OUTPATIENT PHARMACY

TECHNICAL MANUAL/SECURITY GUIDE

Version 7.0
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(Revised October 2004)

Department of Veterans Affairs
V*IST***A** Health Systems Design & Development

Revision History

Each time this manual is updated, the Title Page lists the new revised date and this page describes the changes. Either update the existing manual with the Change Pages Document, or replace it with the updated manual.

Note: The Change Pages Document may include unedited pages needed for two-sided copying. Only edited pages display the patch number and revision date in the page footer.

Date	Revised Pages	Patch Number	Description
10/04	13, 19-26, 59-70, 70a-d	PSO*7*156	Automation Interface project. Updated the Routine list with eight new routines. Updated the "External Interfaces" section. Updated Appendix A to include new HL7 profile information.
06/04	3, 13, 14, 39, 45, 57, 73-75	PSO*7*132	Herbal /OTC project. Updated the Routine list with three new routines. Added a new report *Non-VA Meds Usage Report* option. Updated the Journaling Globals. Added the definition of Non-VA meds to the Glossary. Added the ZRN segment to the HL7 Order Message Segment Definition table and Discontinue Order Message.
05/04	13-14	PSO*7*157	Updated section 5. Routine List with routine PSORN52A.
11/03	iii - iv, 13, 40, 50, 54-55, 89-91	PSO*7*135	Updated Routine list for ScripTalk routines. Updated *the Outpatient Pharmacy Manager* option to include *the ScripTalk Main Menu* option. Added printer set-up. Included the new Table of Contents and Index. A correction to the Return Mail Initialization (RMI) control code in the TERMINAL TYPE file (#3.2) has been added.
11/03	79, 84-87	PSO*7*153	Added MailMan messages to the TPB HL7 extract information.
11/03	62, 64, 66, 69	PSO*7*139	Updated Appendix A HL7 specific example and ZAL segment.
11/03	All		Re-numbered pages; removed headers.

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Table of Contents

1. Introduction

This document briefly describes the technical and security aspects of Outpatient Pharmacy V. 7.0. It is intended for members of the Automated Data Processing (ADP)/Information Resources Management Service (IRMS) staff who have had experience with other Veterans Health Information Systems and Technology Architecture (**V***IST***A**) software and have worked or will work with a package coordinator who is familiar with the functions of the Outpatient Pharmacy V. 7.0 in a VA Medical Center. Readers without this background are referred to the documentation for the Kernel, the VA FileMan and the User's Manual for this release.

The Outpatient Pharmacy V. 7.0 package provides a method for managing the medications given to veterans who have visited a clinic or who have received prescriptions upon discharge from the hospital. Prescription labels are automatically generated and refill request forms are printed. Medication histories are kept online to permit checks for potential interactions. Profiles can be generated to assist the clinician in managing the patient's medication regimen. Management reports aid the pharmacy in controlling inventory and costs.

A number of site parameters allow the individual Department of Veterans Affairs Medical Center (VAMC) to customize the package to meet local needs. The User's Manual describes these site parameters and the ways they influence the operation of the package.

See Section 10 of this manual, "External Relations," for a listing of software not included in this package that must be installed before this version of Outpatient Pharmacy is fully functional.

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2. Orientation

2.1. Online Documentation

Throughout the entire Outpatient Pharmacy V. 7.0 package, enter a question mark (?) to obtain online information to assist in choosing actions at any prompt. Where examples of screen dialogs are given, user responses are shown as bolded text.

Additional information about this package is contained in help prompts and comments which are available online. Detailed information can also be obtained by using the Kernel routine XINDEX to produce detailed listings of the routines and by using the VA FileMan to generate listings of data dictionaries for the files.

The Data Dictionaries (DDs) are considered part of the online documentation for this software application. Use VA FileMan List File Attributes [DILIST] option, under the Data Dictionary Utilities [DI DDU] option, to print the DDs.

2.2. Related Manuals

Outpatient Pharmacy V. 7.0 Release Notes
Outpatient Pharmacy V. 7.0 User Manual (Revised April 2004)
Computerized Patient Record System V. 1.0 Installation Guide
Computerized Patient Record System V. 1.0 Set-up Guide
Pharmacy Ordering Enhancements (POE) Phase 2 Release Notes
Outpatient Medication Copay Release Notes
Laser Printed Prescription Labels with PMI Sheets Phase I Release Notes
Transitional Pharmacy Benefit Release Notes Phase I
Transitional Pharmacy Benefit Installation Guide Phase I
Transitional Pharmacy Benefit Release Notes Phase II
Transitional Pharmacy Benefit Installation Guide Phase II
ScripTalk® Talking Prescription Labels Installation Guide

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3. Implementation and Maintenance

3.1. Resource Requirements

Outpatient Pharmacy V. 7.0 contains approximately 404 routines including all PSO* routines and compiled templates, PSOX* and APSPT* that take up approximately 1.5MB disk space.

Response Time monitor hooks have been placed in the following routines:

Routine	Purpose
PSON52	File New Prescriptions in File #52
PSORN52	File Renewed Prescriptions in File #52
PSOR52	File Refill Prescriptions in File #52

This package requires 24 files (see "Files" section in this manual). A typical site may require the following disk space:

1 Mbyte	DRUG file (#50) (4000 entries)
3 Mbytes per month	DRUG COST file (#50.9) (800 items dispensed by 200 dispensing physicians)
150 Mbytes	PRESCRIPTION file (#52) (500,000 prescriptions)
50 Mbytes	PHARMACY PATIENT file (#55) (500,000 prescriptions)
About 1 to 2 Mbytes	Routines and the other files (except for RX VERIFY file (#52.4), RX SUSPENSE file (#52.5), and PHARMACY ARCHIVE file (#52.8))
3 to 5 Mbytes of "swing space"	RX VERIFY file (#52.4), RX SUSPENSE file (#52.5), and PHARMACY ARCHIVE file (#52.8)

Outpatient Pharmacy V. 7.0 may be expected to require about 350 Mbytes of disk space. The actual disk utilization will, of course, depend primarily on the size of the 3 large files—PRESCRIPTION file (#52), PHARMACY PATIENT file (#55) and DRUG COST file (#50.9).

The requirements for Video Display Terminals (VDTs) and printers also depend on the number of transactions Outpatient Pharmacy V. 7.0 performs. Approximately three VDTs and one printer are needed for each 500 prescriptions (or fraction of 500) issued each day. If mail-out refills are handled separately, at least one VDT and one printer for each 500 refills are required. An additional VDT and a printer may be desired in the supervisor's office, and

1 VDT in the office of people who are assigned to consult with patients about their medication regimens.

There are no special device requirements for dot matrix labels except to print barcodes on labels. In this case, the label printer must be able to print barcodes and must be able to be set to a form length of either 4 inches or 24 lines. The section in this document on barcodes provides additional information about this function.

Laser printed labels require one or more specially configured printers. The printer must be able to print to a legal length form and must print barcodes. In addition, the printer must support Hewlett Packard's Printer Control Language (PCL) version 5 or greater.

3.2. Options to be Deleted during Installation

NOTE: The options listed below are deleted on the initial installation of Outpatient Pharmacy V. 7.0. No options are deleted after the initial installation, up to patch PSO*7*46.

Option Name	Menu Text
PSO DRUG	Drug Enter/Edit
PSO DRUGMENU	Drug/Drug Interaction Functions
PSO HOLDRX	Hold Rx
PSO INTERACTION	Drug Interactions Menu
PSO INTERACTION LOCAL ADD	Enter/Edit Local Drug Interaction
PSO INTERACTION SEVERITY	Edit Drug Interaction Severity
PSO LAB MONITOR	Mark/Unmark Lab Monitor Drugs
PSO NEW	New Prescription Entry
PSO REF	Refill Prescriptions
PSO RXEDIT	Edit Prescriptions
PSO RXHOLD	Hold Features
PSO RXPAR	Partial Prescription
PSO SIGED	Medication Instruction File Add/Edit
PSO UNHOLDRX	Unhold Rx
PSO FACILITY SETUP	Enter Facility Data for Clozapine
PSO MARK DRUG	Mark Clozapine Drug
PSOL UNMARK DRUG	Unmark Clozapine Drug
PSOARCCO	Find
PSOARCHLIST	List One Patient's Archived Rxs
PSOARCIN	Tape Retrieval
PSOARCPURGE	Purge
PSOARCSV	Save

3.3. Templates to be Deleted during Installation

NOTE: The templates listed below are deleted on the initial installation of Outpatient Pharmacy V. 7.0. No options are deleted after the initial installation up to patch PSO*7*46.

Input	**File**
PSO DRUG	#50
PSO SIGED	#51
PSO BATCH PARTIAL	#52
Print	**File**
PSO ACTION PROFILE #3	#44
PSOBJP	#52
Sort:	**File**
PSOBJP	#52

3.4. Routines to be Deleted during Installation

NOTE: The routines listed below are deleted on the initial installation of Outpatient Pharmacy V. 7.0. No options are deleted after the initial installation up to patch PSO*7*46.

PSOCLDRG	PSOCLUS1	PSOCLUS2	PSOCLUS3	PSOCSRL1
PSOCSTAR	PSODRUG	PSOGMINS	PSOGMP12	PSOGMP25
PSOLIST	PSONODIB	PSONUM	PSOPOST3	PSOPRE
PSORX	PSORXPAR			

Prior to the initial installation of Outpatient Pharmacy V. 7.0, it is recommended that all PSO* routines be deleted using the system utility to delete routines. Back up local modifications to any PSO* routines.

After installation of Outpatient Pharmacy V. 7.0, compare routines to note the changes between locally modified routines and the V. 7.0 routines. Take care when installing local modifications as Outpatient Pharmacy V. 7.0 has been modified greatly with patch PSO*7*46.

3.5. M Audiofax (Telephone Refill Requests)

If telephone refill requests are processed using M Audiofax, a new VEXRX routine must be installed to interface with Outpatient Pharmacy V. 7.0. To install this routine, go to SHOP ALL on FORUM and in the TELEPHONE REFILL REQUESTS Basket, retrieve the message "VEXRX for Outpatient V. 7." This message will contain the new VEXRX routine. This routine must be forwarded and installed on the production account.

Important
Telephone refill requests (M Audiofax) cannot be processed without the new VEXRX routine.

3.6. Setting up the Bingo Board Device

A dedicated device must be set up for use with the bingo board. The device setup is similar to that used to set up a printer, except the sub-type will be C-VT. Only devices with the sub-type C-VT will be allowed for entry at the "DISPLAY DEVICE" prompt in the *Enter/Edit Display* [PSO BINGO ENTER/EDIT DISPLAY] option found on the *Bingo Board Manager* [PSO BINGO MANAGER] menu. For further information, see the site's systems guide for information on setting up the device. Once a dedicated device is set up, the bingo board can be scheduled to automatically start and/or stop at user-defined times.

3.7. Mail Group Setup for the HL7 External Interface

A mail group and device **must** be set up in order to run the HL7 external interface. The recommended name of the mail group is PSO HLGROUP1. The recommended device name is PSO HLDEVICE1.

