists based on context.
		APTLD	This MUMPS-type Multi-field index by PT, TITLE, "LOC;VDT;VTYP" is used for optimizing checks for documents for a particular visit.
.03	VISIT	AA	This MUMPS-type, multi-field cross-reference by PATIENT, DOCUMENT TYPE, and INVERSE VISIT DATE is optimized for searches by entity, attribute, and time.
		AE	This MUMPS-type, multi-field cross-reference by PATIENT, DOCUMENT TYPE, and INVERSE VISIT DATE will optimizer searching by entity, attribute, and time.
		AV	This MUMPS-type, multi-field cross-reference by PATIENT, DOCUMENT TYPE, and Visit Record number serves as a candidate key to determine whether a given document exists for a particular patient visit.

TIU DOCUMENT File (#8925), cont'd

Field #	Field Name	X-ref	Description
03	VISIT	AVSIT	This MUMPS-type, multi-field cross-reference by PATIENT, DOCUMENT TYPE, STATUS, and INVERSE VISIT/DICTATION DATE facilitates look-ups by visit.
		V	This REGULAR FileMan Cross-reference by VISIT is used to help identify dependent entries.
		APTLD	This MUMPS-type Multifield cross-reference by PT, TITLE, "LOC;VDT;VTYP",DA is used for optimizing checks for documents for a particular visit.
.04	PARENT DOCUMENT TYPE	ADCPT	This MUMPS-type, multi-field cross-reference by PATIENT, DOCUMENT CLASS, STATUS, and INVERSE REFERENCE DATE facilitates look-ups by PATIENT AND DOCUMENT CLASS (e.g., all SIGNED Violence Postings for patient John Doe).
.05	STATUS	ASUP	This MUMPS-type, multi-field cross-reference by (EXPECTED COSIGNER), DOCUMENT TYPE, STATUS, and INVERSE ENTRY/DICTATION DATE/ TIME will be used for look-ups and queries.
		AAU	This MUMPS-type, multi-field cross-reference by AUTHOR/DICTATOR, DOCUMENT TYPE, STATUS, and INVERSE ENTRY/DICTATION DATE/ TIME will be used for look-ups and queries.
		APT	This MUMPS-type, multi-field cross-reference by AUTHOR/DICTATOR, DOCUMENT TYPE, STATUS, and INVERSE ENTRY/DICTATION DATE/ TIME will be used for look-ups and queries.
		ATC	This MUMPS-type, multi-field cross-reference by ENTERED BY, DOCUMENT TYPE, STATUS, and INVERSE ENTRY/DICTATION DATE/ TIME will be used for look-ups and queries.
		ATS	This MUMPS-type, multi-field cross-reference by TREATING SPECIALTY, DOCUMENT TYPE, STATUS, and INVERSE ENTRY/DICTATION DATE/ TIME will be used for look-ups and queries.
		ALL	This MUMPS-type, multi-field cross-reference by DOCUMENT TYPE, STATUS, and INVERSE ENTRY/DICTATION DATE/ TIME will be used for look-ups and queries.
		ASUB	This MUMPS-type, multi-field cross-reference is used in queries by subject.

TIU DOCUMENT File (#8925), cont'd

Field #	Field Name	X-ref	Description
.05	STATUS	ASVC	This MUMPS-type, multi-field cross-reference by SERVICE, DOCUMENT TYPE, STATUS, and INVERSE ENTRY/DICTATION DATE/ TIME will be used for look-ups and queries.
		ALOC	This MUMPS-type, multi-field cross-reference is optimized for searching hospital location, document type, status, and date range.
		APRB	This MUMPS-type, multi-field cross-reference by PROBLEM, DOCUMENT TYPE, STATUS, and INVERSE ENTRY/DICTATION DATE/ TIME facilitates queries by problem.
		AVSIT	This MUMPS-type, multi-field cross-reference by SERVICE, DOCUMENT TYPE, STATUS, and INVERSE ENTRY/DICTATION DATE/ TIME facilitates queries by visit
		ADCPT	This MUMPS-type, multi-field cross-reference by PATIENT, DOCUMENT TYPE, STATUS, and INVERSE ENTRY/DICTATION DATE/ TIME facilitates look-ups by PATIENT and DOCUMENT CLASS (e.g., all SIGNED violence Postings for patient John Doe).
.06	PARENT	DAD	Cross-Reference on parent to help find addenda.
.07	EPISODE BEGIN DATE/TIME	APTLD	This MUMPS-type Multifield cross-reference by PT, TITLE, "LOC;VDT;VTYP",DA is used for optimizing checks for documents for a particular visit.
.12	MARK DISCH DT FOR CORRECT-ION	FIX	This regular FileMan Cross-reference is used by the nightly daemon to identify those records which require evaluation/correction of their discharge dates.
.13	VISIT TYPE	APTLD	This MUMPS type Multi-field index by PT,TITLE,"LOC;VDT;VTYP",DA is used for optimizing checks for documents for a particular visit.
1201	ENTRY DATE/TIME	F	This regular FileMan Cross-reference on Entry Date/time supports the Nightly background task, by helping to identify the subset of records which is overdue for either signature or purging.

TIU DOCUMENT File (#8925), cont'd

Field #	Field Name	X-ref	Description
1202	AUTHOR/ DICTATOR	CA	This REGULAR, whole-file cross-reference by Author/ Dictator will facilitate both look-ups and sorting by author.
		AAU	This MUMPS-type, multi-field cross-reference by AUTHOR, DOCUMENT TYPE, STATUS, and INVERSE DICTATION DATE/TIME is intended to facilitate look-up by author for the review process.
		AAUP	This MUMPS-type, multi-field cross-reference by Author and REGULAR Signature Date/Time is used to maintain the daily print queue for batch printing of documents (currently, just Progress Notes) on signature.
		ACLAU	This x-ref is used to extract lists based on context.
1205	HOSPITAL LOCATION	ALOC	This MUMPS-type, multi-field cross-reference is optimized for searching hospital location, document type, status, and date range.
		ALOCP	This MUMPS-type, multi-field cross-reference by Hospital Location and REGULAR Signature Date/Time is used to maintain the daily print queue for batch printing of documents (currently, just Progress Notes) on signature.
1208	EXPECTED COSIGNER	CS	This REGULAR, FileMan type cross-reference by supervisor (expected cosigner) will be used to optimize FM Sorts and searches.
		ASUP	This MUMPS-type, multi-field cross-reference by (EXPECTED COSIGNER), DOCUMENT TYPE, STATUS, and INVERSE ENTRY/DICTATION DATE/ TIME will be used for look-ups and queries.
1211	VISIT LOCATION	APTLD	This MUMPS-type, Multi-field index by PT,TITLE,"VLOC;VDT;VTYP",DA is used to optimize the check for documents of a given title for a particular visit.
1301	REFERENCE DATE	AAU	This MUMPS-type, multi-field cross-reference is used for look-ups by author, document type, status, and date range.
		ASUP	This MUMPS-type, multi-field cross-reference by EXPECTED COSIGNER), DOCUMENT TYPE, STATUS, and INVERSE ENTRY/DICTATION DATE/TIME will be used for look-ups and queries.

TIU DOCUMENT File (#8925), cont'd

Field #	Field Name	X-ref	Description
1301	REFERENCE DATE	APT	This MUMPS-type, multi-field cross-reference is used for look-ups by patient, document type, status, and date range.
		ATS	This MUMPS-type, multi-field cross-reference is used for look-ups by Treating Specialty, document type, status, and date range.
		ATC	This MUMPS-type, multi-field cross-reference is used for look-ups by Entry person, document type, status, and date range.
		ALL	This MUMPS-type, multi-field cross-reference is used for look-ups by Entry person, document type, status, and date range.
		ASUB	This MULTI-fields, MUMPS-type cross-reference is used for queries by subject.
		ASVC	This MUMPS-type, multi-field cross-reference is used for look-ups by SERVICE, document type, status, and date
		APRB	This MUMPS-type, multi-field cross-reference by Problem, Document type, Status, and Inverse Reference Date/time is used to facilitate query by problem.
		AVSIT	This MUMPS-type, multi-field cross-reference by VISIT, DOCUMENT TYPE, STATUS, and INVERSE ENTRY/DICTATION DATE facilitates look-ups by visit.
		ADCPT	This MUMPS-type, multi-field cross-reference by PATIENT, DOCUMENT CLASS, STATUS, and INVERSE REFERENCE DATE facilitates look-ups by PATIENT AND DOCUMENT CLASS (e.g., all SIGNED Violence Postings for patient John Doe).
		D	This REGULAR FileMan Cross-reference by Reference Date/time is used for both look-ups and sorts.
		APTCL	This MUMPS-type, multi-field cross-reference by PATIENT, CLINICAL DOCUMENT CLASS, and INVERSE REFERENCE DATE facilitates look-ups by patient.
		ALOC	This MUMPS-type, multi-field cross-reference is used for look-ups LOCATION, document type, status, and date
		ACLPT	This MUMPS-Type, Multi-field cross-reference on Cosignature Date/time will assure that the cosigned notes are included in the ACLPT x-ref (completed, by patient) upon cosignature.
		ACLAU	This x-ref is used to extract lists based on context.
		ACLSB	This x-ref is used to extract lists based on context.

TIU DOCUMENT File (#8925), cont'd

Field #	Field Name	X-ref	Description
1302	ENTERED BY	TC	This REGULAR FileMan type cross-reference is used for sorting by the person who entered the original document.
		ATC	This MUMPS-type, multi-field cross-reference is used for searching by entry person, document type, status, and date range.
		ACLAU	This x-ref is used to extract lists based on context.
1304	RELEASE DATE/TIME	E	This Regular, FileMan Cross-reference on Release Date/Time is used for sorting, and for the Released/unverified Report for the Verifying MRT.
1402	TREATING SPECIALTY	TS	This REGULAR FileMan type cross-reference is used for support both look-ups and sorts by Treating Specialty
		ATS	This MUMPS-type, multi-field cross-reference is optimized for searching by treating specialty, document type, status, and date range.
1404	SERVICE	ASVC	This MUMPS-type, multi-field cross-reference is optimized for searching by treating specialty, document type, status, and date range.
		SVC	This REGULAR FileMan Cross-reference by Service will facilitate look-ups, sorts, and reports.
1405	REQUEST-ING PACKAGE REFERENCE	G	This REGULAR FM cross-reference by REQUESTING PACKAGE REFERENCE is used to avoid multiple documents per request, and for look-ups.
1501	SIGNATURE DATE/TIME	ALOCP	This MUMPS-type, multi-field cross-reference by Hospital Location and REGULAR Signature Date/Time is used to maintain the daily print queue for batch printing of documents (currently, just Progress Notes) on signature.
		APTP	This MUMPS-type, multi-field cross-reference by Patient and REGULAR Signature Date/Time is used to maintain the daily print queue for batch printing of documents (currently, just Progress Notes) on signature.
		AAUP	This MUMPS-type, multi-field cross-reference by Author and REGULAR Signature Date/Time is used to maintain the daily print queue for batch printing of documents (currently, just Progress Notes) on signature.
		ACLPT	This MUMPS-Type, Multi-field cross-reference on Cosignature Date/time will assure that the cosigned notes are included in the ACLPT x-ref (completed, by patient) upon cosignature.
		ACLEC	
		ACLAU	This x-ref is used to extract lists based on context.

TIU DOCUMENT File (#8925), cont'd

Field #	Field Name	X-ref	Description
1502	SIGNED BY	ACLSB	This x-ref is used to extract lists based on context.
1507	COSIGNA-TURE DATE/TIME	ACLEC ACLPT	This MUMPS-Type, Multi-field cross-reference on Cosignature Date/time will assure that the cosigned notes are included in the ACLPT x-ref (completed, by patient) upon cosignature.
1701	SUBJECT	ASUB	This MUMPS-type, multi-field cross-reference is used for queries by subject.
2101	ID PARENT	GDAD	Used to find the children of an interdisciplinary note, given the interdisciplinary parent note.
15001	VISIT ID	VID	REGULAR FM Cross-reference by Visit ID facilitates look-up by CIRN.

8925.1—TIU DOCUMENT DEFINITION File

Field #	Field Name	X-ref	Description
.01	NAME	B	This KWIK cross-reference on document name will allow look-up based on sub-names, etc.
		C	This cross-reference will be used by the router/filer to identify a given report type
.03	PRINT NAME	AM1	This MUMPS-type cross-reference is used to update the TIMESTAMP on both the current document and its parents when its PRINT NAME changes.
		D	This REGULAR FileMan cross-reference by PRINT NAME will facilitate look-up.
.04	TYPE	AT	This regular cross-reference is used for listing Document Definitions by Type.
.05	PERSONAL OWNER	AP	This regular cross-reference is used for listing Document Definitions by Personal Owner.
.06	CLASS OWNER	AC	This regular cross reference is used to list Document Definitions by Class Owner.
.07	STATUS	AS	This regular cross-reference is used to list Document Definitions by Status.
1,.14	POSTING INDICATOR	APOST	This REGULAR FileMan Cross-reference by Posting Indicator will help to identify which Document Classes are associated with each of the currently supported Posting Types.
1,.01	HEADER PIECE	B	The REGULAR "B" cross-reference.
1,.02	ITEM NAME	C	This REGULAR FileMan cross-reference on the ITEM NAME is used in the look-up and edit process.
1,.03	FIELD NUMBER	D	This REGULAR FileMan cross-reference by field number is used by the filer-router to identify header-pieces with field numbers in the target file.
1,.04	LOOKUP LOCAL VARIABLE NAME	E	This cross-reference is used by the router/filer to determine which pieces of the header should be set into special variables which may be required by the lookup routine.
2,.01	CAPTION	B	The REGULAR "B" cross-reference.
2,.02	ITEM NAME	C	This REGULAR FileMan cross-reference on the ITEM NAME is used in the look-up and filing processes.
2,.03	FIELD NUMBER	D	This REGULAR FileMan cross-reference is used by the filer-router to identify header-fields with field numbers in the target file.

8925.1—TIU DOCUMENT DEFINITION File cont'd

Field #	Field Name	X-ref	Description
2,.04	LOOKUP LOCAL VARIABLE NAME	E	This REGULAR FileMan cross-reference is used by the router/filer-to determine which fields of the header should be set into special variables which may be required by the lookup routine.
4,.01	ITEM	B AD AMM	The REGULAR "B" cross-reference. This cross-reference facilitates traversal from child to parent, up the class hierarchy. This MUMPS-type cross-reference will update the timestamp on the parent document when the ITEM, MNEMONIC, or SEQUENCE changes.
4,2	MNEMONIC	AMM	This MUMPS-type cross-reference will update the timestamp on the parent document when the ITEM, MNEMONIC, or SEQUENCE changes.
4,.3	SEQUENCE	AMM AC	This MUMPS-type cross-reference will update the timestamp on the parent document when the ITEM, MNEMONIC, or SEQUENCE changes. This REGULAR FileMan cross-reference is used to list items by sequence number.
4,4	MENU TEXT	AMM C	This MUMPS-type cross-reference will update the timestamp on the parent document when the ITEM, MNEMONIC, or SEQUENCE changes. This M cross-reference would be regular but it truncates to 40 characters instead of 30. It is used to display items with no sequence in alpha order by Menu Text.
11,.01	STAT AUTO PRINT EVENT	B	The REGULAR "B" cross-reference.
12,.01	ROUTINE AUTO PRINT EVENT	B	The REGULAR "B" cross-reference.
13,.01	PROCESSING STEP	B	The REGULAR "B" cross-reference.
14,.01	DIALOGUE PROMPT	B	The REGULAR "B" cross-reference.
14,.03	SEQUENCE	AS	This REGULAR FileMan Cross-reference on the sequence sub-field of the Dialog Multiple will facilitate appropriate serialization of prompts.
,99	TIMESTAMP	AM	This cross-reference invokes menu compilation in ^XUTL("XQORM", DA;TIU(8925.1, when the TIMESTAMP field is modified.

8925.2—TIU UPLOAD BUFFER File

Field #	Field Name	X-ref	Description
.01	PROCESS ID NUMBER	B	The REGULAR "B" cross-reference.
2,.01	ERROR LOG ENTRIES	B	The REGULAR "B" cross-reference.

8925.3—TIU UPLOAD ERROR DEFINITION File

Field	Field	X-ref	Description
.001	ERROR CODE #	B	The REGULAR "B" cross-reference.

8925.4—TIU UPLOAD LOG File

Field #	Field Name	X-ref	Description
.01	EVENT DATE/TIME	B	The REGULAR "B" cross-reference.
.06	RESOLUTION STATUS	C	This REGULAR, whole-file cross reference is used to identify unresolved errors for the filer/router process.
.08	EVENT TYPE	D	This REGULAR FileMan Cross-Reference by EVENT TYPE is used for list building.

8925.5—TIU AUDIT TRAIL File

Field #	Field Name	X-ref	Description
.01	TIU DOCUMENT NAME	B AR	The REGULAR "B" cross-reference. This MUMPS-type multi-field cross-reference by TIU Document Pointer and Reassignment date/time will help to identify records that have been reassigned.
1.01	REASSIGN-MENT DATE/TIME	AR	This MUMPS-type multi-field cross-reference by TIU Document Pointer and Reassignment date/time will help to identify records that have been reassigned.

8925.6—TIU STATUS File

Field #	Field Name	X-ref	Description
.01	NAME	B	The REGULAR "B" cross-reference.
.03	SEQUENCE	C	This index is used for looking up and sorting document statuses by sequence number. Higher sequence numbers indicate more finished documents.

8925.7—TIU MULTIPLE SIGNATURE File

Field #	Field Name	X-ref	Description
.01	TIU DOCUMENT NUMBER	B AE	The REGULAR "B" cross-reference. This multi-field, MUMPS-type cross-reference by document and expected cosigner facilitates the identification of privilege to sign the document.
.03	EXPECTED SIGNER	AE	This multi-field, MUMPS-type cross-reference by document and expected cosigner facilitates the identification of privilege to sign the document.

8925.8—TIU SEARCH CATEGORIES File

Field #	Field Name	X-ref	Description
.01	SEARCH CATEGORY	B	The REGULAR "B" cross-reference.
.02	CROSS REFERENCE	C AM	This REGULAR cross-reference is used to map SEARCH CATEGORY to CROSS REFERENCE This MUMPS-type cross-reference is used to update the timestamp on the search category selection menu when a DISPLAY NAME changes.
.99	TIMESTAMP	AM	This cross-reference invokes menu compilation in ^XUTL("XQORM", DA;TIU(8925.8, when the TIMESTAMP field is modified.

8925.9—TIU PROBLEM LINK File

Field #	Field Name	X-ref	Description
.01	DOCUMENT	B APRB	The REGULAR "B" cross-reference. This MUMPS-type, multi-field cross-reference by Problem, Document type, Status, and Inverse Reference Date/time facilitates query by problem.
.05	PROVIDER NARRATIVE	APRB	This MUMPS-type, multi-field cross-reference by Problem, Document type, Status, and Inverse Reference Date/time facilitates query by problem.

8925.91—TIU LINK File

Field #	Field Name	X-ref	Description
.01	DOCUMENT	B APRB	The REGULAR "B" cross-reference. This MUMPS-type, multi-field cross-reference by Problem, Document type, Status, and Inverse Reference Date/time facilitates query by problem.
.05	PROVIDER NARRATIVE	APRB	This MUMPS-type, multi-field cross-reference by Problem, Document type, Status, and Inverse Reference Date/time facilitates query by problem.

8925.93—TIU PRINT PARAMETERS File

Field #	Field Name	X-ref	Description
.01	HOSPITAL LOCATION	B	The REGULAR "B" cross-reference.

8925.94—TIU DIVISION PRINT PARAMETERS File

Field #	Field Name	X-ref	Description
.01	DIVISION	B	The REGULAR "B" cross-reference.

8925.95—TIU DOCUMENT PARAMETERS File

Field #	Field Name	X-ref	Description
.01	DOCUMENT DEFINITION	B	The REGULAR "B" cross-reference.

8925.97—TIU CONVERSIONS File

Field #	Field Name	X-ref	Description
.01	DATA CONVERTED	B	The REGULAR "B" cross-reference.

8925.98—TIU PERSONAL DOCUMENT TYPE LIST File

Field #	Field Name	X-ref	Description
.01	PERSON	B AC	The REGULAR "B" cross-reference. This multi-field, MUMPS-type cross-reference by User and Parent Document class is used to facilitate identification of the user's preferred list of documents within the context of a given parent class.
.03	DISPLAY NAME	AM	This MUMPS-type cross-reference is used for marking records for menu recompilation when the DISPLAY NAME for an item changes.
.99	TIMESTAMP	AM	This MUMPS-type cross reference on the TIMESTAMP field is used to accomplish menu compilation into ^XUTL("XQORM","DA;TIU(9025.98", for presentation of menus by ^XQORM.

8925.99—TIU PARAMETERS File

Field #	Field Name	X-ref	Description
.01	INSTITU-TION	B	The REGULAR "B" cross-reference.

8926—TIU PERSONAL PREFERENCES File

Field #	Field Name	X-ref	Description
.01	USER NAME	B	The REGULAR "B" cross-reference.
.05	DISPLAY MENUS	AMENU	This MUMPS-type cross-reference evaluates the user's preference concerning display or suppression of menus within TIU.

8927—TIU TEMPLATE File

ield #	Field Name	X-ref	Description
.01	NAME	B	The REGULAR "B" cross-reference.
.03	TYPE	AROOT	Keeps track of active shared and personal template root folders.
.06	PERSONAL OWNER	PO	This regular cross-reference on Personal Owner is used for look-ups and searches by owner.

8927.1—TIU TEMPLATE FIELD FILE File

Field #	Field Name	X-ref	Description
.01	NAME	A B	New style FileMan cross-reference. The REGULAR "B" cross-reference used to guarantee a unique name.

Archiving and Purging

Archiving utilities are not provided for the distributed files. Therefore, archival copies must be produced from the printed chart by methods familiar to your HIM Service (e.g., microfiche). A grace period for purge may then be defined in your parameter set-up.

External Relations, RPCs, and APIs

TIU is dependent on the following **V***IST***A** packages to function correctly.

Package	Minimum Version
Adverse Reaction Tracking (ART)	4.0
Authorization/Subscription (ASU)	1.0
Health Summary (recommended)	2.7
Incomplete Record Tracking (IRT), if you plan to interface with it.	5.3
Kernel	8.0
Patient Care Encounter (PCE)	1.0
Patient Information Management System (PIMS)	5.3
VA FileMan	21
Visit Tracking	2.0

Patches:
a. Before TIU is installed, make sure these patches are on the system:

Package	Patch
List Manager Patch	VALM *1*1
OE/RR Patch	OR*2.5*51
Progress Notes	GMRP*2.5*44
Incomplete Record Tracking (IRT)	DG*5.3*112
XQOR (Unwinder) patch	XU*8.0*56

b. Install the following patches ***after*** cutover to TIU:

Package	Patch
Adverse Reaction Tracking (ART)	GMRA*4*6
Health Summary	GMTS*2.7*12
Progress Notes	GMRP*2.5*45

Database Integration Agreements

Database Integration Agreements (DBIA) are available on the DBA menu on Forum..

Remote Procedure Calls

Remote Procedure Calls (RPCs), Application Program Interfaces (APIs) and supported references to which you may subscribe will be described in a Developer's Guide and on the DBA menu on Forum.

Name	Description	Availability
TIU AUTHORIZATION	This RPC allows the calling application to evaluate privilege to perform any ASU-mediated action on a TIU document.	SUBSCRIPTION
TIU CAN CHANGE COSIGNER?	BOOLEAN RPC to evaluate user's privilege to modify the expected cosigner, given the current status of the document, and the user's role with respect to it.	SUBSCRIPTION
TIU CREATE ADDENDUM RECORD	This Remote Procedure allows the creation of addenda to TIU Documents.	SUBSCRIPTION
TIU CREATE RECORD	This remote procedure allows the creation of TIU DOCUMENT records.	SUBSCRIPTION
TIU DELETE RECORD	Deletes TIU Document records...Evaluates authorization.	SUBSCRIPTION
TIU DETAILED DISPLAY	Gets details for display of a given record.	SUBSCRIPTION
TIU DIV AND CLASS INFO	Returns a list of Divisions and User Classes for a specific User.	SUBSCRIPTION
TIU DOCUMENTS BY CONTEXT	Returns lists of TIU Documents that satisfy the following search criteria: 1 - signed documents (all) 2 - unsigned documents 3 - uncosigned documents 4 - signed documents/author 5 - signed documents/date range	SUBSCRIPTION
TIU FIELD CAN EDIT	Returns TRUE if the current user is allowed to edit template fields.	RESTRICTED
TIU FIELD CHECK	Resolves template field names in template import file, and indicates if the imported fields are new or existing fields.	RESTRICTED
TIU FIELD DELETE	Deletes an entry in the Template Field (8927.1) file.	RESTRICTED
TIU FIELD DOLMTEXT	Reads through an array of text and converts all entries of template fields to their associated List Manager text values.	RESTRICTED

Remote Procedure Calls cont'd

Name	Description	Availability
TIU FIELD EXPORT	Exports Template Fields in XML format.	RESTRICTED
TIU FIELD IMPORT	Imports Template Fields from XML format.	RESTRICTED
TIU FIELD LIST	Returns long list array of template fields.	RESTRICTED
TIU FIELD LIST ADD	Adds fields in XML formatted lines to the global ^TMP("TIUFLDXML",$J). Deletes previous lines if they existed for the current job.	RESTRICTED
TIU FIELD LIST IMPORT	Calls the IMPORT2^TIUSRVF routine to import the template fields in the ^TMP global entered via the TIU FIELD LIST ADD RPC.	RESTRICTED
TIU FIELD LOAD	Returns a single Template Field object.	RESTRICTED
TIU FIELD LOAD BY IEN	Returns a single Template Field object.	RESTRICTED
TIU FIELD LOCK	Locks a template field record for editing.	RESTRICTED
TIU FIELD NAME IS UNIQUE	Returns TRUE if the template field name is unique.	RESTRICTED
TIU FIELD SAVE	Saves a single Template Field.	RESTRICTED
TIU FIELD UNLOCK	Unlock Template Field.	RESTRICTED
TIU GET ADDITIONAL SIGNERS	Returns the list of additional signers currently identified for a given TIU document.	SUBSCRIPTION
TIU GET ALERT INFO	Given a TIU XQAID, return the patient and document type for the item being alerted.	SUBSCRIPTION
TIU GET ASSOCIATED IMAGES	Given a Document, get the list of associated images.	SUBSCRIPTION
TIU GET BOILERPLATE	Returns a title's boilerplate text without resolving any objects embedded in the text.	AGREEMENT

Remote Procedure Calls cont'd

Name	Description	Availability
TIU GET DEFAULT PROVIDER	This RPC returns the default provider as specified by the TIU Site Parameter DEFAULT PRIMARY PROVIDER, which has the following allowable values: 0 - NONE, DON'T PROMT In which case the call will return 0^ 1 - DEFAULT, BY LOCATION In this case, the call will return the default provider for a given Hospital Location, as specified in the set-up for the Clinic in MAS. If a default provider is specified for the location in question, that person will be returned. If the Clinic set-up specifies use of the Primary Provider (defined) for the patient, then that person will be returned. The return format will be DUZ^LASTNAME,FIRSTNAME. 2 - AUTHOR (IF PROVIDER) In this case, the call will return the current user (if they are a Provider). If their not a known Provider, then the call will return 0^.	SUBSCRIPTION
TIU GET DOC COUNT BY VISIT	This remote procedure returns the number of documents that are linked to a particular visit.	SUBSCRIPTION
TIU GET DOCUMENT PARAMETERS	This Remote Procedure returns the parameters by which a given document or document type is to be processed.	SUBSCRIPTION
TIU GET DOCUMENT TITLE	This remote procedure returns the pointer to the TIU DOCUMENT DEFINITION FILE that corresponds to the TITLE of the document identified in the TIUDA parameter.	SUBSCRIPTION
TIU GET DOCUMENTS FOR IMAGE	Given an image, get the list of associated documents.	SUBSCRIPTION
TIU GET DS TITLES	Returns a set of discharge summary titles for use in a long list box.	SUBSCRIPTION
TIU GET DS URGENCIES	Returns a set of discharge summary urgencies for use in a long list box.	SUBSCRIPTION
TIU GET LIST OF OBJECTS	This RPC returns the list of TIU OBJECTS that the current user may select from.	SUBSCRIPTION

Remote Procedure Calls cont'd

Name	Description	Availability
TIU GET PERSONAL PREFERENCES	Returns Users personal preferences for TIU in the following format: TIUY = USER [1P] ^ DEFAULT LOCATION [2P] ^ REVIEW SCREEN SORT FIELD [3S] ^ REVIEW SCREEN SORT ORDER [4S] ^ DISPLAY MENUS [5S] ^ PATIENT SELECTION PREFERENCE [6S] ^ ASK 'Save changes?' AFTER EDIT [7S] ^ASK SUBJECT FOR PROGRESS NOTES [8S] ^	SUBSCRIPTION
TIU GET PN TITLES	This API returns a list of Progress Notes Titles, including a SHORT LIST of preferred titles as defined by the user, and a LONG LIST of all titles defined at the site.	SUBSCRIPTION
TIU GET PRINT NAME	This Remote Procedure receives a pointer to the TIU DOCUMENT DEFINITION FILE (#8925.1) and returns a string containing the Print Name of the corresponding Document Definition.	SUBSCRIPTION
TIU GET RECORD TEXT	This RPC will get the textual portion of a TIU Document Record.	SUBSCRIPTION
TIU GET REQUEST	This Remote Procedure returns the variable pointer to the REQUESTING PACKAGE REFERENCE (File #8925, Field #1405). This would be the record in the Requesting Package (e.g., Consult/Request Tracking or Surgery) for which the resulting document has been entered in TIU.	SUBSCRIPTION
TIU GET SITE PARAMETERS	This RPC returns the TIU Parameters for the Division the user is logged in to.	SUBSCRIPTION
TIU ID ATTACH ENTRY	This RPC will attach a document as an Interdisciplinary (ID) entry to an ID Parent document.	SUBSCRIPTION
TIU ID CAN ATTACH	This BOOLEAN RPC evaluates the question of whether a particular document may be attached as an entry to an Interdisciplinary Note (i.e., can this document be an ID Child?).	SUBSCRIPTION
TIU ID CAN RECEIVE	This BOOLEAN RPC evaluates the question of whether a particular document may receive an entry as an Interdisciplinary Parent Note (i.e., can this document be an ID Parent?).	SUBSCRIPTION
TIU ID DETACH ENTRY	This call will remove an ID Entry from an	SUBSCRIPTION

	Interdisciplinary Note.	
TIU IDENTIFY CONSULTS CLASS	This RPC returns the record number of the class CONSULTS in the TIU DOCUMENT DEFINITION file (#8925.1).	SUBSCRIPTION
TIU IS THIS A CONSULT?	BOOLEAN RPC which evaluates whether the title indicated is that of a consult.	SUBSCRIPTION

Remote Procedure Calls cont'd

Name	Description	Availability
TIU IS USER A PROVIDER?	This Boolean RPC returns TRUE if the user was a known provider on the date specified.	SUBSCRIPTION
TIU JUSTIFY DELETE?	BOOLEAN RPC that evaluates whether a justification is required for deletion (e.g., deletion is authorized, but the document has been signed, etc.).	SUBSCRIPTION
TIU LINK DOCUMENT TO IMAGE	This RPC links a document with an image. It will support a many-to-many association between documents and images.	SUBSCRIPTION
TIU LOAD BOILERPLATE TEXT	This RPC will load the boilerplate text associated with the selected title, and execute the methods for any objects embedded in the boilerplate text.	SUBSCRIPTION
TIU LOAD RECORD FOR EDIT	This RPC loads the return array with data in a format consistent with that required by the TIU UPDATE RECORD API. It should be invoked when the user invokes the Edit action, to load the dialog for editing the document.	SUBSCRIPTION
TIU LOCK RECORD	This RPC will issue an incremental LOCK on the record identified by the TIUDA parameter, returning an integer truth value indicating success or failure in obtaining the LOCK.	SUBSCRIPTION
TIU LONG LIST BOILERPLATED	Used by the GUI to supply a long list of boiler plated titles.	RESTRICTED
TIU LONG LIST CONSULT TITLES	This RPC serves data to a long list of selectable TITLES for CONSULTS.	SUBSCRIPTION
TIU LONG LIST OF TITLES	This RPC serves data to a long list of selectable TITLES by CLASS. e.g., passing the class PROGRESS NOTES will return active Progress Notes titles which the current user is authorized to enter notes under.	SUBSCRIPTION

Remote Procedure Calls cont'd

Name	Description	Availability
TIU NOTES	This API gets lists of progress notes for a patient, with optional parameters for STATUS, EARLY DATE/TIME, and LATE DATE/TIME.	SUBSCRIPTION
TIU NOTES 16 BIT	This API gets lists of progress notes for a patient, with optional parameters for STATUS, EARLY DATE/TIME, and LATE DATE/TIME.	SUBSCRIPTION
TIU NOTES BY VISIT	This API gets lists of Progress Notes by visit from TIU.	SUBSCRIPTION
TIU PERSONAL TITLE LIST	This Remote Procedure returns the user's list of preferred titles for a given class of documents, along with the default title, if specified.	SUBSCRIPTION
TIU PRINT RECORD	Allows Printing of TIU Documents on demand.	SUBSCRIPTION
TIU REM DLG OK AS TEMPLATE	Returns TRUE is the passed in reminder dialog is allowed to be used in a TIU Template.	RESTRICTED
TIU REMINDER DIALOGS	Returns a list of reminder dialogs allowed for use as Templates.	RESTRICTED
TIU REMOVE LINK TO IMAGE	This RPC will remove a link between a document and an image. Only valid links may be removed.	SUBSCRIPTION
TIU REQUIRES COSIGNATURE	This Boolean RPC simply evaluates whether the current user requires cosignature for TIU DOCUMENTS, and returns a 1 if true, or a 0 if false.	SUBSCRIPTION
TIU SET ADMINISTRATIVE CLOSURE	Sets the file attributes necessary to close a document by administrative action (either manual or by scanning a paper document that doesn't require the signature of an author, as a typical TIU Document would).	SUBSCRIPTION
TIU SET DOCUMENT TEXT	Buffers the transmittal of text (i.e., the body of TIU Documents) from the Client to the Server. It allows documents of indefinite size to be filed, without risk of an allocate error on the M Server.	SUBSCRIPTION
TIU SIGN RECORD	This API Supports the application of the user's electronic signature to a TIU document while evaluating authorization, and validating the user's electronic signature.	SUBSCRIPTION

Remote Procedure Calls cont'd

Name	Description	Availability
TIU SUMMARIES	This API gets lists of Discharge Summaries for a patient, with optional parameters for STATUS, EARLY DATE/TIME, and LATE DATE/TIME.	SUBSCRIPTION
TIU SUMMARIES BY VISIT	This API returns lists of Discharge Summaries by visit.	SUBSCRIPTION
TIU TEMPLATE ACCESS LEVEL	Used to determine what access a user has to templates.	RESTRICTED
TIU TEMPLATE CHECK BOILERPLATE	This RPC will evaluate boilerplate passed in the input array, checking to see whether any of the embedded objects are inactive, faulty, or ambiguous.	SUBSCRIPTION
TIU TEMPLATE CREATE/MODIFY	This remote procedure allows creation and update of Templates.	SUBSCRIPTION
TIU TEMPLATE DELETE	This RPC will delete orphan entries in the Template file (i.e., only those entries that have been removed from any Groups, Classes, Personal or Shared Root entries).	SUBSCRIPTION
TIU TEMPLATE GET DEFAULTS	Returns Default Template Settings.	RESTRICTED
TIU TEMPLATE GET DESCRIPTION	Returns a Template's Description	RESTRICTED
TIU TEMPLATE GETBOIL	Returns the boilerplate of a given template. TIU objects within the boilerplate are not expanded.	RESTRICTED
TIU TEMPLATE GETITEMS	Returns the children of a given template folder, group template or template dialog.	RESTRICTED
TIU TEMPLATE GETPROOT	Gets information about the users My Template folder.	RESTRICTED
TIU TEMPLATE GETROOTS	Gets information about the users My Template folder, as well as the Shared Templates folder.	RESTRICTED
TIU TEMPLATE GETTEXT	Receives boilerplate text, expands any TIU objects contained within it, and returns the expanded text.	RESTRICTED
TIU TEMPLATE ISEDITOR	Returns TRUE if the user is allowed to edit shared templates.	RESTRICTED
TIU TEMPLATE LISTOWNR	Uses in long lists to return a subset of users who have personal templates.	RESTRICTED
TIU TEMPLATE LOCK	Locks Template.	RESTRICTED
TIU TEMPLATE PERSONAL OBJECTS	Returns a list or Patient Data Objects allowed in Personal Templates.	RESTRICTED

Remote Procedure Calls cont'd

Name	Description	Availability
TIU TEMPLATE SET DEFAULTS	Saves Template Default Settings.	RESTRICTED
TIU TEMPLATE SET ITEMS	This RPC will create or update the items for a Group, Class, Root, or Dialog.	SUBSCRIPTION
TIU TEMPLATE UNLOCK	Unlocks a template.	RESTRICTED
TIU UNLOCK RECORD	This RPC will decrement the lock on a given TIU Document Record, identified by the TIUDA input parameter. The return value will always be 0.	SUBSCRIPTION
TIU UPDATE ADDITIONAL SIGNERS	This RPC accepts a list of persons, and adds them as additional signers for the document identified by the first parameter.	SUBSCRIPTION
TIU UPDATE RECORD	This API updates the record named in the TIUDA parameter, with the information contained in the TIUX(Field #) array. The body of the modified TIU document should be passed in the TIUX("TEXT",i,0) subscript, where i is the line number (i.e., the "TEXT" node should be ready to MERGE with a word processing field). Any filing errors which may occur will be returned in the single valued ERR parameter (which is passed by reference).	SUBSCRIPTION
TIU USER CLASS LONG LIST	Long List of active User Classes.	RESTRICTED
TIU WAS THIS SAVED?	This Boolean Remote Procedure will evaluate whether a given document was committed to the database, or whether the user who last edited it was disconnected.	SUBSCRIPTION
TIU WHICH SIGNATURE ACTION	This RPC infers whether the user is trying to sign or cosign the documents in question, and indicates which ASU ACTION the GUI should pass to the TIU AUTHORIZATION RPC.	SUBSCRIPTION

Package-Wide Variables

Text Integration Utilities has no package-wide variables.

Online Documentation

Intranet WWW Documentation

TIU/ASU's documentation set (Installation Guide, Implementation Guide, Technical Manual, and User Manual) is available on the System Design & Development World Wide Web (WWW) page at the following address:

http://vista.med.va.gov/ClinicianDesktop

This address takes you to the Clinical Products page, which shows a listing of all the clinical software manuals. Click on the Text Integration Utilities link and it will take you to the TIU Homepage. You can also get there by going straight to the following address:

vista.med.va.gov/tiu

TIU documentation is also available in Adobe Acrobat pdf format on the Hines Anonymous account.

KIDS Install Print Options

Build File Print

Use the KIDS Build File Print option if you would like a complete listing of package components (e.g., routines and options) exported with this software.

```
Select OPTION NAME: XPD MAIN     Kernel Installation & Distribution System menu

          Edits and Distribution ...
          Utilities ...
          Installation ...

Select Kernel Installation & Distribution System Option: Utilities

          Build File Print
          Install File Print
          Convert Loaded Package for Redistribution
          Display Patches for a Package
          Purge Build or Install Files
          Rollup Patches into a Build
          Update Routine File
          Verify a Build
          Verify Package Integrity

Select Utilities Option: Build File Print
Select BUILD NAME: TEXT INTEGRATION UTILITIES 1.0          TEXT INTEGRATION
UTILITIES
DEVICE: HOME//   VAX
```

Print Results of the Installation Process

Use the KIDS Install File Print option if you'd like to print out the results of the installation process.

```
DEVICE: HOME//   ANYWHERE
PACKAGE: TEXT INTEGRATION UTILITIES 1.0     Jan 21, 1997 3:34 pm      PAGE 1
                                             COMPLETED           ELAPSED
-------------------------------------------------------------------------------
STATUS: Install Completed                DATE LOADED: JAN 21, 1997@12:49:03
INSTALLED BY: RUSSELL,JOEL E
NATIONAL PACKAGE: TEXT INTEGRATION UTILITIES
INSTALL STARTED: JAN 21, 1997@12:49:53       12:52:26             0:02:33

ROUTINES:                                    12:50:06             0:00:13
FILES:
HEALTH SUMMARY TYPE                          12:50:17             0:00:11
TIU DOCUMENT                                 12:50:24             0:00:07
TIU DOCUMENT DEFINITION                      12:50:29             0:00:05
TIU UPLOAD BUFFER                            12:50:29
TIU UPLOAD ERROR DEFINITION                  12:50:29
TIU UPLOAD LOG                               12:50:30             0:00:01
TIU AUDIT TRAIL                              12:50:30
TIU STATUS                                   12:50:31             0:00:01
TIU MULTIPLE SIGNATURE                       12:50:31
TIU SEARCH CATEGORIES                        12:50:31
TIU PROBLEM LINK                             12:50:32             0:00:01
TIU EXTERNAL DATA LINK                       12:50:32
TIU PRINT PARAMETERS                         12:50:33             0:00:01
TIU DIVISION PRINT PARAMETERS                12:50:33
TIU DOCUMENT PARAMETERS                      12:50:34             0:00:01
TIU CONVERSIONS                              12:50:35             0:00:01
TIU PERSONAL DOCUMENT TYPE LIST              12:50:35
TIU PARAMETERS                               12:50:36             0:00:01
TIU PERSONAL PREFERENCES                     12:50:36
PATIENT POSTING SITE PARAMETERS              12:50:38             0:00:02
BULLETIN                                     12:50:43             0:00:05
SECURITY KEY                                 12:50:43
FUNCTION                                     12:50:43
PRINT TEMPLATE                               12:50:49             0:00:06
INPUT TEMPLATE                               12:50:50             0:00:01
DIALOG                                       12:50:50
PROTOCOL                                     12:51:20             0:00:30
OPTION                                       12:52:05             0:00:45
POST-INIT CHECK POINTS:
XPD POSTINSTALL STARTED                      12:52:09             0:00:04
XPD POSTINSTALL COMPLETED                    12:52:09

INSTALL QUESTION PROMPT                                             ANSWER
XPZ1
```

Other Kernel Print Options

Besides using the Kernel Installation & Distribution (KIDS) options to get lists of routines, files, etc., you can also use other Kernel options to print online technical information.

Routines

XUPRROU (List Routines) prints a list of any or all of the TIU routines. This option is found on the XUPR-ROUTINE-TOOLS menu on the XUPROG (Programmer Options) menu, which is a sub-menu of the EVE (Systems Manager Menu) option.

```
Select Systems Manager Menu Option: programmer Options

Select Programmer Options Option: routine Tools

Select Routine Tools Option: list Routines
Routine Print
Want to start each routine on a new page: No// [ENTER]

routine(s) ?   > TIU*
```

The first line of each routine contains a brief description of the general function of the routine. Use the Kernel option XU FIRST LINE PRINT (First Line Routine Print) to print a list of just the first line of each TIU subset routine.

```
Select Systems Manager Menu Option: programmer Options

Select Programmer Options Option: routine Tools

Select Routine Tools Option: First Line Routine Print
PRINTS FIRST LINES

routine(s) ?   >TIU*
```

Globals

The global unique to VA in the TIU package is ^TIU(. Use the Kernel option XUPRGL (List Global) to print a list of any of these globals. This option is found on the XUPROG (Programmer Options) menu, which is a sub-menu of the EVE (Systems Manager Menu) option.

```
Select Systems Manager Menu Option: programmer Options
Select Programmer Options Option: LIST Global
Global ^^PX*
```

XINDEX

XINDEX is a routine that produces a report called the VA Cross-Referencer. This report is a technical and cross-reference listing of one routine or a group of routines. XINDEX provides a summary of errors and warnings for routines that do not comply with VA programming standards and conventions, a list of local and global variables and what routines they are referenced in, and a list of internal and external routine calls.