3.8. Using the Maintenance Menu

The *Maintenance (Outpatient Pharmacy)* [PSO MAINTENANCE] menu is used for implementation as well as maintenance of the Outpatient Pharmacy V. 7.0 package. The first five options, *Site Parameter Enter/Edit* [PSO SITE PARAMETERS] (example follows), *Edit Provider* [PSO PROVIDER EDIT], *Add New Providers* [PSO PROVIDER ADD], *Queue Background Jobs* [PSO AUTOQUEUE JOBS], and *Autocancel Rx's on Admission* [PSO AUTOCANCEL1] are used for implementation. The remaining options on this menu may be used for maintenance. (An example is given below for the *Queue Background Jobs* [PSO AUTOQUEUE JOBS] option. See the Outpatient Pharmacy V. 7.0 User Manual for an explanation of the other options on this menu.)

Maintenance (Outpatient Pharmacy) [PSO MAINTENANCE] menu

Site Parameter Enter/Edit
Edit Provider
Add New Providers
Queue Background Jobs
Autocancel Rx's on Admission
Bingo Board Manager ...
Edit Data for a Patient in the Clozapine Program
Enter/Edit Clinic Sort Groups
Initialize Rx Cost Statistics
Edit Pharmacy Intervention
Delete Intervention
Auto-delete from Suspense
Delete a Prescription
Expire Prescriptions
Manual Auto Expire Rxs
Prescription Cost Update
Purge Drug Cost Data
Purge External Batches
Recompile AMIS Data

3.9. Queue Background Jobs [PSO AUTOQUEUE JOBS]

This option is used to queue all background jobs. Once the *Queue Background Jobs* [PSO AUTOQUEUE JOBS] option is selected, the option automatically pre-selects the jobs. Entering "E" for exit will not exit the option. An up arrow (^) must be entered to exit a specific job and go on to the next one. The background jobs are as follows:

- TPB HL7 Data Extract/Transmission
- Autocancel Rx's on Admission
- Nightly Rx Cost Compile
- Nightly Management Data Compile
- Compile AMIS Data (NIGHT JOB)
- Expire Prescriptions
- Auto-delete from Suspense

A date and time at least 2 minutes in the future must be entered. The jobs should be set to run at a time convenient for the site.

NOTE: The options listed above must be scheduled to run through the *Queue Background Jobs* [PSO AUTOQUEUE JOBS] option. Attempting to run them from any other option will cause problems.

Only the following prompts require responses. All others will be left blank.

QUEUED TO RUN AT WHAT TIME:	This is the date/time desired for TaskMan to start this option.
RESCHEDULING FREQUENCY:	If this field is blank then the job will run only once.

Example: View of Queue Background Jobs Screen

```
Select Maintenance (Outpatient Pharmacy) Option: QUEue Background Jobs

If time to run option is current do not edit.
Autocancel System Parameter must be set to 'YES'
before prescriptions are discontinued.
```

```
Edit Option Schedule
    Option Name: PSO AUTOCANCEL
    Menu Text: Autocancel on Admission                    TASK ID: 2617405
  ____________________________________________________________________________

  QUEUED TO RUN AT WHAT TIME: JUN 13,2000@01:00

DEVICE FOR QUEUED JOB OUTPUT: PP6;P-OTHER;132;64

 QUEUED TO RUN ON VOLUME SET:

      RESCHEDULING FREQUENCY: 1D

             TASK PARAMETERS:

            SPECIAL QUEUEING:

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

These default values are highlighted on the screen display, not to indicate user input.

4. Files

This package requires the 24 files listed below. Information about the files can be obtained by using the VA FileMan to generate a list of file attributes.

The Data Dictionaries (DDs) are considered part of the online documentation for this software application. Use the VA FileMan *List File Attributes* [DILIST] option, under the *Data Dictionary Utilities* [DI DDU] option, to print the DDs. The following are the files for which DDs should be printed:

4.1. Outpatient Pharmacy Files

FILE #	NAME	UP DATE DD	SEND SEC. CODE	DATA COMES W/FILE	SITE DATA	RSLV PTS	USER OVER RIDE
50.073	DUE QUESTIONNAIRE	YES	YES	NO			
50.0731	DUE ANSWER SHEET	YES	YES	NO			
50.0732	DUE QUESTION	YES	YES	NO			
50.0733	DUE SECTION	YES	YES	NO			
50.9	DRUG COST	YES	YES	NO			
52	PRESCRIPTION	YES	YES	NO			
52.11	PATIENT NOTIFICATION (Rx READY)	YES	YES	NO			
52.4	RX VERIFY	YES	YES	NO			
52.41	PENDING OUTPATIENT ORDERS	YES	YES	NO			
52.43	PRESCRIPTION REFILL REQUEST	YES	YES	NO			
52.5	RX SUSPENSE	YES	YES	NO			
52.51	PHARMACY EXTERNAL INTERFACE	YES	NO	NO			
52.52	CLOZAPINE PRESCRIPTION OVERRIDES	YES	YES	NO			
52.8	PHARMACY ARCHIVE	YES	YES	NO			
52.9	PHARMACY PRINTED QUEUE	YES	YES	NO			
52.91	TPB ELIGIBILITY	YES	NO	NO			
52.92	TPB INSTITUTION LETTERS	YES	YES	NO			
53	RX PATIENT STATUS	YES	YES	NO			
59	OUTPATIENT SITE	YES	YES	NO			
59.1	OUTPATIENT AMIS DATA	YES	YES	NO			

FILE #	NAME	UP DATE DD	SEND SEC. CODE	DATA COMES W/FILE	SITE DATA	RSLV PTS	USER OVER RIDE
59.12	OUTPATIENT PHARMACY MANAGEMENT DATA	YES	YES	NO			
59.2	WAITING TIME	YES	YES	NO			
59.3	GROUP DISPLAY	YES	NO	NO			
59.8	OUTPATIENT CLINIC SORT GROUP	YES	YES	NO			

The namespace for the Outpatient Pharmacy V. 7.0 package is PSO.

5. Routine List

The following routine list for Outpatient Pharmacy appears when the new routine set is loaded. Each routine's first line contains a brief description of the routine's function. Use the *First Line Routine Print* [XU FIRST LINE PRINT] option to print a list of just the first line of each PSO* routine.

PSO145PS	PSO146PS	PSO153PS	PSO55FX2	PSO55FX3	PSOADDR	PSOAMIS	PSOAMIS0
PSOAMIS1	PSOARC	PSOARCCO	PSOARCCV	PSOARCDE	PSOARCF1	PSOARCF2	PSOARCF3
PSOARCF4	PSOARCF5	PSOARCF6	PSOARCIN	PSOARCLT	PSOARCR1	PSOARCR2	PSOARCRR
PSOARCS2	PSOARCSV	PSOARCTG	PSOARCTP	PSOARX	PSOARX1	PSOAUTOC	PSOB
PSOBARV	PSOBBC	PSOBGMG1	PSOBGMG2	PSOBGMG3	PSOBGMGR	PSOBING1	PSOBINGO
PSOBKDE1	PSOBKDED	PSOBMST	PSOBRPRT	PSOBSET	PSOBSET1	PSOBUILD	PSOCAN
PSOCAN1	PSOCAN2	PSOCAN3	PSOCAN4	PSOCLERK	PSOCLO1	PSOCLOLS	PSOCLPRE
PSOCLUTL	PSOCMOP	PSOCMOPA	PSOCMOPB	PSOCMOPC	PSOCMOPR	PSOCOPAY	PSOCOST
PSOCOSTP	PSOCP	PSOCP1	PSOCPA	PSOCPB	PSOCPBA2	PSOCPBAK	PSOCPC
PSOCPD	PSOCPDUP	PSOCPE	PSOCPIB	PSOCPTRH	PSOCPTRI	PSOCPVW	PSOCSRL
PSOCST	PSOCST10	PSOCST11	PSOCST12	PSOCST2	PSOCST3	PSOCST4	PSOCST5
PSOCST6	PSOCST7	PSOCST8	PSOCST9	PSOCSTD	PSOCSTM	PSOCSTX	PSODACT
PSODEA	PSODEDT	PSODELI	PSODEM	PSODGAL	PSODGDG1	PSODGDG2	PSODGDGI
PSODGNVI	PSODIR	PSODIR1	PSODIR2	PSODIR3	PSODISP	PSODISP1	PSODISP2
PSODISP3	PSODISPS	PSODIV	PSODLKP	PSODP	PSODPT	PSODRDU1	PSODRDU2
PSODRDUP	PSODRG	PSODSPL	PSODSRC	PSODUE	PSOELPST	PSOEXBCH	PSOEXDT
PSOEXREF	PSOEXRST	PSOFSIG	PSOFTDR	PSOFUNC	PSOHCPRS	PSOHCSUM	PSOHELP
PSOHELP1	PSOHELP2	PSOHELP3	PSOHELP4	PSOHLD	PSOHLDC	PSOHLDIS	PSOHLDS
PSOHLDS1	PSOHLDS2	PSOHLDS3	PSOHLDS4	PSOHLEXC	PSOHLEXP	PSOHLINC	PSOHLINL
PSOHLNE1	PSOHLNE2	PSOHLNEW	PSOHLPII	PSOHLPIS	PSOHLSG	PSOHLSG1	PSOHLSG2
PSOHLSG3	PSOHLSG4	PSOHLSG5	PSOHLSIG	PSOHLSIH	PSOHLSN	PSOHLSN1	PSOHLSNC
PSOHLUP	PSOHLUP1	PSOLAB	PSOLBL	PSOLBL1	PSOLBL2	PSOLBL3	PSOLBL4
PSOLBLD	PSOLBLD1	PSOLBLN	PSOLBLN1	PSOLBLN2	PSOLBLS	PSOLBLT	PSOLLL1
PSOLLL2	PSOLLL3	PSOLLL4	PSOLLL5	PSOLLL6	PSOLLL7	PSOLLL8	PSOLLL9
PSOLLLI	PSOLLU1	PSOLLU2	PSOLMAL	PSOLMAO	PSOLMDA	PSOLMLST	PSOLMPAT
PSOLMPF	PSOLMPI	PSOLMPO	PSOLMPO1	PSOLMPO2	PSOLMRN	PSOLMUTL	PSOLSET
PSOMAUEX	PSOMGCM1	PSOMGCOM	PSOMGM31	PSOMGMN1	PSOMGMN2	PSOMGMN3	PSOMGMN4
PSOMGMRP	PSOMGR31	PSOMGREP	PSOMGRP1	PSOMGRP2	PSOMGRP3	PSOMGRP4	PSOMLLDT
PSON52	PSONEW	PSONEW1	PSONEW2	PSONEW3	PSONEWF	PSONEWG	PSONFI
PSONGR	PSONRXN	PSONTEG	PSONTEG0	PSONVAR1	PSONVARP	PSONVNEW	PSOORAL
PSOORAL1	PSOORAL2	PSOORAPI	PSOORCPY	PSOORDA	PSOORDER	PSOORDRG	PSOORED1
PSOORED2	PSOORED3	PSOORED4	PSOORED5	PSOORED6	PSOOREDT	PSOORFI1	PSOORFI2
PSOORFI3	PSOORFI4	PSOORFIN	PSOORNE1	PSOORNE2	PSOORNE3	PSOORNE4	PSOORNE5
PSOORNE6	PSOORNEW	PSOORNW1	PSOORNW2	PSOORRL	PSOORRL1	PSOORRNW	PSOORUT1
PSOORUT2	PSOORUT3	PSOORUTL	PSOP	PSOP1	PSOP2	PSOPAT	PSOPKIV1
PSOPOLY	PSOPOST	PSOPOST1	PSOPOST2	PSOPOST3	PSOPOST4	PSOPOST5	PSOPOST6
PSOPOST7	PSOPOST8	PSOPRA	PSOPRF	PSOPRFSS	PSOPRI	PSOPRVW	PSOPST68
PSOPTPST	PSOR52	PSORDS	PSOREF	PSOREF0	PSOREF1	PSOREF2	PSORELD1
PSORELDT	PSORENW	PSORENW0	PSORENW1	PSORENW2	PSORENW3	PSORENW4	PSORESK
PSORESK1	PSORFL	PSORN52	PSORN52A	PSORN52C	PSORPTS	PSORPTS1	PSORX1
PSORXCLE	PSORXDL	PSORXED	PSORXED1	PSORXEDT	PSORXI	PSORXL	PSORXL1
PSORXLAB	PSORXPA1	PSORXPR	PSORXPR1	PSORXRP1	PSORXRP2	PSORXRPT	PSORXVW
PSORXVW1	PSORXVW2	PSOSD	PSOSD0	PSOSD1	PSOSD2	PSOSD3	PSOSDP
PSOSIG	PSOSIGCX	PSOSIGDS	PSOSIGMX	PSOSIGNO	PSOSIGTX	PSOSITED	PSOSPSIG
PSOSTART	PSOSUBCH	PSOSUCH1	PSOSUCHG	PSOSUCLE	PSOSUDCN	PSOSUDEL	PSOSUDP1
PSOSUDP2	PSOSUDPR	PSOSUINV	PSOSULB1	PSOSULBL	PSOSULOG	PSOSUP	PSOSUPAT

PSOSUPOE	PSOSUPRX	PSOSURST	PSOSUSRP	PSOSUTL	PSOSUTL1	PSOTALK	PSOTALK1
PSOTALK2	PSOTALK3	PSOTPCAN	PSOTPCEE	PSOTPCL	PSOTPCLP	PSOTPCLR	PSOTPCLW
PSOTPCRP	PSOTPCRX	PSOTPCUL	PSOTPENV	PSOTPHL1	PSOTPHL2	PSOTPPOS	PSOTPPRE
PSOTPPRV	PSOTPRX1	PSOTRLBL	PSOUTIL	PSOUTL	PSOUTLA	PSOUTLA1	PSOVCNT
PSOVER	PSOVER1	PSOVER2	PSOVERC	PSOVRPT	PSOVWI		

6. Exported Options

6.1. Menu Assignments

Unless menus have already been assigned, the *Outpatient Pharmacy Manager* [PSO MANAGER] menu should be assigned to the Package Coordinator for Outpatient Pharmacy. It should also be added to the menu of the Site Manager and any ADP/IRMS staff that the Package Coordinator selects to help in the operation of Outpatient Pharmacy. The *Pharmacist Menu* [PSO USER1] option should be assigned to all pharmacists and the *Pharmacy Technician's Menu* [PSO USER2] option should be assigned to all pharmacy technicians and other pharmacy personnel who may view prescriptions and/or inquire into other Outpatient Pharmacy V. 7.0 files.

6.2. Security Keys

PSORPH	This key is required to use all of the Outpatient Pharmacy V. 7.0 options. It should be assigned to all pharmacists, the package coordinator, and all appropriate members of the ADP/IRMS staff.
PSO COPAY	This key is used to identify users to notify when a copay exemption cannot be determined at the time a prescription fill is released. Holders of this key are also notified any time the *Exempt Rx Patient Status from Copayment* [PSOCP EXEMPTION] option is used to change the copay exemption for an Rx Patient Status.
PSOA PURGE	***NOTE**: Disabled until further notice.* This key should be assigned to the package coordinator and/or any person who will be responsible for archiving prescriptions.
PSOLOCKCLOZ	This key is used to override the lockouts in the Clozapine options. All members of the Clozapine treatment team must be entered as users on the system and must be given this key. All pharmacists who have the ability to override the lockouts in this option must also hold this key. The Pharmacy Service representative of the Clozapine treatment team should identify these pharmacists.
PSOINTERFACE	This key is used to access the *External Interface Menu* [PSO EXTERNAL INTERFACE] option.

6.3. Package Security

Electronic signatures may be established by using the *Electronic Signature code Edit* [XUSESIG] option.

In Kernel V. 8.0 the *Electronic Signature code Edit* [XUSESIG] option has been tied to the Common Options, under the *User's Toolbox* [XUSERTOOLS] submenu, for easy access by all users.

7. Archiving and Purging

Detailed information is kept for each prescription, including all information about the original prescription, all refills and all editing. An average prescription requires about 300 bytes (0.3 Kbytes) of disk storage. The archiving options under the manager's menu allow the package coordinator and IRMS/ADP staff to manage this file. Old prescriptions, typically those that have been expired or canceled for more than a year, can be saved to tape and then purged from online storage. NOTE: The purge options under the *Archive Menu* [PRCAK AR SUPERVISOR] option are out of order until further notice. The User's Manual describes the operation of these options. Because not all prescriptions require the same amount of space and because of the way the operating system utilizes the disk, do not expect to regain 300 bytes of disk storage for every prescription purged. As prescriptions are purged, all references to these prescriptions from other files are also deleted.

The RX SUSPENSE file (#52.5) holds information about all prescriptions that have been suspended for later printing. There is an automatic purge for this file for prescriptions printed from 7 to 90 days ago. The package coordinator can run the *Auto-delete from Suspense* [PSO PNDEL] option at regular intervals to purge this file of suspended prescriptions which have been printed 7 to 90 days ago. The purging is tasked to run every 7 days.

Specific entries can be deleted using the *Change Suspense Date* [PSO PNDCHG] or *Pull Early From Suspense* [PSO PNDRX] options.

Drug cost data can now be purged using the *Purge Drug Cost Data* [PSO PURGE DRUG COST] option.

7.1. Setting up the Archive Device

The following examples display archive device setups for file and tape.

These examples may differ from site to site. If a device differs, check with IRMS for information on device set up.