XINDEX is invoked from programmer mode: D ^XINDEX.

When selecting routines, select TIU*.

Data Dictionaries/ Files

The number-spaces for TIU files unique to VA are 8925-8926. Use the VA FileMan DATA DICTIONARY UTILITIES, option #8 (DILIST, List File Attributes), to print a list of these files. Depending on the FileMan template used to print the list, this option will print out all or part of the data dictionary for the TIU files.

Example:

```
>D P^DI
VA FileMan 21.0
Select OPTION: DATA DICTIONARY UTILITIES
Select DATA DICTIONARY UTILITY OPTION: LIST FILE ATTRIBUTES
 START WITH WHAT FILE: 8925
                                          (1 entry)
      GO TO WHAT FILE: 8925// 8926*
Select LISTING FORMAT: STANDARD// [Enter]
DEVICE: PRINTER
```

Glossary

ASU	Authorization/Subscription Utility, a utility that allows sites to associate users with user classes, allowing them to specify the level of authorization needed to sign or order specific document types and orderables.
Action	A functional process that a clinician or clerk uses in the TIU computer program. “Edit,” “Create,” and “Find” are examples of actions.
Boilerplate Text	A pre-defined Progress Notes or Discharge Summary template containing standard text, with blanks to fill in for specific data about a patient.
Class	Classes are groups of groups which hold documents. For example, Progress Notes is a Class with many Document Classes (kinds of progress notes) under it. Classes may themselves be subdivided into Classes and/or may go straight to Document Class if no further subdivisions are desired. Besides grouping documents, Classes also store behavior which is then inherited by lower level entries.
Clinician	A doctor or other provider in the medical center who is authorized to provide patient care.
Component	Components are "sections" or "pieces" of documents, such as Subjective, Objective, Assessment, and Plan in a SOAP Progress Components may have (sub)Components as items. They may have Boilerplate Text. Components may be designated SHARED.

Discharge Summary	A discharge summary is a formal synopsis of a patient's medical care during a single hospitalization. It includes the pertinent diagnostic and therapeutic tests and procedures as well as the conclusions generated by those tests. A discharge summary is prepared for all discharges and transfers from a VA medical center or domiciliary or from nursing home care. The automated Discharge Summary module provides an efficient and immediate mechanism for clinicians to capture transcribed patient discharge summaries online, where they're available for review, signing, adding addendum, etc..
Document Class	Document Classes group documents. Document Class is the lowest level of class, and has Titles as items under it.
Document Definition	The Document Definition utility provides the building blocks for TIU, by organizing types of documents into a hierarchy structure. This structure allows documents (Titles) to inherit characteristics (such as signature requirements and print characteristics) of the higher levels, Class and Document Class.
IRT	Incomplete Record Tracking
MIS	Common abbreviation/synonym used at VA site facilities for the Medical Information Section of Medical Administration Service. May be called HIMS (Health Information Management Section).
MIS Manager	Manager of the Medical Information Section of Medical Administration Service at the site facility who has ultimate responsibility to see that MRTs complete their duties.

Glossary, cont'd

MRT	Medical Record Technician in the Medical Information Section of Medical Administration Service at the site facility who completes the tasks of assuring that all discharge summaries placed in a patient's medical record have been verified for accuracy and completion and that a permanent chart copy has been placed in a patient's medical record for each separate admission to the hospital.
Object	Objects are names or other text which may be embedded in the predefined boilerplate text of Titles. And example of an "Object" is "PATIENT AGE." Objects are typed into the boilerplate text of a Title, enclosed by '|'s. If a Title has boilerplate text: Patient is a healthy |PATIENT AGE| year old male ... Then a user who enters such a note for a 56 year old patient would be presented with the text: Patient is a healthy 56 year old male ...
Progress Notes	The Progress Notes module of TIU is used by health care givers to enter and sign online patient progress notes and by transcriptionists to enter notes to be signed by caregivers at a later date. Caregivers may review progress notes online or print progress notes in chart format for filing in the patient's record.
TIU	Text Integration Utilities
Title	Titles are definitions for documents. They store the behavior of the documents which use them.
User Class	The basic component of ASU (Authorization/ Subscription Utility). The User Class file contains the different categories of users within a hospital. ASU allows sites to designate who is authorized to do what.

Document Definition Terminology & Rules

This section describes the terms and rules used in the Document Definition system.

NAME

Plus (+) indicates that the entry has Items under it and can be expanded.

The name of a Document Definition entry (.01 field) must be between three and 60 characters long and may not begin with a punctuation character. Although names can be entered in upper or lower case, they are transformed to upper case before being stored.

Name functions as the Technical Name of the entry. Some sites have put KWIC cross references on it to get, say, all Titles from a given Service.

Name can be used when entering documents as the name of the Title being entered. Print Name and Abbreviation will also be accepted.

Since it is the Technical, .01 Name, TIU uses this name throughout.

The .01 name differs from the Print Name, which appears in lists of documents and functions as the Title of the document.

It also differs from Item Menu Text (1-26 characters), which is used when selecting documents from three-column menus.

The order of names in the options *Edit Document Definitions* and *Create Document Definitions* is by Item Sequence under the parent. The order is alphabetic by Menu Text if an Item has no Item Sequence.

When a new entry is added to file 8925.1 the default Print Name is entered. The Print Name can be edited if a different Print Name is desired.

File 8925.1 permits more than one entry with the same name if they are different Types. In that sense, Names are reusable. However, Entries are not reusable (except specially marked Components); an entry is not allowed to be an item under more than one parent unless it is a Shared Component. (See Component.)

OBJECT NAME

Object Names, like any other names are 3-60 characters, not starting with punctuation. Sites may want to namespace object names, use the object Print Name as a more familiar name, and use the object Abbreviation as a short name to embed in boilerplate text. Unlike other Types, Object Abbreviation and Print Name as well as Name must be uppercase.

Object Name, Abbreviation, or Print Name can be embedded in boilerplate text. Since TIU must be able to determine from this which object is intended, object Names, Abbreviations, and Print Names must be unique. In fact, an object Name must differ not only from every other object name, but also from every other object Abbreviation and from every other object Print Name. Same for Abbreviations and Print Names. For example, if some object has the abbreviation CND, then CND cannot be used for any other object Name, Abbreviation, or Print Name.

TYPE

Type determines the nature of the entry and what sort of items the entry may have. There are five possible types:

Class (CL): Classes group documents.

Example: "Progress Notes" is a class with many kinds of progress notes under it.

Classes may themselves be subdivided into items under a Class and/or may have items of Document Class if no further subdivisions are desired.

If a hierarchy deeper than Class-Document Class-Title is desired, Class is the place to insert another level into the hierarchy: Class-Class-Document Class-Title.

Besides grouping documents, Classes also store behavior which is then inherited by lower level entries.

Document Class (DC) : Document Classes group documents. Document Class is the lowest level of class, and has items of the Title Type under it.

Example: "Day Pass Note" could be a Document Class under class Progress Note.

Document Classes also store behavior which is then inherited by lower entries.

Document Definition Terminology cont'd

Title (TL): Titles are used to enter documents. They store the behavior of the documents which use them.

Titles may have predefined boilerplate (Overprint) text. They may have Components as items. Boilerplate Text can have Objects in it.

Examples: "Routine Day Pass Note" could be a Title under document class Day Pass Note. Another example might be "Exceptional Circumstances Day Pass Note."

Titles store their own behavior. They also inherit behavior from higher levels of the hierarchy. However, behavior stored in the Title itself always overrides inherited behavior.

Component (CO): Components are "sections" or "pieces" of documents. In the Hierarchy, Components are organized as items under Titles.

Examples: "Reason for Pass" could be a component of Routine Day Pass Note. Subjective is a component of a SOAP Note.

Components may have (sub)Components as items. They may have Boilerplate Text. Components may be designated Shared (see field description for Shared). Shared Components are shown in Document Definition Utility displays as Type "CO S".

There are advantages and disadvantages in splitting a document up into separate components (rather than writing sections into the Boilerplate Text of the Title). Since Components are stored as separate file entries, they are inherently accessible and even "movable." Using FileMan, sites can access components of documents the same way they can access documents for reports, etc. Also, in the future, TIU may have options to move or copy certain components from one document into another. The disadvantage is speed. Components make the structure more complex and, therefore, slow down processing.

Document Definition Terminology cont'd

Object (O): Objects are names which may be embedded in the predefined boilerplate text of Titles. Example: "PATIENT AGE." Objects are typed into the boilerplate text of a Title, enclosed by '|'s. For example, suppose a Title has the following boilerplate text:

> Patient is a healthy |PATIENT AGE| year old |PATIENT SEX| ...

Then when you enter such a note for a patient known by the system to be 56 years old and male, you would be presented with the text:

> Patient is a healthy 56 year old male ...

You can then add to the text and/or edit the text, including the age (56) of the patient. From this point on, the patient age (56) is regular text and is not updated in this note.

Objects must always have uppercase names, abbreviations, and print names. When embedding objects in boilerplate text, you may embed any of these three (name, abbreviation, print name) in boilerplate text, enclosed by an "|" on both sides. Objects must always be embedded in uppercase.

Objects are stored in the DOCUMENT DEFINITION File, but are not part of the Hierarchy. They are accessible through the options *Create Objects* and *Sort Document Definitions (*by selecting Sort by Type and selecting Type Object).

TIU exports a small library of Objects. Sites can also create their own.

Only an owner can edit an object and should do so only after consulting with others who use it. The object must be Inactive for editing. It should be thoroughly tested. (See Object Status, under Status.)

Entries of type Object cannot be changed to any other type. Entries of type Class, Document Class, Title, or Component cannot be changed to type Object.

Type is a BASIC field.

SHARED

Components may be designated SHARED by Owners who have the Manager menu. This means the Component can be an item under multiple parents, and anyone who owns a Title can add it as an item.

SHARED, cont'd

Shared Components are the *only* members of the Document Definition hierarchy which can appear in more than one place in the hierarchy. (Objects can be used in multiple entries, but are not members of the hierarchy.)

Shared Components are intended for broad use across the site, such as a Privacy Act Component. Since a Shared Component may be used in many different Document Definitions, its Owner is essentially the caretaker for it, hospital wide, and must take into account all users before editing it. Users who disagree with a proposed change can choose to create and use their own copy instead of using the Shared Component.

Parents of a Shared Component are listed on the Detailed Display screen.

Shared Field values are 1 for YES and 0 for NO, with a default value of 0 for NO if the field is empty.

An entry may not be designated Shared unless it is a Component. Only a Manager or an Owner can designate a Component as Shared. Only an *owner* can edit it. (Normally Managers can override ownership and edit entries. Manager options do *not* override Ownership for editing Shared Components).

Shared Components can only be edited from *the Sort Document Definitions* option.

Shared Components can't be deleted. If they don't have multiple parents, they can, however, be edited to *not* shared and *then* deleted, assuming they are not In Use by documents and the parent is Inactive.

Shared Components don't have a Status. They can be edited only if all parent Titles are Inactive. This ensures that parent Titles are offline for entering documents while their components are being edited. Parents are listed on the Detailed Display Screen.

If a Shared Component has subcomponents, they are automatically Shared, since they, with their parents, can be used in more than one place in the hierarchy.

Sharing of Document Definitions other than Components is not permitted because it unduly restricts the owner's right to edit or delete the Document Definition and adds undue complexity to the Hierarchy

NATIONAL STANDARD

Some Document Definitions such as CWADs are developed nationally and sent out as standardized entries across the nation. TIU and other packages depend on their standard definition, and they must not be edited by sites, but only by the persons who are nationally responsible for them.

Such entries are marked NATIONAL STANDARD (the field has a value of 1 for YES), which prevents sites from editing the entry.

Sites can't edit National Standard entries, except for the Item Multiple.

If a National Standard entry is a Class or Document Class, sites can add or delete non-National items as they please, and can edit all items as items (e.g., Item Sequence, etc.). Sites cannot add or delete National items.

If a National Standard entry is a Title or Component, sites can't add or delete items, but they can still edit items as Items.

Sites cannot add National Standard entries as Items to parents except for adding National Shared Components to non-National titles. Sites can delete National Standard Items from any non-National parents. (Unless there has been a mistake, such items will be limited to Shared Components.)

Field is NOT heritable. If field has no value for an entry, its value is 0 by default. This means that entries created by sites are *not* National Standard.

☞ **Technical Note:** National entries (except for Shared Components) must have National ancestors; if a National entry has a non-National ancestor, TIU doesn't permit it to be activated. (Shared Components need not have National ancestors, and do not have a Status.)

National Standard is a basic field.

STATUS

Status provides a way of making Document Definitions "Offline" to documents. Document Definitions need to be offline if they are new and not ready for use, if they are being edited, or if they are retired from further use.

Status is limited to those Statuses in the STATUS File which apply to Document Definitions: Inactive, Test, and Active. TIU further limits the Status to those appropriate for the entry Type (see below), limits the Status of entries with Inactive ancestors to Inactive, and limits the Status of faulty entries to Inactive.

STATUS, cont'd

Status applies to all Document Definitions, but its meaning and possible values vary somewhat with the Document Definition Type. Object Status differs significantly from status of other Types. See Object Status, at the end of this description. Also see Component Status below, to see how Shared Components differs.

TITLE STATUS

Status has its most basic meaning for Titles.

A Title can have a Status of Inactive, Test, or Active. If its Status is Inactive, it can't be used to enter Documents (*except* through the Try Action, which deletes the document when done). If its Status is Test, only its Owner can can enter documents. Titles should be tested using *test patients only*. If a Title's Status is Active, anyone with access and authorization can enter documents.

NOTE on Availability: Although Status affects availability for entering documents, there are other factors which also affect availability: A Document Definition is not available to a given user for entering documents (except throught the Try action) unless all of the following three criteria are met:

1) It is a Title.
2) It has a Status of Active or Test. If its Status is Test, the user entering a document must own the Title.
3) If authorization for using the Title to enter documents is restricted through the Authorization/Subscription Utility (Business Rules), the user must be a member of the authorized user class.

Unless these criteria are all met, users trying to enter documents will not see the Document Definition. Therefore, it is wise to warn users when taking definitions offline for edit to do so at non-peak hours for entering documents.

When you are changing a Title's Status to Test or Active, the Title is examined for rudimentary completeness and must be judged OK before the change takes place. You can perform the same examination by selecting the action Try. For Titles, the Try action also lets you enter a document on the entry. The document is deleted immediately after the check.

STATUS, cont'd

Although availability for entering documents is the central meaning of Status, Status also controls edit and deletion of Document Definitions. A Title can be edited *only* if its Status is Inactive, ensuring that no one is using it to enter a document while its behavior is changing. Titles can be deleted only if their Status is Inactive.

☞ **NOTE:** Although Status affects Editing ability, it is not the only factor affecting editing. If an entry is already IN USE by documents, editing or deletion is restricted to aspects which will not harm existing documents.

Components under a Title have the same status as the Title. When a Title's status is changed, the statuses of its descendant Components are automatically changed with it.

CLASS AND DOCUMENT CLASS STATUS

Classes or Document Classes can have Active or Inactive Statuses.

"Basics" for a Class or Document Class can't be edited (except for Owner and Status) unless it is Inactive. Since Inactivating a Class or Document Class automatically inactivates its descendants, this ensures that all Titles which inherit behavior from it are neither Active nor Test and are thus Offline while inherited behaviors are edited.

In contrast to Basics, the ability to add or edit items of a Class or Document Class depends on the Status of the item, not its parent; it is not necessary to Inactivate a Class such as Progress Notes in order to edit or add items.

Activating a Class or Document Class differs from Inactivating the Class or Document Class. When a Class/Document Class is activated, its descendants may have any Status which their Type permits; they are not required to be Active. Hence, they are not automatically Activated when the parent is Activated.

COMPONENT STATUS

A Component has the same status as its parent. Its status can be changed only by changing the Status of its Parent, if it has one. Components without parents are always Inactive.

NOTE: The above also means that Test or Active Titles can't have Inactive Components. In other words, Inactivating a Component is *not* a way of retiring it. If a Component is no longer a useful section of a Title, it should be edited so as to make it useful, or it should be deleted *as an item* from the Title of which it is a part. As with all retired Document Definitions, it should *not* be deleted from the file if it has been used by documents.

Components can be edited only if their status is Inactive. This ensures that all Titles using them are offline while they are being edited.

Shared Components are a special case since they can have multiple parents. *They do not have a status.* They can be edited only when all parent Titles have a Status of Inactive. (The Detailed Display screen shows parents.) This ensures that all parent Titles of Shared Components are offline while the components are being edited. Edit of Shared Components is permitted only through the option *Sort Document Definition.*

Editing Shared Components is severely restricted by Ownership, since they may be used multiple times and across the site. Even an Inactive Status does not permit those with the Manager menu to override ownership and edit a Shared Component they don't own. See the description of Shared Components under Type.

OBJECT STATUS

Objects can have Inactive or Active Statuses. Only Active objects function. That is, if you enter a document on a Title with boilerplate text containing an inactive object, the object doesn't do anything. You see the name of the object and an error message in place of the object data.

OBJECT STATUS, cont'd

Only Active objects should be embedded in boilerplate text. Exception: when objects are being created or edited. Otherwise, you should NOT embed inactive objects in boilerplate text since they may not be ready for use and since they do not function when users enter documents against them. Titles whose boilerplate text contains inactive objects can't be activated. (This doesn't imply that active titles never have inactive objects embedded in them, since users can, after a warning, inactivate objects even when they are embedded in active titles.)

Only Inactive objects can be edited (and only by an owner). Only an owner can activate or inactivate an object. (Exception: if you own an object and edit the owner to someone else, then you are not prevented from going on to edit the status in the same edit session, since you were the owner a few seconds ago.) Active objects are assumed to be ready for use in any boilerplate text.

Since the owner is essentially the caretaker of the object for the entire site, the owner should consult with all who use it before editing it. An object can be tested by embedding it in the boilerplate text of a Title and selecting the action "Try" for the Title. It need not have an Active status for this testing (and should not have an Active status until testing is complete). Owners who inactivate objects for editing should make sure to reactivate them if they are being used.

Sites should either inactivate relevant Titles before editing objects or edit objects only when users are not likely to be entering documents since Inactive objects do not function.

If a site changes the name or behavior of an Object, it is up to the site to change the name wherever it has already been embedded in Boilerplate Text, and to inform users of the change.

An object which is no longer wanted for future documents can be removed from the boilerplate text of all Titles and Components and then deleted from file 8925.1.. Only an owner can delete it. All of the documents that used it have already got it in hard words so there is no need to keep it for their sake. Old Objects should be edited so they are useful, or deleted, not kept around forever as Inactive.

PERSONAL OWNER

Document Definition Ownership has nothing to do with who can *use* the entry to enter a document. It determines responsibility for the Document Definition itself.

An entry can be edited by its owner. The Manager menu permits override of ownership so that ownership can be assigned to a clinician who can then fill in boilerplate text, while the Manager can still edit the entry, since there are many fields the clinician doesn't have access to. Exception: the Manager menu doesn't allow override of Object or Shared Component ownership. Only owners can edit Objects and Shared Components, regardless of menu.

If a Title owner edits the boilerplate text of the Title, that person can edit the boilerplate text of all components of the Title as well, without regard to component ownership. In order to edit components individually, however, the user must own the component. This allows users to assign ownership of components to different people, for example, for future multidisciplinary documents.

A Personal Owner is a person who uniquely owns the entry. An entry may have a Personal Owner *or* a Class Owner but not both. When entering a Personal Owner, be sure to delete any existing Class Owner.

TIU uses the term "Individual Owner." Someone is an Individual Owner of an entry if s/he is the personal owner or if the entry is CLASS Owned, if s/he belongs to the Owner Class.

When you enter a new entry, you are entered as the Personal Owner if you don't assign ownership. You can then reassign ownership if desired. Copying an entry makes you the personal owner of the copy.

If the person responsible for an entry plays a role corresponding to a User Class, e.g. Clinical Coordinator, it may be more efficient to assign ownership to the class rather than to the person. Owners are then automatically updated as the class is updated.

Editing privilege is affected not only by Owner but also by Status, by Shared, by In Use, and by menu access. Manager menus, for example, provide fuller editing capabilities than Clinician menus.

CLASS OWNER

Document Definition Ownership has nothing to do with who can USE the entry to enter a document. It determines responsibility for the Document Definition itself.

An entry can be EDITED by its owner. (The Manager menu permits override of ownership so that ownership can be assigned to a clinician (person with Clinician Menu) who can then fill in boilerplate text, while the manager can still edit the entry, since there are many fields the clinician does not have access to.) Exception: the Manager menu does NOT override ownership of Objects or of Shared Components. These can ONLY be edited by an owner, regardless of menu.

If a Title owner edits the boilerplate text of the Title, that person can edit the boilerplate text of all components of the title as well, without regard to component ownership. However, the user must own the component in order to edit it individually, permitting separate ownership of components.

A Class Owner is a User Class from the USR CLASS file whose members may edit the entry. An entry may have a Personal OR a Class Owner (not both). TIU doesn't prompt for Class Owner if the entry has a Personal Owner. To change to Class Owner, first delete the Personal Owner by entering '@' at the Personal Owner prompt.