```
                    HOST FILE SERVER (HFS) DEVICE SETUP:


NAME: HFS      $I: ARC0797.TMP
ASK DEVICE: YES      ASK PARAMETERS: NO
VOLUME SET(CPU): VAA QUEUING: ALLOWED
LOCATION OF TERMINAL: COMPUTER AREA    ASK HOST FILE: YES
ASK HFS I/O OPERATION: YES *MARGIN WIDTH: 132
*FORM FEED: #  *PAGE LENGTH: 64
*BACK SPACE: $C(8)    SUBTYPE: P-OTHER
TYPE: HOST FILE SERVER
BAUD RATE (c): UNKNOWN
```

```
                        MAGNETIC TAPE DEVICE SETUP:


NAME: TAPE (T7867)  $I: $3$MKA600:
ASK DEVICE: YES     ASK PARAMETERS: YES
SIGN-ON/SYSTEM DEVICE: NO
LOCATION OF TERMINAL: COMPUTER ROOM
*MARGIN WIDTH: 255   *FORM FEED: #
*PAGE LENGTH: 256    *BACK SPACE: $C(8)
OPEN PARAMETERS: (FORMAT="VAL4":BLOCKSIZE=2048)
SUBTYPE: MAGTAPE    TYPE: MAGTAPE
PERFORM DEVICE CHECKING: NO
BAUD RATE (c): UNKNOWN
```

8. Callable Routines

Entry points provided by the Outpatient Pharmacy V. 7.0 package to other packages can be found in the External Relations section of this manual. No other routines are designated as callable from outside of this package.

9. External Interfaces

For up to date information on maintaining the HL7 External Interface, go to the following web site:

http://www.va.gov/vdl/Infrastructure.asp?appID=8

The VDL stores documents related to HL7 development and installation. For more information about HL7, go to this web site:

http://vista.med.va.gov/messaging/hl7dev/index.asp

NOTE: The HL Logical Link Entry/Node set up for Outpatient Pharmacy V. 7.0 is PSO DISP. This is a new Logical Link installed with Patch PSO*7*156.

Steps for Startup/Shutdown of the External Interface

The following screens depict the steps necessary to startup and shutdown the external interface for Version 1.6 of the **V*IST*A** Health Level Seven (HL7) application package. See Appendix A of this manual for more information on the Outpatient Pharmacy V. 7.0 HL7 Specification.

The following examples are options from the HL7 package. The top-level menu option being used is the HL MAIN MENU [*HL7 Main Menu*] option.

Example: Starting Up the Interface

```
Select OPTION NAME: HL MAIN MENU       HL7 Main Menu


          Event monitoring menu ...
          Systems Link Monitor
          Filer and Link Management Options ...
          Message Management Options ...
          Interface Developer Options ...
          Site Parameter Edit

Select HL7 Main Menu Option: FILer and Link Management Options


   SM     Systems Link Monitor
   FM     Monitor, Start, Stop Filers
   LM     TCP Link Manager Start/Stop
   SA     Stop All Messaging Background Processes
   RA     Restart/Start All Links and Filers
   DF     Default Filers Startup
   SL     Start/Stop Links
   PI     Ping (TCP Only)
   ED     Link Edit
   ER     Link Errors ...

Select Filer and Link Management Options Option: SL  Start/Stop Links

This option is used to launch the lower level protocol for the
appropriate device.  Please select the node with which you want
to communicate

Select HL LOGICAL LINK NODE: PSO DISP
The LLP was last shutdown on MAY 11, 2004 07:29:53.
This LLP has been enabled!
```

Page 21 referred to options that are no longer used in the HL7 package, and has been removed from this document.

.

Example: Shutting Down the Interface

```
Select OPTION NAME: HL MAIN MENU       HL7 Main Menu


          Event monitoring menu ...
          Systems Link Monitor
          Filer and Link Management Options ...
          Message Management Options ...
          Interface Developer Options ...
          Site Parameter Edit

Select HL7 Main Menu Option: FILer and Link Management Options


   SM     Systems Link Monitor
   FM     Monitor, Start, Stop Filers
   LM     TCP Link Manager Start/Stop
   SA     Stop All Messaging Background Processes
   RA     Restart/Start All Links and Filers
   DF     Default Filers Startup
   SL     Start/Stop Links
   PI     Ping (TCP Only)
   ED     Link Edit
   ER     Link Errors ...

Select Filer and Link Management Options Option: SL  Start/Stop Links

This option is used to launch the lower level protocol for the
appropriate device.  Please select the node with which you want
to communicate

Select HL LOGICAL LINK NODE: PSO DISP
The LLP was last started on JUN 02, 2004 09:52:02.