For new entries, you are prompted to enter the Class Owner Clinical Coordinator as the default. To enter a different Class Owner, enter the appropriate class after the //'s. If there are no //'s and the Replace...with editor is being used, enter ... to replace the whole class and then enter the appropriate class.

Class Owner is a BASIC field.

IN USE

IN USE applies to all entries except Objects. It can't be edited since it gets its value automatically.

IN USE may have values of "Yes," "No," or "?."

Titles or Components are IN USE (Yes) if there are entries in the TIU Document file which store it as their Document Definition. If not, it is *not* used (No).

NOTE: It is possible for Document Definitions to be used by documents in files other than the TIU Document File and still be *Not In Use,* since In Use means in use by documents in the TIU Document file..

Document Definition Terminology cont'd

Classes or Document Classes are IN USE (Yes) if they have children which are Titles which are IN USE. That is, it is Used by Documents (Yes) if there are entries in the TIU Document file which inherit behavior from it. If not, it is *not* used (No).

In Use has a value of ? for a DOCUMENT DEFINITION File entry if the routine TIUFLF is missing or if the program encounters a nonexistent item and the entry is not IN USE so far as the check has been able to go.

☞ **NOTE:** Since Shared Components can be items of more than one Title, a Shared Component may be IN USE even when a particular parent Title is *not* IN USE. This simply means that it is also a Component of another Title which *is* IN USE.

If IN USE is "No" for a particular Document Definition entry, the entry can be deleted by the owner without harming documents in the TIU DOCUMENT File #8925. Deleting it will, however, orphan any descendant Document Definitions.

☞ **NOTE:** If a site is using TIU to upload documents into a file other than the TIU DOCUMENT file, it may create Document Definition entries to store upload information. For example, it may create an Operative Reports title containing instructions for uploading documents into the Surgery file. These document definitions will be orphans and will be not In Use. They must NOT be deleted from the Document Definition file.

Deleting Objects will not harm existing documents, but *will harm* future documents if the Object is embedded in existing Document Definition Boilerplate Text.

If IN USE has a value of "Yes" or "?,"TIU doesn't permit the entry to be deleted. Deleting the entry would cause documents in file 8925 not to function. This is true even if the entry has an Inactive status and documents are no longer being written on the entry.

Technical Note: A Document Definition of Type Title or Component is IN USE only if it appears in file 8925's 'B' Cross Reference.

IN USE is a Basic field.

HAS BOILTXT

Applies to Title and Component only. This field can't be edited since its value is automatic. A Document Definition Has Boiltxt if it or its descendant Components have Boilerplate Text (Field 3).

PRINT NAME

Print Name is the name used in lists of documents. For Titles, Print Name is used as the document Title in the Patient Chart.

ORPHAN

Orphan applies to Document Definitions of all Types except Objects and Shared Components.

Orphan is not editable since it gets its value automatically.

Document Definitions are Orphans if they do not belong to the Clinical Documents Hierarchy, i.e., they cannot trace their ancestry all the way back to the Class Clinical Documents. If an Orphan is not In Use, it may be "dead wood" which should be deleted from the file. Orphans not In Use which should not be deleted include those being kept for later possible use, those temporarily orphaned in order to move them around in the hierarchy, and those used for uploading documents into files other than the TIU Document file. (Orphan doesn't apply to Objects since they don't ever belong to the hierarchy. Orphan doesn't apply to Shared Components since they may have more than one line of ancestry.)

Orphan doesn't apply to Objects since they don't ever belong to the hierarchy. Orphan doesn't apply to Shared Components since they may have more than one line of ancestry.

☞ **NOTE:** The DOCUMENT DEFINITION file may contain orphan entries which are not used by documents in the TIU DOCUMENT file but which contain upload instructions for storing documents somewhere else. For example, if a site is uploading Operative Reports into the Surgery file, there may be an orphan Operative Report Document Definition in the DOCUMENT DEFINITION file. These should NOT be deleted just because they are orphans. Such entries can be identified by viewing them through Detailed Display in the Sort Option and looking for Upload fields.

☞ **NOTE:** Orphan, as used in TIU, doesn't mean having no parents. For example, suppose Exceptional Day Pass Note has a parent named Day Pass Note. If Day Pass Note has no parent, then Exceptional Day Pass Note can't trace its ancestry back to Clinical Documents and is an Orphan even though it has a parent.

Orphans are invisible to TIU users and can't be used to enter documents.

When an item under a non-orphan is deleted as an item, it becomes an orphan. TIU doesn't permit non-orphan entries to become orphaned if they are In Use. Titles already used but being retired from further use should be Inactivated, NOT orphaned. Components are a different story. Components being retired from further use can and should be orphaned (deleted as items from the Title). This Is because Titles inherit attributes and therefore require a complete ancestry in

order to process existing documents. Since components, on the other hand, do not inherit attributes, they do NOT require a complete ancestry to process existing documents (although they must remain in the file.)

Since Orphans don't belong to the hierarchy, they do *not* appear on the *Edit Document Definitions* option. They can be accessed through the *Sort Document Definitions* option.

☞ **NOTE ON DISPLAY OF HERITABLE FIELDS:**

Most Technical fields are heritable, and Basic field Suppress Visit Selection is heritable. Upload fields are heritable as a group. The display does not show inheritance for Upload fields.) The Document Definition Detailed Display action displays the EFFECTIVE value of inherited fields. If an inherited field does not have its own explicit value, its effective value is its inherited value. If it doesn't have an inherited value, its effective value is the default value for the field. If the field doesn't have a default value, it doesn't have an effective value and the field display is blank. Values marked with * have been inherited.

For EDITING heritable fields, see the Technical field Edit Template.

ABBREVIATION

Abbreviation can be entered at the "Select Title" prompt when entering a document. Since all Titles with the given abbreviation will then be listed, Abbreviation can serve to group Titles.

IFN

The Internal File Number is the number of the entry in the TIU Document Definition File. IFN is included in the display to help programmers with debugging.

Items
Items are Document Definitions listed under other Document Definitions in the hierarchy; e.g., Progress Notes and Discharge Summary are items under Clinical Documents. The Type of the parent entry determines what Types of items it has. A Class parent entry has items of Classes or Document Classes. A Document Class entry has Titles as items. If a Title entry has more than a single section, it has items of Components. Components may also be multi-sectioned with Component items. Objects do not have items.

Mnemonic
Mnemonic is a 1-4 character shortcut for selecting Classes or Document Classes from a menu. Mnemonics are usually numeric with the same value as the Sequence. Alpha mnemonics are also permitted.

Sequence
Sequence, if entered, determines an item's order under its parent. If items have no sequence, item order is alphabetic by Menu Text. Sequence is a number between .01 and 999, with two decimal places allowed.

Menu Text
Menu Text is the short name (1 - 20 characters) you see for Classes and Document Classes when selecting them from 3- column menus which are seen when viewing documents across many patients and when viewing many kinds of documents at the same time (e.g. Progress Notes and Discharge Summaries).

You can edit Menu Text for selected items. Menu Text can affect the item order under a parent, since order is alphabetic by menu text if items don't have sequence numbers. To edit NAME (rather than Menu Text), go back to the previous screen.

BOILERPLATE TEXT

Sites can preload the text field of a document with default text, default format, overprint data which is presented to you when you enter the document. You can then edit and/or add to the boilerplate text.

If a document is formatted into columns, you should use replace mode rather than insert mode (or Find/Replace Text) to preserve the columns.

Field may be used as an alternative to components to split a document up into sections, but such sections are stored together and can't be separately accessed the way components can. See Component, under Basic field Type.

Boilerplate Text is the place to embed objects which get data from the relevant package (e.g., the Laboratory package). See Object, under Basic field Type.

A document with multiple components can have boilerplate text in the entry itself and/or in any component. Boilerplate text in the entry itself appears first.

Troubleshooting & Helpful Hints

FAQs (Frequently Asked Questions)

(based on questions from TIU/ASU test sites)

Q: We just entered all of our Providers into the Person Class File #8932.1 (when the Ambulatory Care Reporting Project came out). Do we have to do this all over again for the User Class file in ASU? Why can't TIU and ASU just use the Person Class?

A: The Provider Class in ASU fulfills a different function, and therefore its database design is a different kind of hierarchy.

A patch to ASU in the near future will help assure that your efforts in populating the Person Class Membership at your site are not lost, or repeated. We are developing a mapping between a subset of the exported User Classes and the Person Class File (i.e., for each Person Class, there will be a corresponding User Class), which will help you "autopopulate" User Class Membership, assure that future changes to an individual's Person Class Membership are reflected automatically in his User Class Membership, and allow resolution of privileges for inter-facility access to data. We recommend that you initially implement TIU and ASU by populating only the most essential User Classes (i.e., Provider; MRT; Chief, MIS; and Transcriptionist), and use the forthcoming patch to assist you in autopopulating more specific User Classes when you have become acquainted with the two products.

Q: We've heard that implementation of TIU is *very* complex and time-consuming. How long *does* is take?

A: TIU implementation *is* complex, but the amount of time it takes to implement has to do with the complexity of the site. How many users; how big the database is; how extensive the hierarchy is; the level of users; how dependent the site is on the package (obviously a site that is totally electronic has very different issues than a site where participation is optional. It took a test site with million+ notes about 2 1/2 weeks to run their Progress Notes conversion. This was with a clean database—it was just very big. They aren't the only site with this amount of data and dependence on the package.

Q: Will the Discharge Summary and Progress Notes packages be gone once files are converted to TIU?

A: Discharge Summary V. 1.0 and Progress Notes V. 2.5 should be made "Out of Order" once the conversions have been run, staff trained, and the cut-over started. The data in files 121 and 128 will remain until your site decides to purge these files. We suggest that they remain intact until you're sure the conversions have run correctly and the implementation is going smoothly.

FAQs cont'd

Q: Can TIU be used without converting the Discharge Summaries until much later?

A: TIU can be used without converting Discharge Summary, but we strongly recommend that Progress Notes and Discharge Summary both be converted to TIU at the same time, to avoid complications.

We assume that you want to continue to process Discharge Summaries under the original application. You should not run dual implementations of Discharge Summary.

Q: Is it possible to load ASU in production and start populating the groups before we load TIU?

A: Yes you can. The Business Rules will not be functional because they are tied to the Document Definition File, but you will be able to populate the Class memberships.

Q: Do we have to delete or sign unsigned notes before we can convert them?

A: No, you don't have to delete or sign the unsigned notes. The conversion will move them as is. However, you probably don't want to be moving old, irrelevant notes from one package to the other. By the way, notes for test patients are NOT moved—they are ignored.

Q: Can we require a Cosignature for a particular note?

A. Yes, you can set Cosignature requirements for document classes or titles. Use the option *Document Parameter Edit*, as described on page 30 in this manual. Individual clinicians can designate an expected Cosigner through their *Personal Preferences* option.

Q Why do we have to enter Visits and encounter data for Progress Notes? What are "Historical Visits"?

A: Visit data is now required for every patient encounter. The vast majority of Progress Notes are already linked to an admission and don't require additional visit information to be added.

A historical visit or encounter is a visit that occurred at some time in the past or at some other location (possibly non-VA). Although these are not used for workload credit, they can be used for setting up the PCE reminder maintenance system, or other non-workload-related reasons.

NOTE: If month or day aren't known, historical encounters will appear on encounter screens or reports with zeroes for the missing dates; for example, 01/00/95 or 00/00/94.

See page 145 for further information about Visits.

FAQs cont'd

Q: Are there any terminal settings that we need to be aware of for TIU? On the VT400 setting in Smart Term, the bottom half of the Create Document Definitions screen was not scrolling properly. It was writing over previous lines and got very confusing!

A: Various terminal emulators can affect applications using the List Manager interface. The VT220 and 320 work very well with List Manager.

Q: I have gotten my 600 clinic and ward locations set up, but when I try to print by ward I am only allowed to print to a printer. This is not true under the Print by Hospital Location, where I can print to the screen. What is the difference?

A: Print by Ward is designed to support batch printing. It has the unique ability to determine when the last note was printed so that sites can now capture the infamous "orphan" note which was a problem under Progress Notes 2.5. You might consider adding a message on entry into the option to inform users that they can only print to a printer (not on screen).

Q: Can we share business rules with other sites.

A: It isn't yet known how appropriate or desirable it is to share business rules amongst sites. The package is exported with all the business rules needed to run the standard package. The differences are usually on a medical center basis.
For example, one site wants all users to be able to see all UNSIGNED notes. ON the flip side, another site doesn't want any users to be able to print or view UNCOSIGNED notes until the cosigner has signed. Two very different views. Just because you are in the same VISN doesn't mean you would view these issues in the same light. Another example is the hospital that wants to restrict the entering/viewing/ printing of every Progress Note by TITLE. You can do this, but it is not something we would recommend.
We strongly recommend that you work with the exported business rules for awhile before making any changes.

Q: When I read my Discharge Summaries after they come back from the transcriptionist, there are dashes (or other funny characters) sprinkled throughout; what do these mean and what am I supposed to do?

A: These characters (your site determines whether they will be dashes, hyphens or some other character) indicate words or phrases that the transcriptionist was unable to understand. You need to replace these with the intended word or phrase before you'll be able to sign the document.

FAQs cont'd

Q: What is the best editing/word-processing program and how can I learn how to use it?

A: This is partly a matter of personal preference and partly a matter of what's available at your site. Commercial word-processors are available at some sites. The FileMan line editor and Screen Editor are available at all sites. Of these two, most Discharge Summary users prefer the Screen Editor. Your IRM office or ADPACs can help you get set up with the appropriate editor and provide training. The Clinician Quick Reference Card summarizes the FileMan Screen Editor functions.

Q: Why should a site require "release from transcription"?

A: Release from transcription is required to prevent a discharge summary from becoming visible to other users before the person entering the summary has completed the entry. For example, if a transcriptionist needed to leave the terminal, the summary would not be available for anyone else to look at until the summary is "released from transcription."

Q: Why can't we use extended ASCII characters (e.g., °, ≥, Δ, etc.) in our documents to be uploaded?

A: These alternate character sets are not standardized across operating systems and your MUMPS system may not be set up to store them.

Questions about Reports and Upload

Q: At present we put all discharges in the Discharge Summary package. We do allow Spinal Cord Injury to put "interim" summaries in on their patients every 6 months or annually. These reports stack up under the admission date and are all under that one date upon discharge.

When patients are transferred to the Intensive Care Units, they may have a very long/complicated summary to describe the care while in the unit. This should be an interward transfer note, but some of our physicians feel that due to the complexity of care delivered in the unit, this should be included in their Discharge Summary, BUT should have its own date (episode of care). I realize that the interward transfer note is a progress note and very few of our physicians are using progress notes. Our physicians seem to want to have that interward transfer information in these complex cases attached to the Discharge Summary.

My question is will TIU offer us anything different that will satisfy our physicians? I still do not have a mental picture of what it will look like when I go to look up a DCS or PN from the TIU package. Will the documents be intermingled and arranged by date? I am a firm believer in calling things what they are and putting them where they belong when it comes to organizing our electronic record. I hate to see the DSC and interward transfers go together now in the DCS package as it does create a problem when the patient is actually discharged and Incomplete Record Tracking (IRT) thinks he was discharged when the interim was written. Does anyone have any thoughts and can someone show me how it looks when I get TIU and look up documents on a patient?

A: From: Joel Russell, TIU Developer

Interim Summaries may be easily defined in TIU, and linked with the corresponding IRT deficiency. Parameters determining their processing requirements, as well as the format of a header for uploading them in mixed batches with Discharge Summaries, Operative Reports, C&P exams, and Progress Notes can all be defined without modifying any code. A patch will be necessary to link them to a specific transfer movement, and to introduce a chart copy of the appropriate Standard Form. This involves a modest programming effort, but will have to be prioritized along with a number of other requests.

Q: We need the help of the user community to try to sort out the relative priorities of each of these tasks, along with your patience, as we work to deliver as many of them as possible, as timely as possible...

A: From a user/coordinator

A possible solution to the problem of rotating residents is to set up your summary package with the author not needing to sign the summary. This allows the attending physician to sign the report. While the residents may rotate in and out, the attending usually remains the same through the course of the patient's stay.

FAQs cont'd

Q. What are sites doing with C&Ps, & op notes?

It is my understanding that C&Ps are a type of discharge summary.

I've tried creating "C&P EXAM" as a title underneath the "DISCHARGE SUMMARY" document class. I get TYPE errors when uploading test documents. The document parameters are defined for the upload fields.

A: *From a user/coordinator:* OP reports and C&P exams reside in their appropriate packages. You can use the TIU upload utility to put them there.

As for OP notes, we have several titles (i.e. Surgeon's Post-OP note).

Do you have TIU in the APPLICATION GROUP field of the Surgery and C&P file?

Our FILE File has this for our Surgery file:

NUMBER: 130 NAME: SURGERY
APPLICATION GROUP: GMRD
APPLICATION GROUP: TIU

Q: Can we do batch upload of Progress Notes by vendor through TIU?

A: Yes, you may now batch upload Progress Notes through TIU. See instructions earlier in this manual (under Setting Parameters) or in the TIU Technical Manual.

Q: Currently our Radiology reports are uploaded by the vendor. Can this functionality be built into TIU?

A: You may upload Radiology Reports, but it will be necessary to write a LOOKUP METHOD to store several identifying fields in the Radiology Patient File. The remainder are stored in the Radiology Reports File, along with the Impression and Report Text. (The TIU and Radiology development teams will work together on a lookup method, as development priorities allow.)

Q: We have hundreds of entries in file 128 to be cleaned up, because many duplicate discharge summaries were mistakenly uploaded by the transcriptionists of our vendor. How can we clean up these files?

A: You can use the *Individual Patient Document* option on the GMRD MAIN MENU MGR menu, along with VA FileMan, to clean up the Discharge Summary files.

Questions about Document Definition (Classes, Document Classes, Titles, Boilerplate text, Objects)

Q: After the initial document definition hierarchy is built and used, can we modify the hierarchy structure if we feel it is incorrectly built? How flexible is this file?

A: Once entries in the hierarchy are in use, you can't move them around. It would be wise to think your hierarchy through before installation. Don't rush the process. If necessary, create new classes, document classes, and titles (the Copy function streamlines creating new titles), and deactivate the old ones. The users won't be aware of the change if the Print Name is the same, but the .01 Name is new.

Q: Who creates titles and boilerplates at a site?

A: Many test sites restrict the creation of titles and boilerplates as much as possible. At one site, users submit a request for a title or boilerplate. IRMS or the clinical coordinator create the boilerplate and/or title and forward it to the Chairman of the Medical Records Committee for approval. Once approved it is made available for use. Titles are name-spaced by service and the use of titles is restricted by user class. With the ability to search by title, keeping the number of titles small and their use specific can be very useful;. e.g. patient medication education is documented on an electronic progress note and can be reviewed easily.

Some of the other sites allow the ADPACs to create boilerplates without going through such a formal review process. Another site restricts this function to the Clinical Coordinator. It was designed so that sites can do whatever they are most comfortable with.

Q: The root Class supplied with the package is CLINICAL DOCUMENTS. Can a peer class level be made using our configuration options? Ex: ADMINISTRATIVE DOCUMENTS

A: You cannot enter a class on the same level as Clinical Documents. In TIU Version 1.0, entries can only be created under Clinical Documents.

Q: I've changed the technical and print names for a Document Class, but it doesn't seem to have changed when I select documents across patients. What am I doing wrong?

A: When you select documents across patients, you are presented with a three-column menu. The entries in this menu are from the Menu Text subfield of the Item Multiple. To make a consistent change, you must update Menu Text as well as Print Name when you change a Document Definition name.

FAQs cont'd

Q: How can I print when I'm in Document Definitions options?

A: All Document Definitions printing is done using the hidden actions Print Screen and Print List. First, locate the data to be printed so that it shows on the screen and then select either the action PS or PL. To locate the appropriate data use the Edit, Sort, or Create option to list appropriate entries.

To print a list, select the PS or PL action at this point. To print information on a single given entry, first locate the entry in one of the above lists, then select either the Detailed Display action or the Edit Items action. Edit View shows all available information for a given entry. Edit Items shows the items of a given entry. Then select PS or PL. Enter PS for Print Screen to print the current display screen. It *only* prints what is currently visible on the screen, ignoring information that can be moved to horizontally or vertically (pages), so you should move left/right and up/down to the desired information before printing.

Enter PL for Print List to print more than one visible screen of information. Print List prints the entire vertical list of entries and information, including entries and information not currently visible but which are displayed when you move up or down. If the action is selected from the leftmost position of the screen, you're asked whether to print ALL columns or only those columns visible on the current leftmost position of the screen. If you select the action after scrolling to the right, only the currently visible left/right columns are printed.

Q: Is it possible for sites to share objects they create locally?

A: As sites develop their own Objects, they can be shared with other sites through a mailbox entitled TIU OBJECTS in SHOP,ALL (reached via FORUM).

NOTE: Object routines used from SHOP,ALL are *not* supported by the CIO Field Offices (formerly known as ISCs or IRMFOs). Use at your own risk!

Facts— Helpful information

Mnemonics on List Manager screens

The TIU and ASU packages don't use mnemonics (abbreviations or numbers) for actions (protocols) on List Manager screens, partly because it's difficult to make them consistent with other packages and with what users expect. Sites, however, can feel free to add whatever their users would like to have (e.g., $ for Sign).

Shortcuts

At any "Select Action" prompt, you can type the action abbreviation, then the = sign and the entry number (e.g., E=4).
Jump to Ddef in the Edit Document Definition option takes you directly to a document definition (Class, Document Class, or Title) if you know the name.

Visit Information

When you enter a Progress Note for an outpatient, this Progress Note now needs to be associated with a "visit." For the majority of Progress Notes, this visit association is done in the background, based on Scheduling or Encounter Form data. If a visit has already been recorded for the date your Progress Note refers to, but the Progress Notes wasn't linked (e.g., for standalone visits such as telephone or walk-in visits), you can select a visit from the choices presented to you during the PN dialogue. If no visit has been recorded, you must create a new visit. See the example below.

Other information, such as background, definitions, and other information about visits follow the example.

Example: Entry of Progress Note

```
Select Patient(s): DOE,WILLIAM C.   09-12-44     243236572   YES    SC VETERAN
        A: Known allergies
For Patient DOE,WILLIAM C.
TITLE:  Adverse React      Adverse React/Allergy
This patient is not currently admitted to the facility...
Is this note for INPATIENT or OUTPATIENT care? OUTPATIENT// <Enter>
The following VISITS are available:
   1>  FEB 24, 1997@09:00                      DIABETES CLINIC
   2>  SEP 05, 1996@10:00                      CARDIOLOGY
CHOOSE 1-2 or <N>EW VISIT
<RETURN> TO CONTINUE
OR '^' TO QUIT: N
```

Example: Entry of Progress Note contd

```
Creating new progress note...
          Patient Location:  NUR 1A
        Date/time of Visit:  02/24/97 14:29
         Date/time of Note:  NOW
            Author of Note:  GRIN,JON
   ...OK? YES//<Enter>
SERVICE: MEDICINE// <Enter>    111
SUBJECT (OPTIONAL description): ?
Enter a brief description (3-80 characters) of the contents
   of the document.
SUBJECT (OPTIONAL description): Blue Note
Calling text editor, please wait...
  1>Treatment for allergic reaction to injury.
  2><Enter>
EDIT Option: <Enter>
Save changes? YES//<Enter>
Saving General Note with changes...
Please Indicate the Diagnoses for which the Patient was Seen:
1      Abdominal Pain
2      Abnormal EKG
3      Abrasion
4      Abscess
5      Adverse Drug Reaction
6      AIDS/ARC
7      Alcoholic, intoxication
8      Alcoholism, Chronic
9      Allergic Reaction
10     Anemia
ANGINA:
11     Stable
12     Unstable
13     Anorexia
14     Appendicitis, Acute
15     Arthralgia
ARTHRITIS
16     Osteo
17     Rheumatoid
18     Ascites
19     ASHD
20     OTHER Diagnosis
Select Diagnoses:  (1-20): 9
Please Indicate the Procedure(s) Performed:
CARDIOVASCULAR
1      Cardioversion
2      EKG
3      Pericardiocentesis
4      Thoracotomy
MISCELLANEOUS
5      Abcess
6      Less than 2.5 cm
7      2.6 - 7.5 cm
8      Greater than 7.5 cm
9      Burns 1 * Local Treatment
10     Dressings Medium
11     Dressings Small
```

A list of diagnoses relating to the hospital location (as defined in the AICS package) is presented for you to choose from.

A list of procedures relating to the hospital location (as defined in the AICS package) is presented for you to choose from.

Example: Entry of Progress Note contd

```
12     Transfusion
13     Venipuncture
UROLOGY
14     Foley Catherter
ENT
15     Removal Impacted Cerumen
16     Anterior, Simple
17     Anterior, complex
18     Posterior
EYE
19     Foreign Body Removal
20     OTHER Procedure
Select Procedure:  (1-20): 19
You have indicated the following data apply to this visit:
DIAGNOSES:
   995.3    Allergic Reaction  <<< PRIMARY
PROCEDURES:
   65205    Foreign Body Removal
...OK? YES// <Enter>
Posting Workload Credit...
at SCDX AMBCARE EVENT  57033,30772
at SCDX AMBCARE EVENT  57033,30774Done.
```

Visit Orientation

Rationale

Why associate Progress Notes with Visits? The answer is quite simple: an event (clinical or otherwise) may be fully described by five key attributes or parameters: Who, what, when, where, and why. Three of these (i.e., who, when, and where), are all encoded in the Visit File entry itself. The remaining two parameters (what, and why), are generally included in the content of the document. This alone would be sufficient justification to adopt a visit orientation, but there are several other benefits.

Benefits

- **The VHA Operations Manual, M-1, Chapter 5** requires that every ambulatory visit have at least one Progress Note. Deficiencies with respect to this requirement can *only* be identified if Progress Notes are associated with their corresponding Visits.
- **Inter-facility data transfer** requires identification of the Facility from which the data originated. Because the Facility is an attribute of the Visit file entry, it is not necessary to maintain a reference to the facility with every clinical document.
- **Workload Capture,** particularly for telephone and standalone encounters, where the only record of the encounter is frequently a Progress Note, can be easily accommodated, provided that notes are associated with visits.

"Roll-up" of documentation by Care Episode. To allow access to all information pertaining to a given episode of care (e.g., for close-out of a hospitalization), a visit orientation is essential.

Integration with PCE, Ambulatory Care Data Capture, and CIRN. To accommodate an interface with other clinical data repositories, which may allow query and report generation, based on the existence of a variety of coded data elements, the visit orientation provides a useful associative entity (e.g., a search of PCE to identify all patients with AIHD who were discharged without a prescription for aspirin prophylaxis might identify a cohort of patients for further evaluation. The visit orientation also provides the ability to call for all the cardiology notes entered during the corresponding care episodes could revolutionize retrospective chart review).

Mechanics

The process of associating a TIU document with a visit has been refined to be as simple as possible, and may be modified for any given TITLE, DOCUMENT CLASS, or CLASS by reprogramming the VISIT LINKAGE METHOD for that level of the TIU Document Definition Hierarchy. The existing methods for linking either Discharge Summaries or Progress Notes with visits are outlined below:

Discharge Summaries

Interactive Present the user with a list of the selected patient's admissions, from the Patient Movement File, most recent first, five-at-a-time, in a manner modeled after the Detailed Patient Inquiry, from the PIMS Bed Control Menu. When a given admission is selected, DATA2PCE^PXAPI is called to match or create a corresponding Visit File entry of type Hospitalization.

Upload: Accept a Patient SSN and Admission Date/Time as transcribed in the header of the uploaded summary. Look-up the corresponding admission from the Patient Movement File (on failure, alert a named group of recipients to correct the header and re-try the filer), and call DATA2PCE^PXAPI to match or create the corresponding Hospitalization Visit as necessary.

Visit Orientation cont'd

Progress Notes
Interactive
Current Inpatients: Default to the current admission and last recorded hospital location. On override, follow procedure described for patients not currently admitted to the hospital.

Patients not currently admitted: Ask user whether the note is for Inpatient or Outpatient care. For *Inpatient* care, present the user with a list of the selected patient's admissions, from the Patient Movement File, most recent first, five-at-a-time, in a manner modeled after the Detailed Patient Inquiry, from the PIMS Bed Control Menu. When a given admission is selected, DATA2PCE^PXAPI is called to match or create a corresponding Visit File entry of type Hospitalization.

For *Outpatient* care, present the user with a list of scheduled appointments from scheduling, most recent first, five-at-a-time. When a given appointment is selected, call DATA2PCE^PXAPI to match or create an AMBULATORY Visit File Entry. If the user indicates he would like to create a new visit, prompt for location, visit date/time, and Visit Type (AMBULATORY, TELEPHONE, or EVENT (HISTORICAL). Then call DATA2PCE^PXAPI to create a visit as described by the user. When the user creates such a standalone visit for entry of a note, the program will prompt the user for diagnoses, procedures, and service connection (when appropriate) upon signature, and DATA2PCE^PXAPI will again be called to post the workload data for Ambulatory Care Data Capture.

How many visits are created?

Each TIU document is associated with one and only one visit. To the extent possible, Visit File entries are only created for TIU when absolutely necessary. At the present time, since Registration is not interfaced with Visit Tracking, a Hospitalization type visit will be created with the first inpatient note, and used by every subsequent note associated with that admission, as well as the Discharge Summary, when it is transcribed or uploaded. Since Scheduling is interfaced with Visit Tracking, with Visit entries created on check-out of the appointment, a visit will only be created for scheduled clinic appointments when the note is entered prior to check-out (and Scheduling will match to that visit when check-out does occur). When the user indicates a desire to create a new visit for the note, a standalone visit of the type indicated will be created for the note.

Historical Visits

When Progress Notes are being converted, historical visits are created (since no hospital location is frequently available for notes from either Mental Health V 6.0, or Generic Progress Notes V 2.5). When multiple notes are written for the same day for a given patient, each note will be associated with the same daily historical visit (so not every converted note requires the creation of a new visit record).

PCE uses Historical Visits to record encounters of uncertain dates or ones that occurred at non-VA facilities. They are used for various clinical purposes, including to calculate Clinical Reminders/Clinical Maintenance items for Health Summaries.

Troubleshooting & Helpful Hints for Document Definitions

1. If a particular person should be able to do something governed by a particular Business Rule, but can't, check the following:

    - Make sure he/she is in the referenced User Class.
    - Check the business rule for the proper status.
    - Check that the document to be acted on is the one referenced by the rule or is a descendant of the document referenced by the rule. If the rule involves a User Role, make sure the person actually plays that role for the document.
    - Check to see if the rule has been overridden. If the same rule (same action and same status) is defined for a lower-level document, the lower level rule OVERRIDES the rule at the higher level. For example, suppose you are checking the rule, An UNDICATATED PROGRESS NOTE can be ENTERED by a PROVIDER. Suppose you are wondering why Dr. Jones, a Provider, can't enter a Nurse Practitioner Note, which is a descendant of Progress Notes. If there is a rule, An UNDICTATED NURSE PRACTITIONER NOTE can be ENTERED by a NURSE PRACTITIONER, the the rule you are checking has been overridden for Undictated Nurse Practitioner Notes. Any User Classes who can enter Nurse Practitioner Notes must have their own explicit Business Rule at the Nurse Practitioner Note level. The easiest way to check for overriding rules is to do a FileMan print by the same Action and the same Status.

Troubleshooting Document Definitions cont'd

2. If a particular person should NOT be able to do something, but CAN, check the following:
   - That the person doesn't have inappropriate menus.
   - They are not members of inappropriate User Classes.
   - The document involved is in the correct place in the document definition hierarchy.
   - Check any business Rules for the given action, status, user role, and document or ancestors of the document.
   - Check to see if they have somehow been given an inappropriate role in relation to the document. For example, the person might mistakenly have been made the author when he/she isn't the author.

3. If you want to change document behavior, but are not sure how, try the following:
   - Use the Edit Document Definitions, Create Document Definitions, or Sort Document Definitions option, and then select the action Edit/View.
   - Check TIU document parameters, on the IRM Maintenance Menu.
   - Check Personal Preferences.
   - Check ASU Business Rules under User Class Management on the IRM Maintenance Menu.

7. *Document Definition Order*. If you can't get Document Definitions to appear in the order you want, note where this occurs. You can control the order in some places and not in others, depending on whether it's FileMan controlling the order or TIU.

   FileMan control:
   1. When you type a few letters and are presented with the list of entries starting with those letters.
   2. When you enter a ? to get a list of orders.

   TIU control:
   - You are in the Document Definition Utility and the list part of the screen is in the wrong order.
   - The components of a Title appear in the wrong order when you enter or print a document.
   - When you look at documents across several patients or are viewing more than one type of document (e.g., Progress Notes and Discharge Summaries) at the same time.
   - When you choose which documents to view from a three-column menu.
   - In the situations under TIU control, you can define the order in which items appear. Go into Document Definitions Edit or Sort options and Edit the Items (Document Classes or Titles) of the parent (Class or Document Class). Edit the item sequence. If you want the items to appear in alphabetic order, delete all the sequences, and they will then appear in alphabetic order by Menu Text (shown on the screen when you scroll right).
   - The order of Titles in your personal list is determined by the sequence entered in the Personal Preferences option.

Troubleshooting Document Definitions cont'd

5. When trying to activate a Document Class or Title, you get the following message: "Faulty Entry: No [Visit Linkage Method, Edit Template, Print Method, Validation Method]."

These fields are inherited from a parent or ancestor. Check to make sure your entry is a descendant of an entry which has those fields. For example, the Progress Notes Class has all of these fields and all descendants of Progress Notes inherit these field values automatically.

6. When trying to activate a Document Class or Title, you get a message, "Faulty Entry: No [Print Form Header, Print Form Number, Print Group]."

These fields are necessary only if the Parent of the entry allows Custom Form Headers. If the parent allows custom headers, the descendants must have values for these fields, either inherited or explicit values. Check to make sure your entry is a descendant of an entry which has those fields, or fill in your own explicit values if the inherited values are not appropriate.

7. If you are asked in TIU for the name of a Document Definition (for example at the Jump to Document Def prompt), you can enter the number (IFN) of the entry, its Abbreviation, its Print Name, or just the Name. You don't have to precede the IFN with a single quote mark.

ASU and User Class Information

Relationship between User Class file and Person Class file

Although there are a number of superficial similarities between the User Class File (#8930) and Kernel's Person Class File (#8932.1), the files are structurally dissimilar, with completely different applications which they are designed to serve. In fact, the roles of the two files are analogous to those of the LABORATORY TEST File (#60) and the WKLD CODE File (#64).

The *User Class File* provides for the definition of a hierarchy of User Classes, flexible enough to describe the organizational structure of the local facility. To that end, it is designed to be both *general* and *extensible*, much in the same way that file 60 can be viewed as a "model" of the local laboratory's "catalogue" of tests and panels.

The *Person Class File*, in contrast, is designed to accommodate the HCFA National Provider System Taxonomy of Professionals/Occupations, which is an emerging industry standard for identifying the Occupations, Specialties, and Subspecialties to which Health Care Providers belong. This file is standardized across VHA, and cannot be extended to accommodate differences in local organizational structure. It is very useful, however, for inter-facility data transfer, where enterprise-wide consistency is the name of the game. The same role is fulfilled, in the case of laboratory tests, by file 64. This combination of locally extensible files which help to model the differences between facilities, mapped to national "nomenclature" files which help to impose a standard reference frame, has proven to be most useful on many occasions throughout **V***IST***A**.

Other Differences between User Class and Person Class

User Class is *general*, allowing for identification of an array of non-Providers whose access to clinical applications must be accommodated and controlled (e.g., transcribers, file clerks, ward clerks, unit secretaries, hospital directors, etc.). The HCFA Taxonomy (and therefore the Person Class file) currently offers a very restricted subset of the administrative or clerical occupations required by the applications which ASU is designed to serve.

User Class may be dynamically extended or revised to accommodate a wide variety of common organizational changes (e.g., product line reorganizations, site consolidations, etc.), with their attendant local variations.

The User Class file accommodates a true "object-class" hierarchy, which allows the definition of a set of locally controlled business rules, conferring privileges which may be defined for any level in the hierarchy, and "inherited" by members of all subordinate classes. For example, one such rule states that a User may view a completed Clinical Document, where User is the "root class" of the User Class Hierarchy, and Clinical Document is the root class of TIU's Document Definition hierarchy.

Amount of Set-up for User Class & Business Rules

Initial Population of Basic User Classes

In the initial implementation of TIU and ASU, it is ***NOT*** necessary to populate all of the exported user classes, or to allocate *every* **V***IST***A** user membership in *any* of the exported classes. Any users who are not allocated to a specific class will be treated as members of the root class USER. An option is provided to "seed" the PROVIDER class based on ownership of the PROVIDER Security Key.

☞ **NOTE:** If your site has allocated the PROVIDER key to non-Providers in order to accommodate the requirements of the Ambulatory Care Data Capture package, we suggest that you review the holders of the key and de-allocate it from such users as necessary.

In the set-up section of the *TIU Implementation Guide*, we illustrate how to allocate members to the Medical Records Technician, Chief, MIS, and Transcriptionist classes. These are the only user classes whose membership must be allocated for basic implementation of TIU.

Creation of Business Rules

TIU and ASU are exported with a very general set of business rules, which should be sufficient for initial implementation. As stated earlier in this Guide, we recommend that you *keep the User Class file, TIU Document Definition Hierarchy, and Business Rule base as simple as possible* in your initial implementation. Once you have grown acquainted with the basic operation of these two complex packages, you might then begin to explore the more advanced levels of control that are possible in accordance with your site's HIM by-laws and concerns for the trade-off between access and confidentiality. Instructions for creating Business Rules are also provided earlier in this Guide.

Appendix A: TIU Package Security

Appendix A: TIU Package Security

TIU security is maintained through a security key, menu assignment, User Class assignment, Document Definition ownership, and VA FileMan protection.

Security Key

TIU AUTOVERIFY
If your site requires verification of one or more TIU Documents, but you have one or more particularly adept transcriptionists for whom verification should NOT be required, you may allocate the TIU AUTOVERIFY key to them, and verification will be bypassed for their transcribed documents.

User Class Assignment and Document Definition Ownership

See the Implementation and Management section in this manual about setting up User Classes and Document Definition. Also refer to the *Text Integration Utilities (TIU) Implementation Guide.*

Menu Assignment

TIU menus and options are not exported on a single big menu, but as smaller menus directed at categories of users. Sites may rearrange these as needed.

Recommended Assignments

Option Name	Menu Text		Assign to:
TIU MAIN MENU TRANSCRIP-TION	Text Integration Utilities (Transcription-ist)	Main Text Integration Utilities menu for transcriptionists.	Transcrip-tionists
TIU MAIN MENU MRT	Text Integration Utilities (MRT)	Main Text Integration Utilities menu for Medical Records Technicians.	Medical Records Technicians.
TIU MAIN MENU MGR	Text Integration Utilities (MIS Manager)	Main Text Integration Utilities menu for MIS Managers.	MIS Managers.
TIU MAIN MENU CLINICIAN	Progress Notes(s)/ Discharge Summary [TIU]	Main Text Integration Utilities menu for Clinicians.	Clinicians
TIU MAIN MENU REMOTE	Text Integration Utilities (Remote User)	This option allows remote users (e.g., VBA RO personnel) to access only those documents which have been completed), to facilitate processing of claims on a need-to-know basis.	VBA RO personnel, etc.
TIU PRINT PN USER MENU	Progress Notes Print Options	Menu for printing Progress Notes.	ADPACs, managers
TIUF DOCUMENT DEFINITION	Document Definitions	Document Definition (Clinician) Document Definition (Manager)	Clinicians Clinical Coordinator IRM staff
TIU CONVERSIONS MENU	TIU Conversions Menu	Options used during installation and conversion	IRM staff
GMRP TIU	TIU Conversion Clean-up Menu	A menu of options for getting the Progress Notes package ready for conversion to TIU	ADPACs, IRM, or Clinical Coordinator

Appendix B: Creating an Object

Appendix B: Creating an Object

To create an object, you must be familiar with M code at least well enough to read and copy it.

In this example, we create a very simple object, test it, make it more realistic, and then re-test it. After that, we'll present further issues to consider.

Create a very simple Object.

We'll create an object called PATIENT RELIGION which inserts the patient's religion into the text of a document.

- Go into the option *Create Objects* and select the action Create:

```
Select TIU Maintenance Menu Option: 2  Document Definitions (Manager)

    --- Manager Document Definition Menu ---
   1      Edit Document Definitions
   2      Sort Document Definitions
   3      Create Document Definitions
   4      Create Objects

Select Document Definitions (Manager) Option: 4  Create Objects

START WITH OBJECT: FIRST// <Enter>.....................................
```

```
Objects                        Mar 09, 1997 16:10:12       Page:    1 of    3
                                    Objects
+                                                                        Status
1      ACTIVE MEDICATIONS                                                 A
2      ALLERGIES/ADR                                                      A
3      BASELINE LIPIDS                                                    A
4      BLOOD PRESSURE                                                     A
5      CURRENT ADMISSION                                                  A
6      FASTING BLOOD GLUCOSE                                              A
7      HEMOGLOBIN A1C                                                     A
8      INR VALUE                                                          A
9      LABS ADMISSION ABNORMAL                                            A
10     LABS ADMISSION ALL                                                 A
11     NOW                                                                A
12     PATIENT AGE                                                        A
13     PATIENT DATE OF BIRTH                                              A
14     PATIENT DATE OF DEATH                                              A
+         ?Help   >ScrollRight   PS/PL PrintScrn/List   +/-         >>>
     Find                      Detailed Display          Copy
     Change View               Try                       Quit
     Create                    Owner
Select Action: Next Screen// <Enter>
```

Creating an Object, cont'd

```
Objects                    Mar 09, 1997 16:13:44      Page:   2 of    3
                                   Objects
+                                                              Status
15     PATIENT HEIGHT                                               A
16     PATIENT NAME                                                 A
17     PATIENT RACE                                                 A
18     PATIENT RELIGION                                             A
19     PATIENT SEX                                                  A
20     PATIENT SSN                                                  A
21     PATIENT WEIGHT                                               A
22     PROTHROMBIN TIME                                             A
23     PROTHROMBIN TIME COLLECTED                                   A
24     PULSE                                                        A
25     RESPIRATION                                                  A
26     SGOT                                                         A
27     TEMPERATURE                                                  A
28     TODAY'S DATE                                                 A
+         ?Help   >ScrollRight   PS/PL PrintScrn/List   +/-             >>>
     Find                       Detailed Display          Copy
     Change View                Try                       Quit
     Create                     Owner
Select Action: Next Screen// ??
```

- Select the action Create.

```
Objects                  Mar 05, 1997 15:03:12            Page:    1 of    3
                                   Objects
                                                                    Status
1      ACTIVE MEDICATIONS                                            A
2      ALLERGIES/ADR                                                 A
3      BASELINE LIPIDS                                               A

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

Select Action: Next Screen// CR   Create
```

- Enter the PATIENT RELIGION.

- Delete the default owner CLINICAL COORDINATOR with an @ sign and enter your own name as the personal owner. This enables you to continue editing the object.

```
Enter Document Definition Name to add as New Entry: PATIENT RELIGION
CLASS OWNER: CLINICAL COORDINATOR  Replace @
PERSONAL OWNER: MCCLENAHAN,MARGARET         MAM
 Entry added
```

- The new object appears at the top of the list.
- Scroll right (>) to see that you are the owner.
- Select the action Detailed Display and select your new entry.