Okay to shut down this job? YES
The job for the PSO DISP Lower Level Protocol will be shut down.
```

Pages 23-26 referred to processes that are no longer used and have been removed from this document.

Pages 23-26 referred to processes that are no longer used and have been removed from this document.

10. External Relations

The following software is not included in this package and must be installed before this version of Outpatient Pharmacy is completely functional.

Package	Minimum Version Needed
Accounts Receivable (AR)	4.5
Adverse Reaction Tracking (ART)	4.0
Clinical Information Resources Network (CIRN)	1.0
Consolidated Mail Outpatient Pharmacy (CMOP)	2.0
Computerized Patient Record System (CPRS)	3.0
Decision Support System (DSS)	3.0
Fee Basis	3.5
VA FileMan	22.0
Integrated Funds Control, Accounting, and Procurement (IFCAP)	5.0
Inpatient Medications (IP)	5.0
Integrated Billing (IB)	2.0
Kernel	8.0
Laboratory	5.2
MailMan	7.1
Master Patient Index/Patient Demographics (MPI/PD)	1.0
National Drug File (NDF)	4.0
Order Entry/Results Reporting (OERR)	3.0
Patient Information Management System (PIMS)	5.3
Pharmacy Data Management (PDM)	1.0
Remote Procedure Call (RPC) Broker	1.1

NOTE: For Outpatient Medication Copay options to be fully functional, the Pharmacy Ordering Enhancement (POE) project software must be installed, which includes patches to Outpatient Pharmacy (PSO*7*46), Order Entry/Results Reporting (OR*3*94), Pharmacy Data Management (PSS*1*38), and Inpatient Medications (PSJ*5*50).

10.1. Data Base Integration Agreements (IAs)

Outpatient Pharmacy V. 7.0 has Data Base Integration Agreements (IAs) with the packages listed above, in addition to the following: Consolidated Mail Outpatient Pharmacy (CMOP), Drug Accountability (DA), and Controlled Substances (CS). For complete information regarding the IAs for Outpatient Pharmacy V. 7.0, please refer to the *Integration Agreement Menu* [DBA IA ISC] option under the *DBA* [DBA] option on FORUM.

(This page included for two-sided copying.)

11. Internal Relations

Very few of the options in this package can be invoked independently. Those that can be so invoked independently are

PSO MANAGER	Outpatient Pharmacy Manager
PSO P	Medication Profile
PSO USER1	Pharmacist Menu
PSO USER2	Pharmacy Technician's Menu
Any other option may not run independently.	

Any locally created menu which includes options from this package *must* have the ENTRY ACTION field read: D:'$D(PSOPAR) ^PSOLSET and should have the MENU EXIT ACTION field read: D FINAL^PSOLSET

12. Package-Wide Variables

The variables PSODIV, PSOINST, PSOIOS, PSOPAR, PSOPAR7, PSOSYS, PSOLAP, PSOPROP, PSOCLC, PSOCNT, PSODTCUT, PSOSITE, PSOPRPAS, PSOBAR0, PSOBAR1 and PSOBARS are used extensively throughout the package. They are set by the routine PSOLSET and are not killed until exiting from the package.

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13. Templates

Sort	File
PSO COST STAT	50.9
PSO BBWAIT SORT	52.11
PSO DRUG LIST	50
PSO HOLD LIST	52
PSO INTERVENTIONS	9009032.4
PSO NARC LIST	52
PSOUPAT	52
Input	**File**
PSO CLOZDRUG	50
PSO DISPLAY EDIT	59.3
PSO INTERACT	56
PSO INTERVENTION EDIT	9009032.4
PSO INTERVENTION NEW	9009032.4
PSO OUTPT	2
PSO OUTPTA	2
PSO PARTIAL	52
PSO SITE	59
PSOD DUE BUILD QUESTIONNAIRE	50.073
PSOD DUE EDIT	50.0731
Print	**File**
PSO ACTION PROFILE	44
PSO ACTION PROFILE #2	44
PSO ALPHA DRUG LIST	50
PSO BBWAIT PRINT	52.11
PSO COST STAT	50.9
PSO DRUG LIST	50
PSO HOLD	52
PSO INACTIVE DRUG LIST	50
PSO INTERVENTIONS	9009032.4
PSO N/F LIST	50
PSO NARC LIST	52
PSO PHARMACY STATS	50.9
PSO REQUEST STATISTICS	50.9
PSO SUSPENSE LIST	52.5
PSO SYNONYM LIST	50
PSOD PRINT ANSWER SHEET	50.0731

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14. Software Product Security

14.1. Mail Group Setup for the HL7 External Interface

A mail group and device should be set up in order to run the HL7 external interface. The recommended name of the mail group is PSO HLGROUP1. The recommended device name is PSO HLDEVICE1.

14.2. Archiving/Purging

For archiving and purging information, see the section titled "Archiving and Purging" in this manual.

14.3. Interfacing

For interface information, see the section titled "External Interfaces" in this manual.

14.4. Electronic Signatures

Electronic signatures may be established by using the *Electronic Signature code Edit* [XUSESIG] option. In Kernel V. 8.0 the *Electronic Signature code Edit* [XUSESIG] option has been tied to the Common Options, under the *User's Toolbox* [XUSERTOOLS] submenu, for easy access by all users.

14.5. Menu Assignments

The *Outpatient Pharmacy Manager* [PSO MANAGER] menu should be assigned to the Package Coordinator for Outpatient Pharmacy and also added to the menu of the Site Manager and any ADP/IRMS staff that s/he selects to help in the operation of Outpatient Pharmacy. The *Pharmacist Menu* [PSO USER1] option should be assigned to all pharmacists and the *Pharmacy Technician's Menu* [PSO USER2] option should be assigned to all pharmacy technicians and other pharmacy personnel who may view prescriptions and/or inquire into other Outpatient Pharmacy files.

14.6. Security Keys

PSORPH	This key should be assigned to all pharmacists, the package coordinator, and all appropriate members of the ADP/IRMS staff.
PSO COPAY	This key should be assigned to any users who need to be notified when a copay exemption cannot be determined at the time a prescription fill is released. Holders of this key are also notified any time the *Exempt Rx Patient Status from Copayment* [PSOCP EXEMPTION] option is used to change the copay exemption for an Rx Patient Status.
PSOA PURGE	*NOTE: Disabled until further notice.* This key should be assigned to the package coordinator and/or any person who will be responsible for archiving prescriptions.
PSOLOCKCLOZ	This key is used to override the lockouts in the Clozapine option. All members of the Clozapine treatment team must be entered as users on the system and must be given this key. All pharmacists who have the ability to override the lockouts in this option must also hold this key. The Pharmacy Service representative of the Clozapine treatment team should identify these pharmacists.
PSOINTERFACE	This key is used to access the *External Interface Menu* [PSO EXTERNAL INTERFACE] option.

14.7. File Security

This package requires 24 files in addition to those of the Kernel and other files to which it points, for example the PATIENT file (#2). Information about all files, including these can be obtained by using the VA FileMan to generate a list of file attributes.

File Numbers	File Names	DD	RD	WR	DEL	LAYGO
50.073	DUE QUESTIONNAIRE					
50.0731	DUE ANSWER SHEET					
50.0732	DUE QUESTION					
50.0733	DUE SECTION					
50.9	DRUG COST					
52	PRESCRIPTION					
52.11	PATIENT NOTIFICATION (Rx READY)					
52.4	RX VERIFY	@	@	@	@	@
52.41	PENDING OUTPATIENT ORDERS			@		
52.43	PRESCRIPTION REFILL REQUEST	@	@	@	@	@
52.5	RX SUSPENSE				#	
52.51	PHARMACY EXTERNAL INTERFACE	@	@	@	@	@
52.52	CLOZAPINE PRESCRIPTION OVERRIDES	@	@	@	@	@
52.8	PHARMACY ARCHIVE					
52.9	PHARMACY PRINTED QUEUE					
52.91	TPB ELIGIBILITY	@				
52.92	TPB INSTITUTION LETTERS	@				
53	RX PATIENT STATUS					
59	OUTPATIENT SITE					
59.1	OUTPATIENT AMIS DATA	@		@	@	@
59.12	OUTPATIENT PHARMACY MANAGEMENT DATA	@		@	@	@
59.2	WAITING TIME	@	@	@	@	@
59.3	GROUP DISPLAY	@	@	@	@	@
59.8	OUTPATIENT CLINIC SORT GROUP					

Please refer to Chapter 28 of Kernel V. 8.0 Systems Manual concerning installation of security codes sections entitled “Sending Security Codes.”

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15. Outpatient Pharmacy V. 7.0 Menu Diagrams

Three main menus are exported with the package. The *Outpatient Pharmacy Manager* [PSO MANAGER] menu should be assigned to supervisors, package coordinators, and members of the ADP/IRMS staff. Pharmacists should have the *Pharmacist Menu* [PSO USER1] option and clerks and technicians should have the *Pharmacy Technician's Menu* [PSO USER2] option.

15.1. Outpatient Pharmacy Manager

Archiving ...
- Find
- Save to Tape
- Tape Retrieval
- Archive to File
- File Retrieval
- Purge
  - **> Out of order: Unavailable - Under Construction
- List One Patient's Archived Rx's
- Print Archived Prescriptions

Autocancel Rx's on Admission

Bingo Board ...
- BM Bingo Board Manager ...
  - Enter/Edit Display
  - Auto-Start Enter/Edit
  - Print Bingo Board Statistics
  - Print Bingo Board Wait Time
  - Purge Bingo Board Data
  - Start Bingo Board Display
  - Stop Bingo Board Display
- BU Bingo Board User ...
  - Enter New Patient
  - Display Patient's Name on Monitor
  - Remove Patient's Name from Monitor
  - Status of Patient's Order

Change Label Printer

Clozapine Pharmacy Manager
- Display Lab Tests and Results
- Edit Data for a Patient in the Clozapine Program
- List of Override Prescriptions
- Register Clozapine Patient

Copay Menu ...
- CHAMPUS Billing Exemption
- Exempt Rx Patient Status from Copayment

Reset Copay Status/Cancel Charges

DUE Supervisor ...
- 1 Enter a New Answer Sheet
- 2 Edit an Existing Answer Sheet
- 3 Create/Edit a Questionnaire
- 4 Batch Print Questionnaires
- 5 DUE Report

Enter/Edit Clinic Sort Groups

External Interface Menu …
- Purge External Batches
- Reprint External Batches
- View External Batches

Label/Profile Monitor Reprint

Maintenance (Outpatient Pharmacy) ...
- Site Parameter Enter/Edit
- Edit Provider
- Add New Providers
- Queue Background Jobs
- Autocancel Rx's on Admission
- Bingo Board Manager ...
  - Enter/Edit Display
  - Auto-Start Enter/Edit
  - Print Bingo Board Statistics
  - Print Bingo Board Wait Time
  - Purge Bingo Board Data
  - Start Bingo Board Display
  - Stop Bingo Board Display
- Edit Data for a Patient in the Clozapine Program
- Enter/Edit Clinic Sort Groups
- Initialize Rx Cost Statistics
- Edit Pharmacy Intervention
- Delete Intervention
- Auto-delete from Suspense
- Delete a Prescription
- Expire Prescriptions
- Manual Auto Expire Rxs
- Prescription Cost Update
- Purge Drug Cost Data
- Purge External Batches
- Recompile AMIS Data

Medication Profile

Output Reports ...
- Action Profile (132 COLUMN PRINTOUT)
- Alpha Drug List and Synonyms
- AMIS Report
- CMOP Controlled Substance Rxs Dispense Report
- Commonly Dispensed Drugs

- Cost Analysis Reports ...
  - Clinic Costs
  - Division Costs by Drug
  - Drug Costs
  - Drug Costs by Division
  - Drug Costs by Division by Provider
  - Drug Costs by Provider
  - High Cost Rx Report
  - Patient Status Costs
  - Pharmacy Cost Statistics Menu ...
    - Pharmacy Statistics
    - Sort Statistics By Division
  - Provider by Drug Costs
  - Provider Costs
  - Request Statistics
- Daily AMIS Report
- Drug List By Synonym
- Free Text Dosage Report
- Inactive Drug List
- List Prescriptions on Hold
- Management Reports Menu ...
  - Daily Management Report Menu ...
    - All Reports
    - Cost of Prescriptions
    - Count of Prescriptions
    - Intravenous Admixture
    - Type of Prescriptions Filled
  - Date Range Recompile Data
  - Initialize Daily Compile
  - Monthly Management Report Menu ...
    - All Reports
    - Cost of Prescriptions
    - Count of Prescriptions
    - Intravenous Admixture
    - Type of Prescriptions Filled
  - One Day Recompile Data
  - Purge Data
- Medication Profile
- Monthly Drug Cost
- Narcotic Prescription List
- Non-Formulary List
- Non-VA Meds Usage Report
- Poly Pharmacy Report
- Released and Unreleased Prescription Report

Pharmacy Intervention Menu ...
- Enter Pharmacy Intervention
- Edit Pharmacy Intervention
- Print Pharmacy Intervention
- Delete Intervention
- View Intervention

Process Drug/Drug Interactions
Release Medication
Return Medication to Stock
Rx (Prescriptions) ...
- Patient Prescription Processing
- Barcode Rx Menu ...
  - Barcode Batch Prescription Entry
  - Check Quality of Barcode
  - Process Internet Refills
- Complete Orders from OERR
- Discontinue Prescription(s)
- Edit Prescriptions
- List One Patient's Archived Rx's
- Reprint an Outpatient Rx Label
- View Prescriptions

ScripTalk Main Menu ...
- PT ScripTalk Patient Enter/Edit
- QBAR Queue ScripTalk Label by Barcode
- QRX Queue ScripTalk Label by Rx#
- RPT ScripTalk Reports ...
  - AUD ScripTalk Audit History Report
  - WHO Report of ScripTalk Enrollees
- Reprint a non-voided Outpatient Rx Label
- PARM Set Up and Test ScripTalk Device ...
  - ScripTalk Device Definition Enter/Edit
  - Print Sample ScripTalk Label
  - Test ScripTalk Device
  - Reinitialize ScripTalk Printer

Supervisor Functions ...
- Add New Providers
- Daily Rx Cost
- Delete a Prescription
- Edit Provider
- Initialize Rx Cost Statistics
- Inter-Divisional Processing
- Inventory
- Lookup Clerk by Code
- Monthly Rx Cost Compilation
- Patient Address Changes Report
- Pharmacist Enter/Edit

Purge Drug Cost Data
Recompile AMIS Data
Site Parameter Enter/Edit
View Provider

Suspense Functions ...
Auto-delete from Suspense
Change Suspense Date
Count of Suspended Rx's by Day
Delete Printed Rx's from Suspense
Log of Suspended Rx's by Day (this Division)
Print from Suspense File
Pull Early from Suspense
Reprint Batches from Suspense

Update Patient Record

Verification ...
List Non-Verified Scripts
Non-Verified Counts
Rx Verification by Clerk

15.2. Pharmacist Menu

Bingo Board User ...
Enter New Patient
Display Patient's Name on Monitor
Remove Patient's Name from Monitor
Status of Patient's Order

Change Label Printer

Change Suspense Date

DUE Supervisor ...
1 Enter a New Answer Sheet
2 Edit an Existing Answer Sheet
3 Create/Edit a Questionnaire
4 Batch Print Questionnaires
5 DUE Report

Enter/Edit Clinic Sort Groups

External Interface Menu …
Purge External Batches
Reprint External Batches
View External Batches

Medication Profile

Pharmacy Intervention Menu ...
Enter Pharmacy Intervention
Edit Pharmacy Intervention
Print Pharmacy Intervention
Delete Intervention

View Intervention
Print from Suspense File
Process Drug/Drug Interactions
Pull Early from Suspense
Release Medication
Return Medication to Stock
Rx (Prescriptions) ...
Patient Prescription Processing
Barcode Rx Menu ...
Barcode Batch Prescription Entry
Check Quality of Barcode
Process Internet Refills
Complete Orders from OERR
Discontinue Prescription(s)
Edit Prescriptions
List One Patient's Archived Rx's
Reprint an Outpatient Rx Label
View Prescriptions
Update Patient Record
Verification ...
List Non-Verified Scripts
Non-Verified Counts
Rx Verification by Clerk

15.3. Pharmacy Technician's Menu

Bingo Board User ...
Enter New Patient
Display Patient's Name on Monitor
Remove Patient's Name from Monitor
Status of Patient's Order
Change Label Printer
DUE User ...
1 Enter a New Answer Sheet
2 Edit an Existing Answer Sheet
3 Batch Print Questionnaires
Medication Profile
Patient Prescription Processing
Pull Early from Suspense
Release Medication
Update Patient Record

15.4. Standalone Options

Transitional Pharmacy Benefit Patient Enter/Edit
TPB Institution Letter Enter/Edit
Print TPB Patient Letter(s)
TPB Patient Report
Report TPB Patients Letters Printed/NOT Printed
TPB Rx (Prescription) Entry

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16. Routine Mapping

No recommendations are made for routine mapping. However, to map the Outpatient Pharmacy V. 7.0 package routines, the system will need to be brought down and then restarted to load the new routines into memory.

17. Journaling Globals

The primary global the Outpatient Pharmacy V. 7.0 package uses is ^PSRX. This global is recommended if journaling is used. The majority of the other files used by the Outpatient Pharmacy package are stored in the ^PS global. This global is also recommended for journaling, if used.

18. Barcodes and Label Printer Support

This version of Outpatient Pharmacy includes the ability to print barcodes on the patient copy, the pharmacist's copy, and the patient narrative documents for new label stock and laser labels. Two options utilize the barcodes.

Check Quality of Barcode [PSO BARCODE CHECK] option is used to monitor the quality and readability of the barcode before it is mailed.

Barcode Batch Prescription Entry [PSO BATCH BARCODE] option is used to actually refill the prescriptions utilizing barcodes in a batch entry.

If barcodes are not used, enter an "OUT OF ORDER MESSAGE" for these two options.

18.1. Barcodes on Dot Matrix Printers

Three parameters are used.

X is the barcode height. Values can be "S", "M" or "L". If X is undefined or not equal to one of these, the default value of "S" is used. "S" is 2/10 inch for the DS-220 and 1/6 inch for the MT-290. "M" is 4/10 inch for the DS-200 and 1/3 inch for the MT-290. "L" is one inch for both.

X1 is the value of $X at the left edge of the barcode. If X1 is undefined, the default value of 0 is used.

X2 is the data to be bar coded. Remember the code 39 character set that the VA uses is a limited subset of the ASCII character set containing only the numbers, uppercase letters, and eight punctuation characters. In most cases, any other characters are not printed. For example, the barcode for the string 123abc will be the same as the string 123.

On most printers, printing a barcode is a graphics operation that causes the value of $Y to be something other than the line count from the top of the page. Forms with barcodes must use a form feed to go to the top of the next form rather than a counted number of line feeds. This is why printers used to print barcodes on outpatient pharmacy labels *must be set for a form length of 24 lines or four inches.*

The following section, New Label Stock, contains barcode on and off sequences for various printers.

18.2. New Label Stock (Version 6.0 and Later Versions) – Dot Matrix Labels

*****IMPORTANT*****

Please test new label stock on all printers that will be used before going into production with new label stock.

Printers used to print the new label stock must be set to print at 12 characters per inch. The form length must be set to 5 inches.

Previously, old label stock printed barcodes in one column at 10 characters per inch. New label stock prints barcodes at 12 characters per inch in 2 columns, (columns 54 and 102). The following barcode entries in the TERMINAL TYPE file (#3.2) have worked at either the Birmingham Office of Information Field Office (OIFO) or at a site.

NOTE: If you cannot find barcodes that work, please contact the nearest OIFO.

Check to see that a line feed is performed after the barcode off sequence is executed. Due to limited space, information must be printed after certain barcodes print, without relying on a line feed in the Outpatient Pharmacy code. To test this, print a test label for an Rx with no refills. On the center copy of the label, on the next line after the "station number-Rx no." which prints directly under the barcode, one of the two following lines should print clearly:

```
* NO REFILLS REMAINING ** PHYSICIAN USE ONLY *
```

or

```
*** This prescription CANNOT be renewed ***
```

If there is a problem, insert a line feed at the end of the Barcode Off sequence.
(Add a ,! to the end of the sequence.)

Remember to set the New Label Stock site parameter to Yes.

Three site parameters provide patient instructions that will print after each patient's prescriptions. They are "NARRATIVE NON-REFILLABLE RX", "NARRATIVE REFILLABLE RX", and "NARRATIVE FOR COPAY DOCUMENT". The "NARRATIVE FOR COPAY DOCUMENT" will only print if at least one of the patient's prescriptions is subject to a Copay charge.

For the Data South 220

BAR CODE ON=
*27,"[1w",*27,"$70s",*94,"H",$S('$D(X):"04",X="M":"04",X="S":"02",X="L":"10",1:
"04"),*94, "BDB"

BAR CODE OFF=*94,"G",*27,"$70c",*27,"[2w",!

For the MT-661

BAR CODE ON=
*27,"[<4h",*94,$S($X<60:"T450",1:"T850"),*94,"W9;5;1",*94,"B1;35;1;3",*13

BAR CODE OFF=*13,*10,*27,"[<4l",*27,"[5w"

The character after the [<4 in the BAR CODE OFF above is a lower case L.

For the Genicom 4440:

BAR CODE ON=*27,"[;3;1;;4;;4;;;1;}",*27,"[3t"

BAR CODE OFF=*27,"[0t",!

For the MT290:

BAR CODE ON=*26, "F0",$S(‘$D(X):2,X="M":2,X="S":1,X="L":6,1:2), ";000",*25,*20,"*"

BAR CODE OFF="*",*20,!,?$S($D(X1):X1,1:0),$S($D(X2):X2,1:"")

or

BAR CODE ON=*26,*34,"F3;000",*25,*20,"*"

BAR CODE OFF="*",*20

For the OTC 560:

BAR CODE ON=*27,"[;",$S('$D(X):3,X="M":6,X="L":12,1:3),"} ",*27,"[3t"

BAR CODE OFF=*27,"[0t"

For the Genicom 4490:

BAR CODE ON=*27,"[3t",*14

BAR CODE OFF=*15,*27,"[0t",*13

**The setup of the MT290 will not allow for a form length of 5 inches. It skips from 4 to 5.5. Following is the terminal type information that will allow the MT290 to print the labels at a form length of 5 inches.