☞ **NOTE:** You can do this in one step by entering DET=(entry number):

Creating an Object, cont'd

```
Objects                        Mar 05, 1997 15:03:12          Page:  2  of  3
                                     Objects
                                                                        Status
18     PATIENT RELIGION                                                   I
19     PATIENT SEX                                                        A
PATIENT SSN                                                         A


+         ?Help   >ScrollRight   PS/PL PrintScrn/List   +/-              >>>
     Find                       Detailed Display          Copy
     Change View                Try                       Quit
     Create                     Owner
Select Action: Next Screen// DET=18   Detailed Display
```

- The Detailed Display screen appears, showing your entry.
- Select the action Technical Fields.

```
Detailed Display         Mar 05, 1997 15:03:58              Page:   1 of    1
                       Object PATIENT RELIGION
 Basics
            Name:   PATIENT RELIGION
    Abbreviation:
      Print Name:   PATIENT RELIGION
            Type:   OBJECT
             IFN:   599
        National
        Standard:   NO
          Status:   INACTIVE
           Owner:   MCCLENAHAN,MARGARET

 Technical Fields
       Object Method:
+         ?Help   >ScrollRight   PS/PL PrintScrn/List   +/-              >>>
      Find                        Detailed Display        Delete
      Basics                      Technical Fields        Find
      (Items: Seq Mnem MenuTxt)    (Upload)               Quit
     (Boilerplate Text)           Try
Select Action: Quit// TE   TECHNICAL FIELDS
```

- Enter the object method: S X="TESTING123"

```
OBJECT METHOD:  S X="TESTING123"
```

Testing the Object

Now that we have a new object, let's try it out.

- Quit all the way out of Create Objects.
- Go into the option *Create Document Definitions*:

```
--- Manager Document Definition Menu ---

   1      Edit Document Definitions
   2      Sort Document Definitions
   3      Create Document Definitions
   4      Create Objects

Select Document Definitions (Manager) Option: 3  Create Document Definitions
```

- Find or create a title you wish to embed the new object in.
  - ♦ If it's active, make a copy rather than inactivating the original, which takes it offline to users.
  - ♦ Use an item under an active document class so that later you can change its status to "Test."
  - ♦ Use a Title under Progress Notes so that it inherits from Progress Notes.
  - ♦ Make its status Inactive so you can edit it.
  - ♦ Check it using the action Try to make sure it works properly before continuing this process (do a Detailed Display and select TRY).
- We'll use the Title DEMOGRAPHIC NOTE, under the Document Class DEMOGRAPHIC NOTE, under Progress Notes.

- When you have your title, select the action Boilerplate Text and your title:

```
Create Document Definitions   Mar 05, 1997 15:05:23          Page: 1 of  1 _
                                      BASICS
+      Name                                                            Type _

 2       PROGRESS NOTES                                                  CL
 3         DEMOGRAPHIC NOTE                                              DC
 4            DEMOGRAPHIC NOTE                                           TL

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

     (Class/DocumentClass)   Next Level           Detailed Display
     Title                   Restart              Status...
     (Component)             Boilerplate Text     Delete
Select Action: Title// BO=4
```

Testing the Object, cont'd

- The Boilerplate Text screen is displayed. At present, there is no text.
- Select Boilerplate Text again, this time to edit it (rather than display it):

```
Boilerplate Text            Mar 05, 1997 15:05:37          Page:    1 of    1 _
                          Title DEMOGRAPHIC NOTE
_____________________________________________________________________________


+         ?Help   >ScrollRight   PS/PL PrintScrn/List   +/-              >>>
     Boilerplate Text          Try                        Quit
     Status                    Find
Select Action: Quit// B   Boilerplate Text
```

- Your preferred editor appears. Type in the following:

```
======[WRAP]==[INSERT]=<DEMOGRAPHIC NOTE>===[<PF1>H=HELP]=========
Patient's religious preference: |PATIENT RELIGION|. Patient's home address: ……



=====T=====T=====T=====T=====T=====T=====T=====T=====T=====T
```

☞ **NOTE:** Be sure to spell the object name correctly, use upper case, and enclose it in vertical bars:

- Exit out of the editor. The screen displays our new boilerplate text.

- Select the action TRY:

Testing the Object cont'd

```
Saving text ...
Boilerplate Text            Mar 05, 1997 15:05:37          Page:    1 of    1
                          Title DEMOGRAPHIC NOTE
_____________________________________________________________________________
Patient's religious preference: |PATIENT RELIGION|. Patient's home address: …




+         ?Help   >ScrollRight   PS/PL PrintScrn/List   +/-              >>>
     Boilerplate Text          Try                       Quit
     Status                    Find
Select Action: Quit// Try
Entry Checks out OK for rudimentary completeness
```

- The entry checks out OK.
- Select a TEST patient. (Since it's a title, you are given the opportunity to try it on a patient.)
- Accept the defaults for location, etc.
- You are presented with the boilerplate text, just as if you had entered a document Demographic Note on the patient:

```
Object |PATIENT RELIGION| is not active.

Press RETURN to continue or '^' or '^^' to exit:  <Enter>

Checking Title on a document.  You will not be permitted to sign the document, and the
document will be deleted at the end of the check.

 Be sure to select a TEST PATIENT since the document will show up on Unsigned lists
while you are editing it.

Select PATIENT NAME: DOE,WILLIAM C.      09-12-44     243236572     YES
  SC VETERAN
            (2 notes)  C: 02/24/97 08:44
            (1 note )  W: 02/21/97 09:19
                       A: Known allergies

Creating new progress note...
          Patient Location:  UNKNOWN
        Date/time of Visit:  03/05/97 15:07
         Date/time of Note:  NOW
            Author of Note:  MCCLAN,MARGE
   ...OK? YES// <Enter>

Calling text editor, please wait…


 ======[WRAP]==[INSERT]=< >===[<PF1>H=HELP]==================
Patient's religious preference: TESTING123.  Patient's home address: …

======T=====T=====T=====T=====T=====T=======T=======T=======T========T
```

Testing the Object cont'd

- The trial document looks all right. The data we set X to is inserted in the text.

☞ **NOTE:** If there are errors in the object other than the status, we may receive any of the following messages:

```
Object |PATIENT RELIGION| cannot be found. User uppercase and use object's exact name,
print name, or abbreviation. Objects' name/print name/abbreviation may have changed
since this was embedded.
Object |PATIENT RELIGION| is not active.
Object |PATIENT RELIGION| lacks an object method.
Object |PATIENT RELIGION| is ambiguous. Can't tell which object is intended.
Object split between lines, rest of line not checked.
```

The split line message refers to lines such as:

```
This is a test of Object |PATIENT
RELIGION|. Patient's Home address: . . .
```

But none of these messages apply to us.

- Exit the editor. The document is deleted:

```
Saving text ...
<NOTHING ENTERED. DEMOGRAPHIC NOTE DELETED>
```

Making the Object More Realistic

Now that we have the basic idea, we'll write an object method that actually gets the patient's religion. We'll imitate the PATIENT AGE object, which has the object method:

```
       S X=$$AGE^TIULO(DFN)
```

Note that, again, the object method sets the variable X. This time the object depends on the patient. The variable DFN is the internal entry number in the Patient File ^DPT. Its value is known to the system at the time a document is entered on a particular patient.

This object method calls the TIULO routine, exported with the TIU package, and sets X equal to the value of the function $$AGE^TIULO. That code looks like this:

```
TIULO  ; SLC/JER - Embedded Objects ;9/28/95 16 :26
       ;;1.0;TEXT INTEGRATION UTILITIES;;Mar 05, 1997
AGE(DFN)      ; Patient AGE
       I '$D(VADM(4)) D DEM^TIULO(DFN,.VADM)
       Q $S(VADM(4)]"":VADM(4),1:"AGE UNKNOWN")
       ;
DEM(DFN,VADM) ; Calls DEM^VADPT
       D DEM^VADPT
       Q
```

If the VADM array hasn't been defined for subscript 4, the age subscript, the code calls module DEM, passing array VADM by reference. DEM calls the VADPT patient demographics utility, and passes patient demographics back. We can copy this and only need to understand that it puts demographic information for patient DFN in the VADM array as described in the VADPT utility.

Note that AGE is a function and quits with the value VADM(4) if VADM(4) has a value. Otherwise, it quits with the value "AGE UNKNOWN."

We'll write similar code for religion.

- Quit out of the Manager Menu and get into programmer mode.
- Write a similar function for religion. Looking up the VADPT utility, we find that patient religion is returned in VADM(9), so we have:

```
MYROUTIN      ; HERE/ME - Embedded Objects ; 9/28/96 16:26
              ;
RELIG (DFN)   ; Patient RELIGION
       I '$D(VADM(9)) D DEM^TIULO(DFN,.VADM)
       Q $S(VADM(9)]"":VADM(9),1:"Religious Preference UNKNOWN")
```

- To test the code, set DFN to a known patient. (To find the DFN of a patient, do a Fileman Inquiry to the PATIENT file, enter the name of a patient, and enter R at the Include COMPUTED fields prompt to get the record number. Set DFN to this record number.).
- Set X= $$RELIG^MYROUTIN(DFN).
- WRITE !,X:

```
       W !,X
       OTHER
```

Making the Object More Realistic, cont'd

This patient's religion is listed as "OTHER."

- When the code has been thoroughly tested on several different patients, including some who have no religion in the patient file, go back to the option Create Objects.
- Select the action Detailed Display for object PATIENT RELIGION,
- Select the action Technical Fields
- Edit the object method to:

```
             S X=$$RELIG^MYROUTIN(DFN)
```

```
Detailed Display          Mar 05, 1997 15:03:58          Page:    1 of   1
                       Object PATIENT RELIGION
_____________________________________________________________________________
 Basics
            Name:   PATIENT RELIGION
    Abbreviation:
      Print Name:   PATIENT RELIGION
            Type:   OBJECT
             IFN:   599
        National
        Standard:   NO
          Status:   INACTIVE
           Owner:   MCCLENAHAN,MARGARET
Object Method: S X=$$RELIG^MYROUTIN(DFN)
Technical Fields
+         ?Help   >ScrollRight   PS/PL PrintScrn/List   +/-             >>>
     Basics                    Technical Fields          Find
     Items: Seq Mnem MenuTxt   Upload                    Quit
     Boilerplate Text          Try
```

- While we're here, let's go in, put in an abbreviation for the object, and namespace the print name. To do so, we select the action Basics:

```
Select Action: Quit// BA  BASICS

NAME: Since objects are embedded by name, abbreviation, or print name, NOT by file
number, your edit of name, abbreviation, or print name may affect which titles have
the object embedded in them. You may want to note the list of titles NOW before it
changes.
Press RETURN to continue or '^' or '^^' to exit:  <Enter>
```

Making the Object More Realistic, cont'd

Since our object is new and we know it's only in DEMOGRAPHIC NOTE, we'll disregard the warning and enter a new Name and an abbreviation. We'll keep the old print name and up-arrow out:

```
      NAME: DEM PATIENT RELIGION// <Enter>
      ABBREVIATION: RELI
      PRINT NAME: PATIENT RELIGION// ^
```

```
Detailed Display            Mar 05, 1997 15:03:58       Page:  1 of  1
                           Object PATIENT RELIGION
_____________________________________________________________________________
 Basics
            Name:   DEM PATIENT RELIGION
    Abbreviation:   RELI
      Print Name:   PATIENT RELIGION
            Type:   OBJECT
             IFN:   599
        National
        Standard:   NO
          Status:   INACTIVE
           Owner:   MCCAN,MARGE

Technical Fields
       Object Method: S X=$$RELI^MYROUTIN (DFN)

Object is embedded in Title(s)       Status   Owner    IFN
DEMOGRAPHIC                            I        ME     567
        ? Help       +, - Next, Previous Screen       PS/PL
     Basics                Try           Delete
     Technical Fields      Find          Quit

Select Action: Quit//  <Enter>
```

Testing the More Realistic Object

When the Object Method, Name, Abbreviation, and Print Name are all as we wish, we again test the Object. Before trying our title DEMOGRAPHICS as we did before, we will try the object itself.

- While still in the above Object Detailed Display screen, select the action TRY. We get the message:

```
Select Action: Quit// T
Entry checks out OK for rudimentary completeness
```

Testing the More Realistic Object, cont'd

This is an important step. If there were problems, we might have gotten any or all of the following messages:

```
Faulty Entry: No Object Method
Faulty Entry: Object Name finds multiple/wrong object(s)
Faulty Entry: Object Abbreviation finds multiple/wrong object(s)
Faulty Entry: Object Print Name finds multiple/wrong object(s)
```

The first message appears if the object has no Object Method. Unfortunately, this doesn't tell us whether the Object Method functions correctly. It only tells us the entry has or doesn't have an Object Method. We know it functions correctly because we tested the code.
We get one or more of the other messages if our object has a duplicate Name, Abbreviation, or Print Name with some other object. This would cause our object not to be found when that Name, Abbreviation, or Print Name is used in boilerplate text. We also get such a message if, for example, our object Abbreviation is the same as the Name of another object. In that case we would get the message:

```
Faulty entry: Object Abbreviation finds multiple/wrong object(s).
```

If this happens, our object might find and insert the WRONG object into boilerplate text. We must change the abbreviation so it doesn't match the name, abbreviation, or print name for another object.

Once we have thoroughly tested the Object Method code, put in Name, Abbreviation, and Print Name as desired, and gotten a clean TRY when we tried the OBJECT, we can now try our title containing the object.

- Quit out of Create Objects
- Go into the option Create Document Definitions
- Use the action Next Level to drill down to our title
- Select the action Boilerplate Text
- Select the title

```
Create Document Definitions   Mar 05, 1997 15:05:23          Page:  1 of  1
                                   BASICS
+      Name                                                          Type
2  PROGRESS NOTES                                                     CL
3          DEMOGRAPHIC NOTE                                           DC
4             DEMOGRAPHIC NOTE                                        TL

?Help          >ScrollRight         PS/PL PrintScrn/List   +/-            >>>
     (Class/DocumentClass)       Next Level          Detailed Display
     Title                       Restart             Status...
     (Component)                 Boilerplate Text    Delete
Select Action: Title// BO=4
```

Testing the More Realistic Object, cont'd

- The Boilerplate Text that we entered previously is displayed.

We changed the name of the object, but we don't need to make that update here since the Print Name is PATIENT RELIGION, and the Print Name will do just as well as the name.

- Select the action Try.

```
Boilerplate Text              Mar 05, 1997 15:05:37       Page:    1 of
                            Title DEMOGRAPHIC NOTE

Patient's religious preference: |PATIENT RELIGION|. Patient's home address:…


? Help        +, - Next, Previous Screen      PS/PL
     Boilerplate Text                  Try                        Quit
     Status                            Find
Select Action: Quit// Try
```

- Enter a test patient
- Accept the defaults
- The following text appears:

```
Object |PATIENT RELIGION| is not active.
    .
    .
Calling text editor, please wait…

================[WRAP]==[INSERT]=< >===[<PF1>H=HELP]==================
Patient's religious preference: UNITARIAN; UNIVERSALIST.  Patient's home ad


======T======T======T======T======T======T=====T======T======T=======T
```

- This allows you to check out the formatting of the boilerplate text when the object is being used.
- In this case the line continues beyond 80 characters—we haven't left enough room in the line for the object.
- If there isn't enough room for the object data, or it doesn't print out in the right format, we change the Object Method and/or the Boilerplate text until it looks right.
- Go into Boilerplate text and move the next sentence to the next line:

```
==============[WRAP]==[INSERT]=< >===[<PF1>H=HELP]==================
Patient's religious preference |PATIENT RELIGION|.
Patient's home address:…

=======T=======T=======T=======T=====T=====T=====T=====T=====T=====T=====
```

- Exit the editor.
- In the Boilerplate screen, use the TRY action again:

```
======[WRAP]==[INSERT]=< >===[<PF1>H=HELP]==================
Patient's religious preference: UNITARIAN; UNIVERSALIST.
Patient's home address: …

=====T=====T=====T=====T=====T=====T=====T=====T=====T=====T
```

This time the formatting looks fine.

We have tested the Object Method code, TRIED the object, and TRIED a title with the object in it.
Everything looks good, so we proceed to activate the object.

Activating the object

- Quit out of the Detailed Display screen.
- In the Objects screen, select the Status action.
- Select A for Active status:

```
Detailed Display           Mar 05, 1997 15:03:58           Page:    1 of    1
                         Object PATIENT RELIGION
_____________________________________________________________________________
 Basics
            Name:   DEM PATIENT RELIGION
    Abbreviation:   RELI
      Print Name:   PATIENT RELIGION
            Type:   OBJECT
             IFN:   599
        National
        Standard:   NO
          Status:   INACTIVE
           Owner:   MCCLAN,MARGE

Technical Fields
       Object Method: S X=$$RELI^MYROUTIN (DFN)
? Help        +, - Next, Previous Screen      PS/PL
Basics                   Try              Delete
Technical Fields         Find             Quit
Select Action: Quit// BA    Basics
```

```
NAME: DEM PATIENT RELIGION// <Enter>
ABBREVIATION: RELI// <Enter>
PRINT NAME: PATIENT RELIGION// <Enter>
PERSONAL OWNER: ME//  <Enter>
STATUS: (a/I): INACTIVE// A ACTIVE
```

Activating the object, cont'd

Activating an object communicates to users that it is ready for embedding in boilerplate text. It also causes the object to execute its object method code rather than to write an inactive message when documents are entered on it through the regular options (as opposed to the action Try). If the object TRY action had not been clean, we would not have been able to activate the object.

The Active object is now ready for entering documents. One last test, and we'll be done.

To enter documents (rather than just TRY them), the title also must have a status of Active or Test.

- Quit out of the option *Create Objects* and
- Go into the option Create Document Definitions.
- Edit the status of the test title to Test.
- Check to make sure that you own it.
- Quit out of the Document Definition menu
- Go into the Clinician menu.
- Select *Entry of Progress Note* from the Clinician's Progress Notes Menu

```
--- Clinician's Progress Notes Menu ---

1       Entry of Progress Note
   2       Review Progress Notes by Patient
   2b      Review Progress Notes
   3       All MY UNSIGNED Progress Notes
   4       Show Progress Notes Across Patients
   5       Progress Notes Print Options ...
   6       List Notes By Title
   7       Search by Patient AND Title
   8       Personal Preferences ...

Select Progress Notes User Menu Option: 1  Entry of Progress Note
```

Entering a Progress Note using the Object

- Select a TEST PATIENT
- Select the title:

```
Select PATIENT NAME: DOE,WILLIAM C.           09-12-44     243236572     YES
 SC VETERAN
            (2 notes)  C: 02/24/97 08:44
            (1 note )  W: 02/21/97 09:19
                       A: Known allergies
Available note(s):  11/07/96 thru 03/05/97  (23)
Do you wish to review any of these notes? NO// <Enter>
Personal PROGRESS NOTES Title List for ME

   1    CRISIS NOTE
   2    ADVANCE DIRECTIVE
   3    Other Title
TITLE:  (1-3): 1// 3
TITLE: CRISIS NOTE// DEMOGRAPHICS NOTE        TITLE
Creating new progress note...
          Patient Location:  2B
        Date/time of Visit:  04/18/96 10:00
         Date/time of Note:  NOW
            Author of Note:  MCMANN,MARGE
   ...OK? YES// <Enter>

Calling text editor, please wait...
```

```
=========[ WRAP ][ INSERT ]=< Patient: DOE,WILLIAM C. >[ <PF1>H=Help]=======
Patient's religious preference: UNITARIAN; UNIVERSALIST.
Patient's home address: …


T=======T=======T=======T=======T=======T=======T=======T=======T=======T
```

- Exit your editor:

```
Saving text ...
No changes made...
```

- Don't sign it. You'll want to delete it later since it's a test note:

```
Enter your Current Signature Code: <Enter>
NOT SIGNED.
Press RETURN to continue... <Enter>
Print this note? No// <Enter>  NO
You may enter another Progress Note. Press RETURN to exit.
Select PATIENT NAME: <Enter>
```

Troubleshooting:

If you have problems with this note:

- Make sure its status is Active or Test.
- If its status is Test, make sure you own it.
- Make sure the embedded object PATIENT RELIGION has an active status.

Using the Object

When the note works properly, the object is finished and available for any user with a Document Definition menu to embed it in boilerplate text. Unless you assign ownership to someone else, you are the site-wide caretaker for this object. Any questions or requests should be addressed to you.

Further Considerations

Using the option Sort Document Definitions to create Objects

Once you are comfortable creating objects, it is actually easier to use the option *Sort Document Definitions* than the option *Create Objects*. To use the Sort option, select ALL, and select a narrow alphabetic range which includes both the object name and the name of a test title. Another possibility is to enter yourself as the Personal Owner. This assumes you are the personal owner of both the object and test title. *Sort Document Definitions* permits the object to be edited and tested (except for the code itself) without switching options.

Activating/Inactivating/Editing Objects

Objects must be inactive before they can be edited. Before inactivating an object that has already been used in boilerplate text, you should inactivate all Titles which use it. This takes those titles offline for entering documents. If a title containing an inactive object is not offline and someone enters a document on it, the object will not function and the user will see an "Object Inactive" error message where the object data should appear.

Objects can be tested using the Try action when they are inactive, but must be activated before they will function for the option *Entry of Progress Note*. So, when you have finished editing an object, be sure to reactivate it.

Objects should not be activated until they have been thoroughly tested both by TRYing the object and by TRYing a test title with the object embedded in its boilerplate text.

Ownership of Objects

When creating a new object, make yourself an owner, at least until you have finished testing it. Only the owner can edit an object, even with the Manager menu.

Persons with the Manager menu are permitted to edit the owner of objects they don't own. This allows reassignment of object owner in those rare cases when reassignment is necessary. It should be done only by high-level managers. In general, users are expected to respect object ownership and edit only objects they own. If an object needs changing, contact its owner. When you own an object, you are caretaker of it for the entire site since it is available across the site for use in boilerplate text. Consult with all users before changing it.

Naming Objects

Although TIU doesn't enforce any rules regarding which name of the object to embed in boilerplate text, sites may want to maintain the convention of embedding print name or abbreviation only, leaving the .01 name to be a longer, technical, namespaced name. Then Print Name must be long enough to be unique, but otherwise as short as possible for typing convenience. Abbreviation is 2 to 4 letters.

Objects must always have uppercase names, abbreviations, and print names. When embedding objects in boilerplate text, users may embed any of these three (name, abbreviation, print name) in boilerplate text, enclosed by an "|" on both sides. Objects must always be embedded in uppercase.

As for namespacing, sites will want to share ideas among themselves as to what works best. Some possibilities are by service or product, like the Document Definition Hierarchy, and/or by the site where the object originated. Sites can post objects to share on SHOP,ALL

Creating more complex objects

For ideas on creating more complex, longer objects, look at the object methods of some other exported objects. Look at the associated routines. Copy an exported object, put a break in the copy's object method, embed the copy in a title and try the title.

Action Descriptions

Actions are not selectable when they are enclosed in parentheses.

FIND

Finds text in a list of entries/information displayed. The program searches all pages of list/information (except for unexpanded entries in the Edit Document Definitions Option). Can be a quick way to get to the right page. Enter F

CHANGE VIEW

Changes the view to a different list of Document Definitions.

CREATE

This action can be used to create either Objects or nonobject Document Definitions in TIU Document Definition file 8925.1. After it is created, a nonobject entry must be explicitly added as an Item to a parent in the hierarchy before it can be used. (The Create Document Definitions Option does this automatically.) File 8925.1 cannot have two entries of the same type with the same name.

DETAILED DISPLAY

Detailed Display displays the selected entry and permits edit if appropriate. Edit is limited if the entry is National. Shared Components can be VIEWED via the Edit Document Definitions Option but can be EDITED only via the Sort Option.
The DETAILED DISPLAY action lets you edit all aspects of an entry, including Items. The Items action, in contrast, looks at the entry ONLY as an Item under its parent and permits edit of Item characteristics ONLY. Managers (anyone assigned the Manager menu) need not own the entry in order to edit it. You can edit Basics, Items, Boilerplate Text, Technical Fields and Upload Fields.

TRY

TRY examines the selected entry for basic problems.

For titles and components with boilerplate text, this includes checking any Embedded objects to make sure the object is embedded correctly.
If the entry is a title and checks out OK (or if its only problem is an inactive Object), you can test the boilerplate text by choosing a patient and entering A document using the entry. TRY doesn't require any particular status for the Title, since documents entered during the trial function even if inactive, in Order to permit testing of objects. (Ordinarily, object data are not retrieved Unless the object is active, so be sure to activate the object when it's ready For use.) Since the trial document shows up on Unsigned lists during the time It's being edited, we recommend that you select *test patients only.*

Action Descriptions, cont'd

If TRY is selected from the Boilerplate Text Screen, TRY shows which objects are badly embedded and why. Checks include whether the object as written exists in the file, whether it is active, whether it is split between lines, and whether the object as written is ambiguous as to which object is intended. If the entry is OK, you can enter a trial document.

For objects, TRY checks the object Name, Abbreviation and Print Name to make sure they are not ambiguous. That is, it makes sure the utility can decide which object to invoke when given the Name, Abbreviation, or Print Name and that it does not get the wrong object. TRY checks that the object has an Object Method, but does NOT check that the Object Method functions correctly.

OWNER

You can select multiple entries and edit Owner, Personal and/or Class. To change from Personal to Class Owner or vice versa, you must delete the unwanted entry before you are prompted for the other.

COPY

Copy can be done from the *Edit Document Definitions* option or from the Sort option, but not from the *Create Document Definitions* option. Titles, Components, or Objects may be copied.

Copy can be used to "jump start" new entries by copying an old entry and then editing it.

Copy *could* be used to change the behavior of an entry (i.e. change the behavior of the copy and inactivate the original), but most behavior can be edited even when the entry is in use by documents. Edit is better than copy/inactivate since it does not clutter up the hierarchy with inactive entries.

Copy can be used to "move" entries once they are in use by documents. (This is not a true "move", but is the only possibility once an entry has been used by documents. If the entry is not yet in use by documents, it is better to delete it as an item from the old parent, and add it to the new parent, a true move).

The Copy action prompts for an entry to copy and a Name to copy into. This name must be different from the name of the entry being copied. The action then creates a new entry with the chosen name and copies the fields in the Document Definition File 8925.1 into the new entry. The copier is made the personal owner of the copy.

If the copying is being done through the *Edit Document Definitions* option, the copy is then added as an item to the parent. If the copying is done through the *Sort Document Definitions* option, the copy is NOT added as an item to the parent. Since items must not be added to Active or Test

Action Descriptions, cont'd

Titles, components of Active or Test Titles can only be copied through the

Sort option. Objects are copied from the Sort option or the Create Objects option.

Several fields are NOT copied as is. If the original is a National Standard, the entry may be copied, but the copy is not National Standard. If the original is Shared, it may be copied but the copy is not Shared. The other exceptional field is the Items field. If the entry has items, the action prompts for item names to copy into, creates NEW entries for the items, and adds the NEW items to the copy.

Exception to the Items field Exception: if a nonshared entry has a Shared item, the action does NOT copy the Shared item but merely adds the Shared item to the copy. If the entry being copied is itself a Shared component, the copy is not shared, and NEW items are added to the copy rather than reusing shared items.

If the copying is being done through the Edit Document Definitions option, the user is asked which parent to add the copy to, and the copy is added as an item to this parent. If the copy is a Title and the user has chosen a new parent rather than the same parent, the user is asked whether to activate the copy and inactivate the original.

If the copying is done through the Sort Document Definitions option, the copy action does NOT add the copy to any parent. Such orphan copies can be added to any parent using action Items for the parent.

Objects are copied from the Sort Option or the Create Objects Option.

QUIT
Allows user to quit the current menu level.

Creating Additional Medications Objects

Patch 38 provided six new TIU medication Objects:

- ACTIVE MEDICATIONS
- ACTIVE MEDS COMBINED
- DETAILED ACTIVE MEDS
- DETAILED RECENT MEDS
- RECENT MEDS
- RECENT MEDS COMBINED

And a method for providing values to four (4) variables in order to create additional medication objects without the necessity of modifying M code.

Patch 73 retains the basic functionality of the previous patch, but provides expanded capabilities for customizing TIU medication objects.

The following variables and values are now supported:

Variable Name	Also Known As	Values
ACTIVE	ACTVONLY	0 – Active and recently expired meds. 1 – Active meds only. 2 – Recently expired meds only. ✓
DETAILED		0 – One line per med only. 1 – Detailed information on each med.
ALL	ALLMEDS	0 – Specifies inpatient meds if patient is an inpatient, or outpatient meds if patient is an outpatient. 1 – Specifies both inpatient and outpatient meds. 2 or "I" – Specifies inpatient only. ✓ 3 or "O" – Specifies outpatient only. ✓
COMBINED	ONELIST	0 – Separates Active, Pending, and Inactive meds into separate lists. 1 – Combines Active, Pending, and Inactive meds into the same list.
CLASSORT ✓		0 – Sorts meds alphabetically. 1 – Sorts meds by drug class, and within drug class alphabetically. 2 – Same as #1, except shows drug class in header.
SUPPLIES ✓		0 – Supplies are excluded. 1 – Supplies are included.

✓ Indicates new functionality.

There are almost 300 different combinations of these six variables, each of which can represent a different TIU object. If you want one of the other views of the medication data, you need to create a new TIU object (for which you'll require Programmer Access and must be listed as a Clinical Coordinator in ASU).

Creating a New Medications Object

In the following example, we create a new TIU Object that reports only recently expired medications, prints one medication per line, lists both inpatient and outpatient medications, combines Active, Pending, and Inactive medications into one list, sorts medications by drug class, and includes supplies. Note that the way the procedure accepts the values for each variable is in a list such as this:
,2,0,1,1,1,1

Example:

```
Select TIU Maintenance Menu Option: DOcument Definitions (Manager)

                   --- Manager Document Definition Menu ---

Select Document Definitions (Manager) Option: ?

   1      Edit Document Definitions
   2      Sort Document Definitions
   3      Create Document Definitions
   4      Create Objects

Enter ?? for more options, ??? for brief descriptions, ?OPTION for help text.

Select Document Definitions (Manager) Option: 4  Create Objects


START DISPLAY WITH OBJECT: FIRST// <Enter>.....................................
.....................................................................
.....................
```

```
Objects                          Oct 06, 1999 10:10:55          Page:    1 of    6
                                      Objects

                                                                                Status
1       ACTIVE INPATIENT MEDS                                                      A
2       ACTIVE MEDICATIONS                                                         A
3       ACTIVE MEDS BY DRUG CLASS                                                  A
4       ACTIVE MEDS COMBINED                                                       A
5       ACTIVE OUTPATIENT MEDS                                                     A
6       ACTIVE SMOKER?                                                             A
7       ALL ACTIVE MEDICATIONS                                                     A
8       ALL ACTIVE MEDS COMBINED                                                   A
9       ALL DET ACTIVE MEDS COMBINED                                               A
10      ALL DET RECENT MEDS COMB BDC                                               A
11      ALL DET RECENT MEDS COMBINED                                               A
12      ALL DETAILED ACTIVE MEDS                                                   A
13      ALL DETAILED RECENT MEDS                                                   A
14      ALL RECENT MEDICATIONS                                                     A
+          ?Help   >ScrollRight   PS/PL PrintScrn/List   +/-                    >>>
     Find                        Detailed Display/Edit     Copy
     Change View                 Try                       Quit
     Create                      Owner
Select Action: Next Screen// CO   Copy
```

```
Select Entry to Copy:  (1-14): 2
Copy into (different) Name: ACTIVE MEDICATIONS// RECENTLY EXPIRED MEDS

OBJECT copied into File Entry #1110
Press RETURN to continue or '^' or '^^' to exit: <Enter>
Please test the copy object and activate it when it is ready for users to embed
it in boilerplate text.

Press RETURN to continue or '^' or '^^' to exit: <Enter>
```

```
Objects                          Oct 06, 1999 10:11:36          Page:    5 of    6
                                      Objects

+                                                                               Status
61      RECENTLY EXPIRED MEDS                                                      I
62      RESPIRATION                                                                A
63      SGOT                                                                       A
64      TEMPERATURE                                                                A
65      TEST ACTIVE MEDS                                                           I
66      TEST AGE                                                                   I
67      TEST NOTES                                                                 I
68      TEST OBJECT
69      TODAY'S DATE                                                               A
70      TSH/T4                                                                     A
71      URIC ACID                                                                  A
72      VISIT DATE                                                                 A


          ?Help   >ScrollRight   PS/PL PrintScrn/List   +/-                    >>>
     Find                        Detailed Display/Edit     Copy
     Change View                 Try                       Quit
     Create                      Owner
Select Action: Quit// DE   Detailed Display/Edit
```

```
Select Entry:  (61-72): 61
```

```
Detailed Display              Oct 06, 1999 10:11:46          Page:    1 of    1
                          Object RECENTLY EXPIRED MEDS

  Basics
            Name:   RECENTLY EXPIRED MEDS
     Abbreviation:
       Print Name:
             Type:   OBJECT
              IFN:   1110
        National
        Standard:   NO
          Status:   INACTIVE
           Owner:   CLINICAL COORDINATOR

  Technical Fields
       Object Method:   S X=$$LIST^TIULMED(DFN,"^TMP(""TIUMED"",$J)",1)


          ? Help       +, - Next, Previous Screen     PS/PL
     Basics                    Try                       Delete
     Technical Fields          Find                      Quit
Select Action: Quit// TE   Technical Fields
```

```
OBJECT METHOD: S X=$$LIST^TIULMED(DFN,"^TMP(""TIUMED"",$J)",1)
           Replace ,1 With ,2,0,1,1,1,1  Replace <Enter>
   S X=$$LIST^TIULMED(DFN,"^TMP(""TIUMED"",$J)",2,0,1,1,1,1)
```

```
Detailed Display              Oct 06, 1999 10:12:14          Page:    1 of    1
                          Object RECENTLY EXPIRED MEDS

  Basics
            Name:   RECENTLY EXPIRED MEDS
     Abbreviation:
       Print Name:
             Type:   OBJECT
              IFN:   1110
        National
        Standard:   NO
          Status:   INACTIVE
           Owner:   CLINICAL COORDINATOR

  Technical Fields
       Object Method:   S X=$$LIST^TIULMED(DFN,"^TMP(""TIUMED"",$J)",2,0,1,1,1,1


          ? Help       +, - Next, Previous Screen     PS/PL
     Basics                    Try                       Delete
     Technical Fields          Find                      Quit
Select Action: Quit// BASICS   Basics
```

```
NAME: RECENTLY EXPIRED MEDS  Replace <Enter>
ABBREVIATION: <Enter>
PRINT NAME: RECENTLY EXPIRED MEDS
CLASS OWNER: CLINICAL COORDINATOR  Replace <Enter>
STATUS: (A/I): INACTIVE// A ACTIVE
```

```
Detailed Display              Oct 06, 1999 10:13:38          Page:    1 of    1
                          Object RECENTLY EXPIRED MEDS

  Basics
           Name:   RECENTLY EXPIRED MEDS
    Abbreviation:
      Print Name:   RECENTLY EXPIRED MEDS
            Type:   OBJECT
             IFN:   1110
        National
        Standard:   NO
          Status:   ACTIVE
           Owner:   CLINICAL COORDINATOR

  Technical Fields
       Object Method:   S X=$$LIST^TIULMED(DFN,"^TMP(""TIUMED"",$J)",2,0,1,1,1,1


          ? Help       +, - Next, Previous Screen     PS/PL
     Basics                     Try                       Delete
     Technical Fields           Find                      Quit
Select Action: Quit//    Quit  ..............................................
```

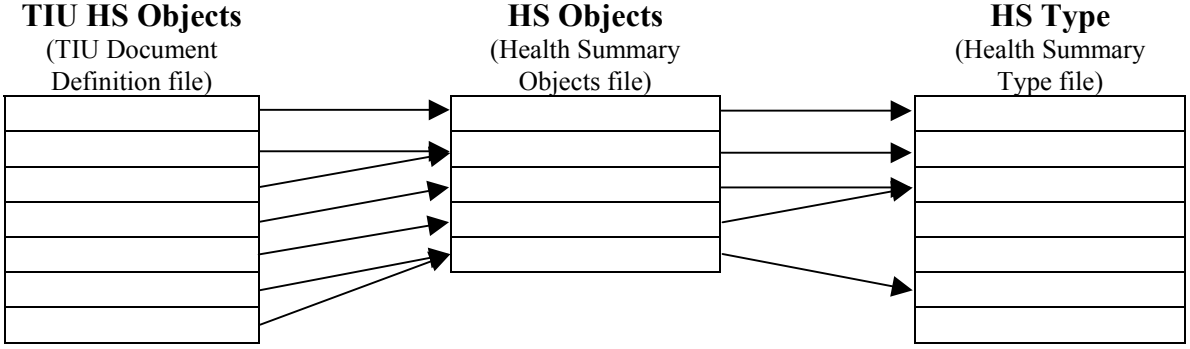
```
Objects                       Oct 06, 1999 10:13:54          Page:    5 of    6
                                    Objects

+                                                                          Status
61      RECENTLY EXPIRED MEDS                                                 A
62      RESPIRATION                                                           A
63      SGOT                                                                  A
64      TEMPERATURE                                                           A
65      TEST ACTIVE MEDS                                                      I
66      TEST AGE                                                              I
67      TEST NOTES                                                            I
68      TEST OBJECT
69      TODAY'S DATE                                                          A
70      TSH/T4                                                                A
71      URIC ACID                                                             A
72      VISIT DATE                                                            A


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

Creating an Object Based on Health Summary

Starting with patch TIU*1*135, you can create a TIU object that will display a Health Summary Type. This patch can work in conjuction with GMTS*2.7*58. With Health Summary Patch 58, you can use the Health Summary Objects Menu to create custom Health Summary Objects for use as TIU Objects. Alternately you can use default values to create a TIU Health Summary Object directly from TIU.

Health Summary patch 58 creates a new file, the Health Summary Object file [#142.5], which contains information about how the Health Summery type is displayed as an object in TIU. This file contains a pointer to the Health Summary Type file [#142] associating each named Health Summary Object (HS Object) with an existing Health Summary Type (HS Type). To make the HS Object useable as a TIU object, the TIU Document Definition file [#8925.1] must contain a pointer to the HS Objects file. The existence of this pointer in the technical field of this file is how VistA distinguishes TIU HS Objects from other entries in the TIU Document Definition file. This pointer is set by the Create TIU/Health Summary Objects [TIUHS LIST MANAGER] command of the Document Definitions (Manager) menu.

The following table illustrates the relationship of records in files to the existing Health Summary Type file:



Note: You may only change objects that you originally created. Each file contains information about who created each object or type. If you try to change an object or type that you do not own, the system will display an error message.

Example

In the following example we use the Create TIU/Health Summary Objects option of the Document Definitions (Manager) menu [TIUF DOCUMENT DEFINITION MGR] to create a new TIU Object when a Health Summary Object already exists:

```
Select Document Definitions (Manager) Option: ?

   1      Edit Document Definitions
   2      Sort Document Definitions
   3      Create Document Definitions
   4      Create Objects
   5      Create TIU/Health Summary Objects

Enter ?? for more options, ??? for brief descriptions, ?OPTION for help text.

Select Document Definitions (Manager) Option: 5  Create TIU/Health Summary Objec
ts
```

```
TIU Health Summary Object     Dec 24, 2003@11:10:26          Page:    1 of    2 .


     TIU Object Name                    Health Summary Type                    .
1    AJB TEST OBJECT                    ANEHEIM
2    A TEST 9                           ZZ HEALTH SUMMARY
3    A TEST DATE/HEAD                   ZZ HEALTH SUMMARY
4    A TEST OBJ                         VISITS
5    A TEST OBJECT                      ZZ HEALTH SUMMARY
6    A TEST4                            XRAY
7    BDV EDUCATION                      ZZ HEALTH SUMMARY
8    BDV LABS                           VISITS
9    CLINICAL MAINTENANCE               CLINICAL MAINTENANCE
10   HS TEST IMPORT                     XRAY
11   LAB SEL 1                          Selected Labs (Diabetes)
12   MY RESP                            DEM
13   PODIATRY                           AC CLINICAL SUMMARY
14   PODIATRY OBJECT                    AC CLINICAL SUMMARY
+         Enter ?? for more actions
    Create New TIU Object                  Find
    Detailed Display/Edit TIU Object       Detailed Display/Edit HS Object
    Quit
Select Action: Next Screen// CR Create New TIU Object
```

```
                   --- Create TIU/Health Summary Object ---

Enter a New TIU OBJECT NAME: KR MED BRIEF

Object Name: KR MED BRIEF

Is this correct? YES// <Enter> YES

Use a pre-existing set of Health Summary Object? NO// YES

Enter the name of the Health Summary Object: KR MED BRIEF

Create a TIU Object named: KR MED BRIEF

Ok? YES// <Enter>

TIU Object created successfully.

Enter RETURN to continue... <Enter>
```

```
TIU Health Summary Object     Jan 03, 2003@11:20:10          Page:    1 of    2 .


     TIU Object Name                     Health Summary Type                    .
1    AJB TEST OBJECT                     ANEHEIM
2    A TEST 9                            ZZ HEALTH SUMMARY
3    A TEST DATE/HEAD                    ZZ HEALTH SUMMARY
4    A TEST OBJ                          VISITS
5    A TEST OBJECT                       ZZ HEALTH SUMMARY
6    A TEST4                             XRAY
7    BDV EDUCATION                       ZZ HEALTH SUMMARY
8    BDV LABS                            VISITS
9    CLINICAL MAINTENANCE                CLINICAL MAINTENANCE
10   HS TEST IMPORT                      XRAY
11   KR MED BRIEF                        Medicine (Brief)
12   LAB SEL 1                           Selected Labs (Diabetes)
13   MY RESP                             DEM
14   PODIATRY                            AC CLINICAL SUMMARY
+         Enter ?? for more actions
    Create New TIU Object                    Find
    Detailed Display/Edit TIU Object         Detailed Display/Edit HS Object
    Quit
Select Action: Next Screen//
```

Second Example

In the following example we use the Create TIU/Health Summary Objects option of the Document Definitions (Manager) menu [TIUF DOCUMENT DEFINITION MGR] to create a new TIU Object when a Health Summary Object does not exist:

```
TIU/Health Summary Objects    Mar 27, 2003@08:20:33          Page:    1 of    2


     TIU Object Name                     Health Summary Type                    .
1    AJB TEST OBJECT                     ANEHEIM
2    A TEST 9                            ZZ HEALTH SUMMARY
3    A TEST DATE/HEAD                    ZZ HEALTH SUMMARY
4    A TEST OBJ                          VISITS
5    A TEST OBJECT                       ZZ HEALTH SUMMARY
6    A TEST4                             XRAY
7    BDV EDUCATION                       ZZ HEALTH SUMMARY
8    BDV LABS                            VISITS
9    CLINICAL MAINTENANCE                CLINICAL MAINTENANCE
10   HS TEST IMPORT                      XRAY
11   KR MED BRIEF                        Medicine (Brief)
12   LAB SEL 1                           Selected Labs (Diabetes)
13   MY RESP                             DEM
14   PODIATRY                            AC CLINICAL SUMMARY
+         Enter ?? for more actions
    Create New TIU Object                    Find
    Detailed Display/Edit TIU Object         Detailed Display/Edit HS Object
    Quit
Select Action: Next Screen// CR   Create New TIU Object
```

```
                  --- Create TIU/Health Summary Object ---

Enter a New TIU OBJECT NAME: VISITS

Object Name: VISITS

Is this correct? YES// <Enter>

Use a pre-existing set of Health Summary Object? NO// <Enter>
```

This is where the two examples start to differ. In this case, we take the default of

```
Checking VISITS (TIU) with Health Summary...