```
NAME: P-MANNESMANN MT290/132 (PHAR)     RIGHT MARGIN: 132
  FORM FEED: #                          PAGE LENGTH: 30
  BACK SPACE: $C(8)
  OPEN EXECUTE: W *27,"[4W",*27,"[0Y",*27,"[30t"
  10 PITCH: $C(27)_"[4w"                12 PITCH: $C(27)_"[5w"
  DESCRIPTION: MANNESMANN TALLY 290/132 COLUMNS
  16 PITCH: $C(27)_"[6w"                DEFAULT PITCH: $C(27)_"[4w"
  BAR CODE OFF: "*",*20,!,?$S($D(X1):X1,1:0),$S($D(X2):X2,1:"")
  BAR CODE ON: *26,"F0",$S('$D(X):2,X="M":2,X="S":1,X="L":6,1:2),";000",
*25,*20,"*"
```

The *27,"[30t" was added to the Open Execute.

18.3. Laser Label Printers

The Outpatient Pharmacy package, with the release of PSO*7*120, supports the use of laser printers to print prescription labels and all associated documents.

18.3.1. Hardware Setup

The printer must be physically connected to the network and then defined in the DEVICE (#3.5) and TERMINAL TYPE (#3.2) files just as any other laser printer on your network is defined.

In addition, the CONTROL CODES field (#55) of the TERMINAL TYPE file (#3.2) must be defined correctly. To facilitate this, a new routine assists with the setup. At the programmer prompt enter: D ^PSOLLU2. You will be prompted for the device. Enter the device you want to use for printing laser labels. Then, you will be prompted for HP or LexMark. Enter the appropriate selection.

NOTE: If you are not using either an HP or a LexMark printer, select one. Then, you may need to modify the control codes to work correctly with your printer.

NOTE: Since there are many options for the barcode chip your printer supports, you may have to modify the codes that control the barcode. The names of the codes are: BLBC, EBLBC, SBT and EBT. If you were already using this printer to print barcodes, you can use the information in the fields BAR CODE ON (#60) and BAR CODE OFF (#61) from the TERMINAL TYPE file (#3.2) as a guide. If you weren't, the barcode chip should have come with documentation showing the sequences necessary. If the documentation is not available, many printers have the ability to print the font set, with escape sequences, from the control panel of the printer.

Example Session:

```
>D ^PSOLLU2
DEVICE: HOME// FIDO  PRINTERS CORNER - LINE 000    Right Margin: 132//
HP or LexMark: L
You will be copying the CONTROL CODES to device: _LTA9053: are you sure?
Y Copying...
```

18.3.2. Sample Control Code Entries

The following are sample control code entries from one TERMINAL TYPE. Actual entries may vary depending on make and model of printer or barcode chip.

```
NUMBER: 1                                CTRL CODE ABBREVIATION: LLI
  FULL NAME: LASER LABEL INIT
  CONTROL CODE: W
*27,"&r1F",*27,"E",*27,"&l0O",*27,"&u300D",*27,"&l3A",*27,"&l0
E",!
NUMBER: 2                                CTRL CODE ABBREVIATION: F10
  FULL NAME: TEN POINT FONT - NO BOLD
  CONTROL CODE: W *27,"(10U",*27,"(s1p10v0s0b16602X"
NUMBER: 3                                CTRL CODE ABBREVIATION: F8
  FULL NAME: EIGHT POINT FONT - NO BOLD
  CONTROL CODE: W *27,"(10U",*27,"(s1p8v0s0b16602X"
NUMBER: 4                                CTRL CODE ABBREVIATION: F12
  FULL NAME: TWELVE POINT FONT - NO BOLD
  CONTROL CODE: W *27,"(10U",*27,"(s1p12v0s0b16602X"
NUMBER: 5                                CTRL CODE ABBREVIATION: F9
  FULL NAME: NINE POINT FONT - NO BOLD
  CONTROL CODE: W *27,"(10U",*27,"(s1p9v0s0b16602X"
NUMBER: 6                                CTRL CODE ABBREVIATION: ST
  FULL NAME: START OF TEXT
  CONTROL CODE: S PSOY=PSOY+PSOYI W *27,"*p",PSOX,"x",PSOY,"Y"
NUMBER: 7                                CTRL CODE ABBREVIATION: CDII
  FULL NAME: CRITICAL DRUG INTERACTION INITIALIZATION
  CONTROL CODE: S PSOX=0,PSOY=1400,PSOYI=50,PSOFONT="F10"
NUMBER: 8                                CTRL CODE ABBREVIATION: PMII
  FULL NAME: PMI SECTION INITIALIZATION
  CONTROL CODE: S PSOX=0,PSOY=1350,PSOYI=50,PSOFONT="F10",PSOYM=3899
NUMBER: 9                                CTRL CODE ABBREVIATION: F10B
  FULL NAME: TEN POINT FONT, BOLDED
  CONTROL CODE: W *27,"(10U",*27,"(s1p10v0s3b16602X"
NUMBER: 10                               CTRL CODE ABBREVIATION: F12B
  FULL NAME: 12 POINT FONT BOLDED
  CONTROL CODE: W *27,"(10U",*27,"(s1p12v0s3b16602X"
NUMBER: 11                               CTRL CODE ABBREVIATION: MLI
  FULL NAME: MAILING LABEL INITIALIZTION
  CONTROL CODE: S PSOFONT="F10",PSOX=1700,PSOY=175,PSOYI=50
NUMBER: 12                               CTRL CODE ABBREVIATION: ACI
  FULL NAME: ADDRESS CHANGE INITIALIZATION
  CONTROL CODE: S PSOHFONT="F12",PSOX=1210,PSOY=700,PSOFY=1270
NUMBER: 13                               CTRL CODE ABBREVIATION: ALI
  FULL NAME: ALLERGY SECTION INITIALIZATION
  CONTROL CODE: S PSOFONT="F10",PSOX=0,PSOY=1350,PSOYI=50,PSOYM=2700
```

```
NUMBER: 14                              CTRL CODE ABBREVIATION: FWU
  FULL NAME: FONT WITH UNDERLINE        CONTROL CODE: W *27,"&d0D"
NUMBER: 15                              CTRL CODE ABBREVIATION: FDU
  FULL NAME: FONT DISABLE UNDERLINE     CONTROL CODE: W *27,"&d@"
NUMBER: 16                              CTRL CODE ABBREVIATION: RMI
  FULL NAME: RETURN MAIL INITIALIZATION
  CONTROL CODE: S
PSOHFONT="F8",PSOFONT="F10",PSOX=1700,PSOY=35,PSORYI=40,PSOHYI
=40,PSOTFONT="F8",PSOTY=550
NUMBER: 17                              CTRL CODE ABBREVIATION: SPI
  FULL NAME: SUSPENSE PRINT INITIALIZATION
  CONTROL CODE: S
PSOFONT="F10",PSOX=1210,PSOY=1350,PSOYI=50,PSOCX=1775,PSOYM=27
00
NUMBER: 18                              CTRL CODE ABBREVIATION: WLI
  FULL NAME: WARNING LABEL INITIALIZATION
  CONTROL CODE: S PSOX=1050,PSOY=55
NUMBER: 19                              CTRL CODE ABBREVIATION: RNI
  FULL NAME: REFILL NARRATIVE INITIALIZATION
  CONTROL CODE: S PSOY=2860,PSOFONT="F10",PSOX=0,PSOYI=50,PSOYM=3950
NUMBER: 20                              CTRL CODE ABBREVIATION: CNI
  FULL NAME: COPAY NARRATIVE INITIALIZATION
  CONTROL CODE: S PSOY=2860,PSOX=1210,PSOYM=3950,PSOFONT="F10",PSOYI=50
NUMBER: 21                              CTRL CODE ABBREVIATION: PII
  FULL NAME: PATIENT INSTRUCTION INITIALIZATION
  CONTROL CODE: S PSOX=1210,PSOY=760,PSOFONT="F12"
NUMBER: 22                              CTRL CODE ABBREVIATION: RPI
  FULL NAME: REFILL PRINT INITIALIZATION
  CONTROL CODE: S
PSOFONT="F10",PSOBYI=65,PSOTYI=50,PSOLX=0,PSORX=1210,PSOY=1350
,PSOYM=3650,PSOXI=90,PSOSYI=135
NUMBER: 23                              CTRL CODE ABBREVIATION: BLH
  FULL NAME: BOTTLE LABEL HEADER INITIALIZATION
  CONTROL CODE: S PSOX=100,PSOY=50,PSOYI=30,PSOFONT="F9"
NUMBER: 24                              CTRL CODE ABBREVIATION: BLB
  FULL NAME: BOTTLE LABEL BODY INITIALIZATION
  CONTROL CODE: S
PSOX=0,PSODX=275,PSOY=150,PSOYI=40,PSOYM=379,PSOFONT="F10"
NUMBER: 25                              CTRL CODE ABBREVIATION: BLF
  FULL NAME: BOTTLE LABEL FOOTER INITIALIZATION
  CONTROL CODE: S
PSODY=460,PSOX=0,PSOCX=280,PSOQY=550,PSOTY=610,PSOFONT="F10",P
SOQFONT="F8",PSODFONT="F9",PSOTFONT="F10"
NUMBER: 26                              CTRL CODE ABBREVIATION: RT
  FULL NAME: ROTATE TEXT                CONTROL CODE: W *27,"&a90P"
NUMBER: 27                              CTRL CODE ABBREVIATION: NR
  FULL NAME: NORMAL ROTATION            CONTROL CODE: W *27,"&a0P"
NUMBER: 28                              CTRL CODE ABBREVIATION: PFDI
  FULL NAME: PHARMACY FILL DOCUMENT INITIALIZATION
  CONTROL CODE: S PSOFONT="F10",PSOX=0,PSOY=700,PSOYI=40,PSOYM=969
NUMBER: 29                              CTRL CODE ABBREVIATION: PFDQ
  FULL NAME: PHARMACY FILL DOCUMENT QUANTITY
  CONTROL CODE: S
PSOX=0,PSOCX=200,PSOY=970,PSOYI=50,PSOQFONT="F8",PSOFONT="F10"
NUMBER: 30                              CTRL CODE ABBREVIATION: PFDW
  FULL NAME: PHARMACY FILL DOCUMENT WARNING
  CONTROL CODE: S PSOY=1270,PSOX=600,PSOYI=30,PSOFONT="F8",PSOYM=1329
```

```
NUMBER: 31                                CTRL CODE ABBREVIATION: AWI
  FULL NAME: ALLERGY WARNING INITIALIZATION
  CONTROL CODE: S PSOX=0,PSOY=1400,PSOYI=50,PSOFONT="F10"
NUMBER: 32                                CTRL CODE ABBREVIATION: F6
  FULL NAME: SIX POINT FONT - NO BOLD
  CONTROL CODE: W *27,"(10U",*27,"(s1p6v0s0b16602X"
NUMBER: 33                                CTRL CODE ABBREVIATION: EBT
  FULL NAME: END OF BARCODE TEXT
  CONTROL CODE: W *27,"(8U",*27,"(s1p8v0s0b16602T",!
NUMBER: 34                                CTRL CODE ABBREVIATION: BLBC
  FULL NAME: BOTTLE LABEL BARCODE
  CONTROL CODE: W
*27,"(s1p10.4v4,12b4,12s24670T",*27,"&a90P",*27,"*p3650x1000Y"
NUMBER: 35                                CTRL CODE ABBREVIATION: PFDT
  FULL NAME: PHARMACY FILL DOCUMENT TRAILER
  CONTROL CODE: S
PSOY=1015,PSOYI=45,PSOX=0,PSOFONT="F10",PSOBYI=50,PSOTFONT="F9
",PSOBY=1280
NUMBER: 36                                CTRL CODE ABBREVIATION: EBLBC
  FULL NAME: END OF BOTTLE LABEL BARCODE
  CONTROL CODE: W *27,"(10U",*27,"(s1p10v0s0b16602T",*27,"&a0P",!
NUMBER: 37                                CTRL CODE ABBREVIATION: SBT
  FULL NAME: START OF BARCODE TEXT
  CONTROL CODE: S PSOY=PSOY+PSOYI W
*27,"*p",PSOX,"x",PSOY,"Y",*27,"(s1p14.4v6,1
8b6,18s24670T"
NUMBER: 38                                CTRL CODE ABBREVIATION: PFI
  FULL NAME: PATIENT FILL INITIALIZATION
  CONTROL CODE: S
PSOFONT="F10",PSOX=1230,PSOY=700,PSOYI=50,PSOHFONT="F12",PSOBY
I=100
NUMBER: 12172                             CTRL CODE ABBREVIATION: LL
  FULL NAME: LASER LABEL                  CONTROL CODE: Q
```

18.3.3. VMS Print Queue Setup

If you use VMS print queues, an additional setup may be necessary. The form for laser labels must have specific characteristics. If you need help defining the form, please contact the National Help Desk.

NOTE: The form must have a length of 255 and a width of 512.

The following is an example form:

```
Form name                             Number   Description
---------                             ------   -----------
LABELFORM                                  2   LASER LABEL
    /LENGTH=255 /MARGIN=(BOTTOM=6) /STOCK=LABELFORM /TRUNCATE /WIDTH=512
```

18.3.4. Control Codes

To modify the control codes to work appropriately with your device, use the following information.

Control Codes in use by Laser Labels:

ACI = ADDRESS CHANGE INITIALIZATION
ALI = ALLERGY SECTION INITIALIZATION
AWI = ALLERGY WARNING INITIALIZATION
BLB = BOTTLE LABEL BODY INITIALIZATION
BLBC = BOTTLE LABEL BARCODE
BLF = BOTTLE LABEL FOOTER INITIALIZATION
BLH = BOTTLE LABEL HEADER INITIALIZATION
CDII = CRITICAL DRUG INTERACTION INITIALIZATION
CNI = COPAY NARRATIVE INITIALIZATION
EBLBC = END OF BOTTLE LABEL BARCODE
EBT = END OF BARCODE TEXT
F10 = TEN POINT FONT - NO BOLD
F10B = TEN POINT FONT, BOLDED
F12 = TWELVE POINT FONT - NO BOLD
F12B = 12 POINT FONT BOLDED
F6 = SIX POINT FONT - NO BOLD
F8 = EIGHT POINT FONT - NO BOLD
F9 = NINE POINT FONT - NO BOLD
FDU = FONT DISABLE UNDERLINE
FWU = FONT WITH UNDERLINE
LL = LASER LABEL
LLI = LASER LABEL INIT
MLI = MAILING LABEL INITIALIZATION
NR = NORMAL ROTATION
PFDI = PHARMACY FILL DOCUMENT INITIALIZATION
PFDQ = PHARMACY FILL DOCUMENT QUANTITY
PFDT = PHARMACY FILL DOCUMENT TRAILER
PFDW = PHARMACY FILL DOCUMENT WARNING
PFI = PATIENT FILL INITIALIZATION
PII = PATIENT INSTRUCTION INITIALIZATION
PMII = PMI SECTION INITIALIZATION
RMI = RETURN MAIL INITIALIZATION
RNI = REFILL NARRATIVE INITIALIZATION
RPI = REFILL PRINT INITIALIZATION
RT = ROTATE TEXT

SBT = START OF BARCODE TEXT
SPI = SUSPENSE PRINT INITIALIZATION
ST = START OF TEXT
WLI = WARNING LABEL INITIALIZATION

In addition to escape sequences to control printer output, variables are defined in the control codes that allow the routine to correctly position text and use the appropriate font.

The following is the description of the variables and their usage:

PSOX – X coordinate
PSOY – Y coordinate
PSOYI – Y increment, used to determine spacing between lines
PSOFONT – font size to be used. The font used is Arial.
PSOYM – bottom margin for this section

Some sections contain variables specific only to that section. They are as follows:

Control Code	Variable
MLI	PSOHFONT – font for header lines
ACI	PSOHFONT – font for header lines
RMI	PSORYI – Y coordinate for return mail name
	PSOHYI – Y coordinate for header line
	PSOTFONT – font for trailer line
	PSOTY – Y coordinate for trailer line
SPI	PSOCX – X coordinate for date
RPI	PSOBYI – Y increment for barcode
	PSOTYI – Y increment for trailer information
	PSOLX – X coordinate for left side of page
	PSORX – X coordinate for right side of page
	PSOSYI – Y increment for signature line
	PSOXI – X increment
BLB	PSOBX – X coordinate for barcode
BLF	PSODY – Y coordinate for discard line
	PSOCX – X coordinate for continued line
	PSOQY – Y coordinate for quantity information
	PSOTY – Y coordinate for trailer information
	PSOQFONT – font for quantity
	PSODFONT – font for discard line
	PSOTFONT – font for trailer information

PFDQ	PSOCX – X coordinate for continued line
	PSOQFONT – font for quantity
PFDT	PSOBYI – Y increment for barcode
	PSOTFONT – font for trailer information
	PSOBY – Y coordinate for barcode
PFI	PSOHFONT – font for header
	PSOBYI – Y increment for barcode

18.4. ScripTalk® Printers

ScripTalk® is a registered trademark of En-Vision America.

The Outpatient Pharmacy V. 7.0 package, with the release of PSO*7*135, supports the use of ScripTalk® printers that print to microchip-embedded label stock. The label will have printed text on it, along with the microchip containing the contents of the label. Pharmacy or other designated staff will enroll patients to receive these labels and issue those patients a special reader. When the patient holds a ScripTalk® label near the reader and presses a button, the content of the label is read aloud.

The TCP/IP-enabled printer must be physically connected to the network and then defined in the DEVICE (#3.5) and TERMINAL TYPE (#3.2) files. To connect the printer to the network, a micro print server is necessary for communication to **V***IST***A**. En-Vision America can assist in identifying the micro print server necessary for the site.

The following are examples of the file set-ups. These examples are provided to guide the user in this set up. Please note that these are only examples and there will be some differences in the settings.

Example: DEVICE File (#3.5) Set Up

```
NAME: WP706                          $I: USER$:[DSM_SPOOL]WP706.TXT
LOCATION OF TERMINAL: ScripTalk      ASK HOST FILE: NO
ASK HFS I/O OPERATION: NO            BARCODE AVAIL: YES
OPEN PARAMETERS: (NEWVERSION,PROTECTION=(S:RWED,O:RWED,W:RWED))
SUBTYPE: P-ZEBRA-PHARM
```

Example: TERMINAL TYPE File (#3.2) Set Up