Creating Health Summary Object 'VISITS (TIU)'

 Select Health Summary Type: ?

     Answer with Health Summary Type name, title, owner or hospital
     location using the summary.  Your response must be at least 2
     characters and no more than 30 characters and must not contain
     an embedded uparrow

 Select Health Summary Type: VISITS  VISITS

2 Health Summary Types found

   1.  Visits
   2.  Future Visits

Select 1-2:  2

 Do you want to overwrite the TIME LIMITS in the Health
 Summary Type 'FUTURE VISITS'?  N// <Enter>

 Print standard Health Summary Header with the Object?  N// <Enter>

 Partial Header:
   Print Report Date?  N// <Enter>
   Print Confidentiality Banner?  N// <Enter>
   Print Report Header?  N// <Enter>
   Print the standard Component Header?  Y// <Enter>
     Use report time/occurence limits?  N// <Enter>
     Underline Component Header?  N// O
     Add a Blank Line after the Component Header?  N// <Enter>
   Print the date a patient was deceased?  N// <Enter>

 Print a LABEL before the Health Summary Object?  N// <Enter>

 Suppress Components without Data?  N// <Enter>

OBJECT DESCRIPTION:
  1>Current visits.
  2>
EDIT Option:

Create a TIU Object named: VISITS

Ok? YES// <Enter>

TIU Object created successfully.

Enter RETURN to continue...
```

TIU adds (TIU) to the name to distinguish objects created in TIU. It also adds (CONVERTED) to objects created by test versions 1 through 6.

```
TIU/Health Summary Objects    Mar 27, 2003@08:20:33          Page:    1 of    2.


     TIU Object Name                    Health Summary Type                    .
1    AC CLINICAL SUMMARY                CLINICAL MAINTENANCE
2    AJB TEST OBJECT                    ANDREW
3    ANTHONY TEST 9                     XRAY
4    ANTHONY TEST DATE/HEAD             BDV LABS
5    ANTHONY TEST OBJ                   VISITS
6    ANTHONY TEST OBJECT                XRAY
7    ANTHONY TEST4                      XRAY
8    BDV EDUCATION                      ZZANTHONY'S HEALTH SUMMARY
9    BDV LABS                           VISITS
10   CLINICAL MAINTENANCE               CLINICAL MAINTENANCE
11   HS TEST IMPORT                     XRAY
12   KR MED BRIEF                       Medicine (Brief)
13   LAB SEL 1                          Selected Labs (Diabetes)
14   MY RESP                            DEM
+         Enter ?? for more actions
    Create New TIU Object                   Find
    Detailed Display/Edit TIU Object        Detailed Display/Edit HS Object
    Quit
Select Action: Next Screen// <Enter> NEXT SCREEN
```

```
TIU/Health Summary Objects    Mar 27, 2003@08:26:15          Page:    2 of    2.


     TIU Object Name                    Health Summary Type                    .
15   PODIATRY                           Podiatry
16   PODIATRY OBJECT                    Podiatry
17   SELECTED LABS                      Selected Labs (Diabetes)
18   SURGERY REPORTS                    SURGERY REPORTS
19   TOMS OBJECT DEMO                   MICRO
20   VISITS                             FUTURE VISITS









          Enter ?? for more actions
    Create New TIU Object                   Find
    Detailed Display/Edit TIU Object        Detailed Display/Edit HS Object
    Quit
Select Action: Quit//
```

Actions Descriptions

The two actions that are the most useful are Edit HS Object and Edit HS Type. The first allows you to change the display parameters in the Health Summary Objects file (provided you own them). The second action allows you to change the Health Summary Type components. These actions are only available from the HS OBJECT DISPLAY screen accessed with the Detailed Display/Edit HS Object action.

```
Create TIU/Health Summary Objects [TIUHS LIST MANAGER]
|
-----Create New TIU Object
|
-----Detailed Display/Edit TIU Object
|    |
|    |-----Change HS Object
|    |
|    |-----Change Health Summary Type
|    |
|    |-----Detailed Display/Edit HS Object
|         |
|         |-----Edit HS Object
|         |
|         |-----Change HS Type
|         |
|         |-----Inquire about a HS Type
|         |
|         |-----Edit HS Type
|
-----Detailed Display/Edit HS Object
|    |
|    |-----Edit HS Object
|    |
|    |-----Change HS Type
|    |
|    |-----Inquire about a HS Type
|    |
|    |-----Edit HS Type
|
-----Find
-----Quit
```

Create New TIU Object

This action creates a new TIU Health Summary Object in the TIU Document Definition file and establishes a pointer to the HS Object.

Find

This action allows you to quickly locate a TIU Health Summary Object. If there are more than 14 TIU HS Object names in the TIU Document Definition file, then you can use this action to quickly locate the name you want to examine or modify.

Detailed Display/Edit TIU Object

The Detailed Display/Edit TIU Object allows you to view and make adjustments to a TIU Health Summary Object. The display appears as follows:

```
TIUHS Detailed Display/Edit   Jan 03, 2003@15:47:08          Page:    1 of    1 .

                                                                                .

         TIU Object Name: PODIATRY
                   Owner: SNOW,CHARLES R
                  Status: ACTIVE
               HS Object: PODIATRY OBJECT (TIU)
                 HS Type: AC CLINICAL SUMMARY
         Technical Field: S X=$$TIU^GMTSOBJ(DFN,6600042)









          Enter ?? for more actions
    Change HS Object                  Detail Display/Edit HS Parameters
    Change Health Summary Type
Select Item(s): Quit//
```

Change HS Object

This action changes the item in the Health Summary Objects file that is pointed to by this TIU HS Object. You cannot use this command unless you are on record as the creator of the TIU Health Summary Object. See the discussion on file relationships at the beginning of this section.

You may only change the HS Object if you own the (originally created) the TIU Object. If you attempt to change any part of a TIU object that you did not originally create, the system will display the following message:

```
Can't edit this HS Object:  Only the owner can edit this HS Object
```

Change Health Summary Type

This action changes the item in the Health Summary Types file that is pointed to by the HS Object. You cannot use this command unless you are on record as the creator of the HS Object. See the discussion of file relationships at the beginning of this section.

You may only edit a TIU Health Summary Object that you own (originally created). If you attempt to edit an object created by another, the system will display the following message:

```
Can't edit this HS object:  Only the owner can edit this HS object.
```

Detail Display/Edit HS Object

This action provides a detailed display of the contents of the Health Summary Object file for this TIU HS Object. Here is an example of this display:

```
HS OBJECT DISPLAY             Jan 03, 2003@16:13:21          Page:    1 of    1 .
                         Detailed Display for PODIATRY
                                                                                .
                  HS Object: PODIATRY OBJECT (TIU)
       Health Summary Type: AC CLINICAL SUMMARY
             Report Period:
                   Creator: SNOW,CHARLES R

                                    HS Object

                   Print Label: NO          Print Report Date and Time: NO
 Print Blank Line after Label: NO        Print Confidentiality Banner: NO
            Customized Header: YES         Print Report Date and Time: NO
 Suppress Components w/o Data: NO              Print Component Header: YES
   Print Deceased Information: NO        Print Time-Occurrence Limits: NO
              National Object: NO          Underline Component Header: NO
                                              Blank Line After Header: NO


          Enter ?? for more actions
    Edit HS Object                          Inquire about a HS Type
    Change HS Type                          Edit HS Type
Select Action: Quit//
```

Edit HS Object

This action allows you to change the HS display parameters as stored in the Health Summary Object file. This action takes you into code that is accessible from Health Summary menus, specifically Create/Modify Health Summary Object [GMTS OBJ ENTER/EDIT]. For complete information on the actions, see Create/Modify Health Summary Object in the *Health Summary User Manual* V.2.7 updated January, 2003.

Note: You must page through each parameter for your changes to be effective. You cannot ^ out of this action and have any changes you make take effect.

You may only edit a Health Summary Object that you own (originally created). If you attempt to edit an object created by another, the system will display the following message:

```
Can't edit this HS Object:  Only the owner can edit this HS Object
```

Change HS Type

This action changes the HS Type that is pointed to by the Health Summary Object. You must own (have created) the object to use this action.

In this example, we change the HS Type associated with a HS Object:

```
Select Action: Quit// CH   Change HS Type

***WARNING*** By changing the HS Type this will change the output data.
Continue? NO// Y  YES

Enter HEALTH SUMMARY TYPE: ?
 Answer with HEALTH SUMMARY TYPE NAME, or TITLE, or OWNER, or
     LOCATION(S) USING THE SUMMARY
 Do you want the entire HEALTH SUMMARY TYPE List? N  (No)

Enter HEALTH SUMMARY TYPE: DISPLAY APPOINTMENTS
```

```
HS OBJECT DISPLAY             Apr 24, 2003@08:49:53          Page:    1 of    1.
                          Detailed Display for VISITS
                                                                                .
                  HS Object: VISITS (TIU)
       Health Summary Type: DISPLAY APPOINTMENTS
             Report Period:
                   Creator: SNOW,CHARLES R

                                    HS Object

                    Print Label: NO         Print Report Date and Time: NO
  Print Blank Line after Label: NO       Print Confidentiality Banner: NO
              Customized Header: YES        Print Report Date and Time: NO
  Suppress Components w/o Data: NO             Print Component Header: YES
    Print Deceased Information: NO       Print Time-Occurrence Limits: NO
                National Object: NO         Underline Component Header: NO
                                               Blank Line After Header: NO

           Enter ?? for more actions
     Edit HS Object                          Inquire about a HS Type
     Change HS Type                          Edit HS Type
Select Item(s): Quit//
```

If you do not own (did not create) the HS Object, then the program will not allow you to change the HS type and you will receive the following message:

```
Can't edit this HS Object:  Only the owner can edit this HS Object
```

Inquire about a HS Type

This action allows you to view on the screen any Health Summary Type. To do this, you need to supply the name of the HS Type as in the following example:

```
Select Action: Quit// IN   Inquire about a HS Type

Select Health Summary Type: GASTRO-1  GASTRO-1

  Gastro-1

  OK?  YES// <Enter>
DEVICE:   ANYWHERE    Right Margin: 80//
                       HEALTH SUMMARY TYPE INQUIRY

         Type Name:  GASTRO-1
             Title:
             Owner:  ROWE,KIMBALL
SUPPRESS PRINT OF COMPONENTS WITHOUT DATA:  yes

                                  Max        Hos  ICD   Pro  CPT
Abb   Ord    Component Name       Occ  Time  Loc  Text  Nar  Mod  Selection
-------------------------------------------------------------------------------
DCS   5       Discharge Summary         1Y
II    10      Radiology Impression      1Y
CH    15      Chem & Hematology         1Y
CY    20      Cytopathology             1Y
SR    25      Surgery Reports           1Y                    YES
SP    30      Surgical Pathology        1Y


               * = Disabled Components

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

Note: This action is only available from the HS Object Display screen. It is provided so that you can explore Health Summary types while working with HS Objects.

Edit HS Type

This action is the same as Create/Modify Health Summary Type in the Health Summary package. See the *Health Summary User Manual* for details.

You may only edit a Health Summary Type that you own (originally created). If you attempt to edit an type created by another, the system will display the following message:

```
   You can not edit a Health Summary Type you don't own.
```

Index

121.2, 4
128, 142
8925, 4, 6, 19, 21, 22, 76, 80, 102, 131
8925.1, 4, 25, 76, 77, 89, 102, 119, 128, 178, 179, 186
8925.2, 77, 91
8925.3, 77, 91
8925.4, 77, 91
8925.5, 77, 91
8925.6, 77, 91
8925.7, 77, 92
8925.8, 77, 92
8925.9, 78, 92
8925.91, 78, 92
8925.93, 52, 53, 54, 78, 93
8925.94, 53, 78, 93
8925.95, 78, 93
8925.97, 78, 93
8925.98, 78, 93
8925.99, 78, 93
8925-8926, 113
8926, 78, 94
8927, 78, 94
8927.1, 78, 94
8932.1, 137
abort transfer, 11
action, 115
actions, 45, 191
Actions Across Applications, 65
Admission- Prints all PNs for Current Admission, 52
ambulatory, 149
Ambulatory Care Data Capture, 148
APIs, 99
Appendix A: TIU Package Security, 155
Appendix B: Creating an Object, 159
Archiving and Purging, 95
ASCII, 1, 10
ASCII Protocol, 12
ASCII Protocol Upload, 27
ASCII protocol upload / with aler, 28
ASU, 48, 115, 138, 153
Author– Print Progress Notes, 52
Authorization/Subscription Utility, 48
authorized, 48
Basic TIU Parameters, 8
Batch Print Outpt PNs by Division, 52
batch printing, 55, 139
batch upload of documents, 34
batch upload of Progress Notes, 142
Batch Upload Reports, 26
boilerplate, 1, 115
boilerplate text, 44, 135
Build File Print, 110
business rules, 138, 139
Business Rules, 154
C&Ps, 142
captioned headers, 33
Change Health Summary Type, 193
Change HS Object, 192
Change HS Type, 194
chart, 55
CIRN, 148
class, 44, 120
class owner, 130
Clinical Coordinator Menu, 63
clinical documents, 143
clinician, 115
component, 44, 115, 121
contiguous, 55
cosignature, 138
CPRS, 2
Create Document Definitions, 44
Create New TIU Object, 192
Create Objects, 44
Create TIU/Health Summary Objects, 186
Creating an Object, 161
Creating an Object Based on Health Summary, 186
creating objects, 47
Creation of Business Rules, 154
Cross-References, 80
Data Dictionaries, 113
Database Integration Agreements, 98
DBIA, 98
default printer, 54
Delete TIU templates, 50
Discharge Summaries, 48, 148
Discharge Summary, 1, 116, 137
Display Upload Help, 33
Division - Progress Notes Print Parameters, 7, 42
document class, 44, 116, 120
Document Definition, 116
Document definition hierarchy, 3
Document Definition Options, 44
Document Definition Terminology, 44
Document Definition Terminology & Rules, 119

Document Definitions, 43
Document Definitions (Manager) menu, 186
Document Parameter Edit, 7, 34, 138
Document upload, 3
DUPLEXing, 55
Edit Business Rules, 49
Edit Document Definitions, 44
Edit HS Object, 193
Edit HS Type, 195
Editing Objects, 176
electronic signature, 3
embedded text, 44
Enter Upload Utility Parameters, 11
EPNs, 54
EXCLUDE FROM PN BATCH PRINT, 54
Exported Routines, 57
External Relations, 97
FAQs, 137
File #121.2, 4
File #128, 142
File #8925, 4, 6, 19, 21, 22, 76, 80, 102, 131
File #8925.1, 4, 25, 76, 77, 89, 102, 119, 128, 178, 179, 186
File #8925.2, 77, 91
File #8925.3, 77, 91
File #8925.4, 77, 91
File #8925.5, 77, 91
File #8925.6, 77, 91
File #8925.7, 77, 92
File #8925.8, 77, 92
File #8925.9, 78, 92
File #8925.91, 78, 92
File #8925.93, 52, 53, 54, 78, 93
File #8925.94, 53, 78, 93
File #8925.95, 78, 93
File #8925.97, 78, 93
File #8925.98, 78, 93
File #8925.99, 78, 93
File #8926, 78, 94
File #8927, 78, 94
File #8927.1, 78, 94
File #8932.1, 137
files, 76
Files 8925-8926, 113
Frequently Asked Questions, 137
Functional Overview, 1
Functions Across Applications, 65
Generic Progress Notes Title File (121.2), 4
Globals, 112
Glossary, 115
GMTS OBJ ENTER/EDIT, 193
handling upload errors, 28
HAS BOILTXT, 131
HCFA, 153
Health Summary Objects, 186
Health Summary Objects file, 186
Health Summary Type file, 186
Help for Upload Utility, 23
helpful hints, 137
heritable, 133
hidden actions, 144
historical, 149
historical visits, 138, 150
Host File Server, 10
How to Get Online Documentation, 110
Implement Upload Utility, 10
Implementation & Maintenance, 3
Implementation Guide, 3
IN USE, 130
inpatients, 149
Inquire about a HS Type, 195
Inter-facility data transfer, 147
interim, 141
interward transfers, 141
Intranet WWW Documentation, 110
Introduction, 1
IRT deficiency, 141
Items, 134
Kermit, 10
Kermit file transfer protocol,, 11
Kermit Protocol, 17
Kermit Protocol Upload:, 26
Kernel Print Options, 112
KIDS Install Print Options, 110
line editors, 140
Linkages, 2
List Membership by Class, 49
List Membership by User, 49
Location– Print Progress Notes, 52
macros, 33
Manage Business Rule, 49
MAS Options to Print Progress Notes, 52
MAS Print Options, 53
Matrix of Actions, 45
Menu and Option Assignment, 58
Menu Assignment, 64, 158
Menu Text, 134
message header, 24
MIS, 116
MIS Manager, 116

Mnemonic, 134
Mnemonics on List Manager screens, 145
Modify Upload Parameters, 7, 11, 12
MRT, 117
multidisciplinary, 3
national standard, 124
number-spaces for TIU, 113
object, 44, 117, 122, 161
Object Inactive, 176
Online Documentation, 110
OP reports, 142
orphan, 132
Other Kernel Print Options, 112
outpatient care, 149
Outpatient Location- Print Progress Notes, 52
owner, 45, 129
ownership, 45
package security, 155
Package-Wide Variables, 108
Patch GMRP*2.5*44, 4
Patient Care Encounter, 2
patient encounter, 138
Patient– Print Progress Notes, 52
PCE, 148
Person Class File (#8932.1), 137, 153
personal owner, 129
print by ward, 139
Print List, 144
print name, 132
Print Screen, 144
Printing Data Dictionaries, 113
Problem List, 2
Progress Notes, 1, 48, 117, 137, 149
Progress Notes Batch Print Locations, 7, 41
Progress Notes Print Options, 52, 53, 54, 55, 56
Provider Class, 137
Provider Security Key, 154
Purging, 3
Radiology reports, 142
Raw ASCII file transfer, 11
release from transcription, 140
Remote Computer, 10
Remote Procedure Calls, 99
rotating residents, 141
Router/Filer Notes, 24
Routines, 57, 112
RPCs, 99
Screen Editor, 140
security, 155, 157
security key, 48, 157
Set up Terminal Emulator, 11
Setting Up TIU, 5
Set-up for User Class & Business Rules, 154
share objects, 144
shared, 122
SHOP,ALL, 144
Shortcuts, 145
Signature, 3
signature block, 3
site-configurable, 3
site-configurable features, 3
Smart Term, 139
Sort Document Definitions/ Objects, 44
standalone visit, 149
status, 45, 124
subscribe, 48
telephone, 149
template, 44
template cleanup parameter, 50
Template Management, 50
terminal and ASCII transfer options, 11
terminal emulation software, 11
Terminal Emulator, 10
terminal settings, 139
terminology, 44
title, 44, 117, 121
TIU Autoverify, 157
TIU BASIC PARAMETER EDIT, 7
TIU CONVERSIONS MENU, 6, 64
TIU DIVISION PRINT PARAMETERS FILE #8925.94, 53
TIU Document Definition file, 186
TIU Document Definition File (#8925.1), 4
TIU DOCUMENT PARAMETER EDIT, 7, 34
TIU File Descriptions, 76
TIU MAIN MENU, 64
TIU MAIN MENU CLINICIAN, 64
TIU MAIN MENU MGR, 64
TIU MAIN MENU MRT, 64
TIU MAIN MENU PN CLINICIAN, 64
TIU MAIN MENU REMOTE, 64
TIU MAINTENANCE MENU, 64
TIU Package Security, 155
TIU PRINT PARAMETERS FILE, 53
TIU PRINT PN ADMISSION, 52, 54
TIU PRINT PN BATCH INTERACTIVE, 41, 52
TIU PRINT PN BATCH SCHEDULED, 41
TIU PRINT PN DIV PARAM, 7
TIU PRINT PN DIV PARAMS, 42

TIU PRINT PN LOC PARAMS, 7, 41
TIU PRINT PN MAS MENU, 52, 64
TIU PRINT PN OUTPT LOC, 42, 52, 54
TIU PRINT PN USER MENU, 64
TIU PRINT PN WARD, 42, 52
TIU Security, 155, 157
TIU SET-UP MENU, 7
TIU UPLOAD DOCUMENTS, 23
TIU UPLOAD HELP, 23
TIU UPLOAD PARAMETER EDIT, 7
TIU*, 113
TIUF DOCUMENT DEFINITION MGR, 43, 187
TIUFA SORT DDEFS, 44
TIUFC CREATE DDEFS, 44
TIUFH EDIT DDEFS, 44
TIUFJ CREATE OBJECTS MGR, 44
TIUFJ VIEW OBJECTS CLIN, 44
TIUFLAG, 55
TIUHS LIST MANAGER, 186
transcription, 140
transcriptionist, 3, 139
troubleshooting, 137
Troubleshooting & Helpful Hints for Document Definitions, 150
type, 120
Upload Documents, 23
upload errors, 28
Upload Menu, 23
Upload Parameters, 11
user, 45
User Class, 117
User Class Assignment, 157
User Class definition, 3
User Class Definition, 49
User Class File (#8930), 153
User Class Information, 153
User Class Management, 49, 50
USR BUSINESS RULE MANAGEMENT, 49
USR CLASS DEFINITION, 49
USR CLASS MANAGEMENT MENU, 49
USR EDIT BUSINESS RULES, 49
USR LIST MEMBERSHIP BY CLASS, 49
USR LIST MEMBERSHIP BY USER, 49
VA Cross-Referencer, 113
View Objects, 44
Visit Information, 145
Visit Orientation, 147
Visit Tracking, 2
visits, 138
VT220, 139
Ward- Print Progress Notes, 52
word-processing program, 10, 140
work copy, 55
Workload Capture, 147
WWW, 110