```
NAME: P-ZEBRA-PHARM                     SELECTABLE AT SIGN-ON: NO
  RIGHT MARGIN: 132                     FORM FEED: #
  PAGE LENGTH: 64                       BACK SPACE: $C(8)
  CLOSE EXECUTE: U IO K IO(1,IO) S IO=$ZIO C IO S
QUE="/QUEUE="_$E(ION,1,6)_"/DELETE",QUE=$ZC(%PRINT,IO,QUE)
NUMBER: 1                               CTRL CODE ABBREVIATION: FI
  FULL NAME: FORMAT INITIALIZATION      CONTROL CODE: W "^XA",!,"^LH30,60^FS",!
NUMBER: 2                               CTRL CODE ABBREVIATION: SB
  FULL NAME: START OF BARCODE
  CONTROL CODE: W "^BY2,3.0^FO70,25^B3N,N,80,Y,N"
NUMBER: 3                               CTRL CODE ABBREVIATION: ST
  FULL NAME: START OF TEXT
  CONTROL CODE: W "^FO",PSJBARX,",",PSJBARY,"^A0N,30,20" S PSJBARY=PSJBARY+40
NUMBER: 6                               CTRL CODE ABBREVIATION: EB
  FULL NAME: END OF BARCODE             CONTROL CODE: S LINE=LINE+1,PSJBARY=130
NUMBER: 7                               CTRL CODE ABBREVIATION: STF
  FULL NAME: START OF TEXT FIELD        CONTROL CODE: W "^FD"
NUMBER: 8                               CTRL CODE ABBREVIATION: SBF
  FULL NAME: START OF BARCODE FIELD     CONTROL CODE: W "^FD"
NUMBER: 9                               CTRL CODE ABBREVIATION: ETF
  FULL NAME: END OF TEXT FIELD          CONTROL CODE: W "^FS",!
NUMBER: 10                              CTRL CODE ABBREVIATION: SL
  FULL NAME: START OF LABEL
  CONTROL CODE: W "^XA",! S PSJBARY=50,PSJBARX=60
NUMBER: 11                              CTRL CODE ABBREVIATION: EL
  FULL NAME: END OF LABEL               CONTROL CODE: W "^XZ",!
NUMBER: 12                              CTRL CODE ABBREVIATION: EBF
  FULL NAME: END OF BARCODE FIELD       CONTROL CODE: W "^FS",!
```

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Glossary

ADP	Automated Data Processing
Archive	Prescriptions, typically those that have been expired or canceled for more than a year, can be saved to tape, and then purged from online storage.
CPRS	Computerized Patient Record System. CPRS is a Graphical User Interface (GUI) in **V*IST*A** that provides order entry and results reporting for multiple packages.
DHCP	See **V*IST*A**.
IRMS	Information Resources Management Service
Non-VA Meds	Term that encompasses any Over-the-Counter (OTC) medications, Herbal supplements, Veterans Health Administration (VHA) prescribed medications but purchased by the patient at an outside pharmacy, and medications prescribed by providers outside VHA. All Non-VA Meds must be documented in patients' medical records.
POE	Pharmacy Ordering Enhancements project. POE is a series of enhancements to improve the ordering processes between Inpatient Medications and Outpatient Pharmacy. For Outpatient Pharmacy, POE changes occur in patch PSO*7*46.
Prescription	This term is now referred to throughout the software as medication orders.
Purge	Prescriptions, typically those that have been expired or canceled for more than a year, are saved to tape. Purging removes them from online storage.
Reprinted Label	Unlike a partial prescription, a reprint does not count as workload.
V*IST*A	Acronym for **V**eterans Health **I**nformation **S**ystems and **T**echnology **A**rchitecture, the new name for Decentralized Hospital Computer Program (DHCP).

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Appendix A:
Outpatient Pharmacy HL7 Interface Specifications

A. General Information

Introduction

This document specifies an interface between the **V*IST*A** Outpatient Pharmacy V. 7.0 application and any automatic dispensing system. It is based upon the Health Level 7 Standard (HL7) V. 2.4.

The term "Level 7" refers to the highest level of the Open System Interconnection (OSI) model of the International Standards Organization (ISO). The OSI model is divided into seven levels or layers. The HL7 Standard is primarily focused on what happens within the seventh or application layer. At this layer, the definitions of the data to be exchanged, the timing of the exchanges, and the communication of certain application specific errors occurs. The lower levels support the actual movement of data between systems.

The high-level communication requirements for this interface include TCP/IP, HL7 Logical link and bi-directional communications for the BusinessWare server at the VAMC. BusinessWare will support MLLP connection.

Message Rules

The HL7 Standard describes the basic rules for the exchange of information between two computer systems. The unit of data transferred is referred to as the message. It is comprised of a group of segments in a defined sequence. Each message has a three-character code called a message type that defines its purpose. The real-world event that initiates an exchange of messages is called a trigger event. There is a one-to-many relationship between message types and trigger event codes. A message type may be associated with more than one trigger event, but the same trigger event code may not be associated with more than one message type. All message type and trigger event codes beginning with Z are reserved for locally defined messages. No such codes will be defined within the HL7 Standard.

Some special characters are used to construct messages. They are the segment terminator, field separator, component separator, sub-component separator, repetition separator, and escape character. The segment terminator is always a carriage return (CR in ASCII or hex OD). The other characters recommended by HL7 are used in this application (See HL7 Standard V. 2.4, Chapter 2 for details).

Segment Rules

A segment is a logical grouping of data fields. Segments of a message may be required or optional. They may occur only once in a message or they may be allowed to repeat. Each segment is given a name and is identified by a unique three-character code. All segments beginning with Z are reserved for locally defined messages. No such code will be defined within the HL7 Standard.

Field Rules

A field is a string of characters. HL7 does not care how systems actually store data within an application. Except where noted, HL7 data fields may take on the null value. Sending the null value, which is transmitted as two double quote marks (""), is different from omitting an optional data field. The difference appears when the contents of a message will be used to update a record in a database rather than create a new one. If no value is sent (i.e., it is omitted) the old value should remain unchanged. If the null value is sent, the old value should be changed to null. In defining a segment, the following information is specified about each field:

a) position - position of the data field within the segment.

b) name - unique descriptive name for the field.

c) ID number - integer that uniquely identifies the data field throughout the Standard.

d) maximum length - maximum number of characters that one occurrence of the data field may occupy.

e) optionality - whether the data field is required (R), optional (O), or conditional (C) in a segment.

f) repetition - whether the field may repeat (N=no; Y=yes; (integer)= no. of repeats).

g) table - a table of values for a field (See HL7 Standard V. 2.4, Section 2.7.6 for source of tables).

h) data type - restrictions on the contents of the data field (See HL7 Standard V. 2.4, Section 2.9).

B. TRANSACTION SPECIFICATIONS

Communication Protocol

The lower level communication protocol used by Outpatient Pharmacy V. 7.0 to transmit data between systems is either X3.28 or HLLP over an RS-232 connection.

A site parameter in the Outpatient Pharmacy V. 7.0 application called External Interface controls transmission of data to the dispensing machine. If the parameter is set to **0**, no transmission will occur.

There is also a new parameter that is used for sites running HL7 V.2.4. It is in the OUTPATIENT SITE file (#59), and is called AUTOMATED DISPENSE. This must be set to determine which version of HL7 the site is running.

Processing Rules

A Pharmacy Encoded Order Message (event type=O01) is transmitted whenever an order is placed in Outpatient Pharmacy V. 7.0 and the criteria are met for the dispensing machine. Upon successful receipt and storage of the message, the dispensing machine will generate and transmit a Pharmacy Encoded Order Acknowledgement Message (event type=O02).

The following HL7 messages will be used to support the exchange of Outpatient Pharmacy data with any automatic dispensing system:

RDS	Pharmacy Encoded Order Message
RRD	Pharmacy Encoded Order Ack. Message
ACK	General Ack. Message

The messages for the dispense request will consist of the following HL7 segments:

IAM	Patient Adverse Reaction Information
MSH	Message Header
NTE	Notes and Comments
PID	Patient Identification
PV1	Patient Visit
PV2	Patient Visit – additional information
ORC	Common Order
RXE	Pharmacy/Treatment Encoded Order
RXD	Pharmacy/Treatment Dispense
RXR	Pharmacy/Treatment Route

Specific Transaction – Dispense Request

The Pharmacy/Treatment Encoded Order Message (Dispense Request) is as follows:

RDS	Pharmacy/Treatment Encoded Order Message
MSH	Message Header
[PID]	Patient Identification
[PV1]	Patient Visit
[PV2]	Patient Visit – additional information
{IAM}	Patient Adverse Reaction Information
{ORC	Common Order
{NTE}	Notes and Comments
RXE	Pharmacy/Treatment Encoded Order
RXD	Pharmacy/Treatment Dispense
{NTE}	Notes and Comments (contains PMI)
{RXR}	Pharmacy/Treatment Route
}	

Example:

```
MSH|^~\&|PSO VISTA|521^OUTPATIENT|PSO
DISPENSE|521|20030620125043||RDS^O13^RDS_O13|10001|P|2.4|||AL|AL
PID|||5000000022V981671^^^USVAMC^PN^USVHA~1234^^^USVAMC^USVAMC^USVAMC~123456789^^^
USSSA^SS^USSSA||MAINE^JOE||19590116|M|||60 Park Pl&Apt 25&Suite
600^^Birmingham^AL^35233-1234^^C||(251) 555-5555
PV1||O
PV2|||||||||||||||||||||SCL50~NO COPAY
IAM||D^Drug^LGMR120.8|128^ASPIRIN^LGMR120.8|SV|ALLERGY|||||||19961205||||C
ORC|NW|12345^OP7.0|||||||20030608|10^ATHENS^DEBBIE||987^JACKSON^ROBERT|_TNA1225:||
20030616|NEW|57^7TH FLOOR^99PSC||65421^MIAMI^STEVEN||Albany^^52312|700 South 19th
Street^^Birmingham^AL^35233|(817) 555-5555
[{NTE|1||Free Text|Medication Instructions~Patient Instructions Narrative~Drug
Warning Narrative~Profile Information~Drug Interactions~Drug Allergy Indications
RXE|"""|D0082^DIGOXIN 0.25MG TAB^99PSNDF^372.3^DIGOXIN 0.25MG
TAB^99PSD|"""||20^MG^99PSU|120^TAB, RAPID DISINTEGRATE^99PSF||WINDOW|LANOXIN
0.125MG|30|^TAB|3|EZ9278277|188^AUGUSTA^MIKE|123987|3|2|199809070830||||||||||||Y
~N~N
RXD|3|D0082^DIGOXIN 0.25MG TAB^99PSNDF^372.3^DIGOXIN 0.25MG
TAB^99PSD|20030610||||100001351|3|~6P~6505-00-584-
0398|157^JACKSON^ROBERT||30|CERTIFIED MAIL||^NON-SAFETY||||20040615
NTE|PMI||CORTICOSTEROIDS - ORAL|Patient Medication Instructions
RXR|6^Oral^99PSR
```

The Pharmacy Encoded Order Acknowledgment Message is as follows:

RRD	Pharmacy Encoded Order Ack. Message
MSH	Message Header
MSA	Message Acknowledgement

Example:

```
MSH|~^\&|PSO DISPENSE|BP-CHEYENNE|PSO VISTA|BP-CHEYENNE|20040227222454-
0500||ACK|4425981296|T|2.4||
MSA|AA|10001
```

Segments used in the Outpatient Pharmacy HL7 interface Dispense Request:

SEGMENT	SEQ#	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME	EXAMPLE
MSH	1	1	ST	R			Field Separator	|
	2	4	ST	R			Encoding Characters	~^\&
	3	180	HD	R		0361	Sending Application	PSO VISTA
	4	180	HD	R		0362	Sending Facility – station ID and station DNS name	521~FO-BIRM.MED.VA.GOV~DNS
	5	180	HD	R		0361	Receiving Application	PSO DISPENSE
	6	180	HD	R		0362	Receiving Facility – DNS name and port of dispensing machine	~DISPENSE.VHA.MED.VA.GOV:9300~DNS
	7	26	TS				Date/Time of Message	20040405152416
	9	15	CM	R	0076		Message Type	RDS~013
	10	20	ST	R			Message Control ID	10001
	11	3	PT	R	0103		Processing ID	P
	12	3	VID	R	0104		Version ID	2.4
	15	2	ID			0155	Accept Ack. Type	AL
	16	2	ID			0155	Application Ack Type	AL
PID	3	250	CX	R	Y		Patient ID (will contain IEN, SSN, ICN, Claim #, etc if exists)	218~~~USVHA&&0363~PI~VA FACILITY ID&500&L
	5	250	XPN	R			Patient Name	MAINE~JOE
	7	26	TS	R			Date/Time of Birth	19280622
	8	1	IS			0001	Administrative Sex	M
	11	250	XAD	R	Y/3		Patient Address	164 Friendship DR~""~TROY~NY~12180~~P~""
	13	250	XTN	R	Y/3		Phone Number-Home	(555)555-5555
PV1	2	1	IS	R		0004	Patient Class	O for Outpatient
PV2	24	15	IS	R	Y		Patient Status Code	SC~NO COPAY
IAM	2	250	CE	O	Y	0127	Allergen Type Code	D~DRUG~LGMR120.8
	3	250	CE	R	Y		Allergen Code/Mnemonic/Description	128~ASPIRIN~LGMR120.8
	4	250	CE	O	Y	0128	Allergy Severity Code	SV
	5	15	ST	O	Y		Allergy Reaction Code	ALLERGY
	13	26	TS	O	Y		Reported Date/Time	19961205
	17	250	CE	O	Y	0438	Allergy Clinical Status Code	C

Segments used in the Outpatient Pharmacy HL7 interface Dispense Request: (continued)

SEGMENT	SEQ#	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME	EXAMPLE
ORC	1	2	ID	R		0119	Order Control	NW
	2	80	EI	C			Placer Order Number	402331~OP7.0
	9	26	TS	O			Date/Time of Transaction	20040405
	10	250	XCN	R			Entered By	10~ATHENS~DEBBIE
	12	250	XCN	O			Ordering Provider	987~JACKSON~ROBERT
	13	80	PL	O			Enterer's Location	_TNA1225:
	15	26	TS	O			Order Effective Date	20030616
	16	10	ST	R			Order Control Code Reason	NEW
	17	250	CE	O			Entering Organization	57~7TH FLOOR~99PSC
	19	250	XCN	O			Action By	65421~MIAMI~STEVEN
	21	250	XON	O			Ordering Facility Name	AL BANY~~500
	22	250	XAD	O			Ordering Facility Address	114 HOLLAND AVE~~ALBANY~NY~12208
	23	250	XTN	O			Ordering Facility Phone #r	(518)555-5554
NTE	1	1	SI	O			Set ID	1
	3	65536	FT	O			Comment	USE 50 FOR TESTING BY MOUTH TWICE A DAY FOR 30 DAYS
	4	250	RE	O			Comment Type – 1 = Medication Instructions 2 = Patient Instructions Narrative 3 = Drug Warning Narrative 4 = Profile Information 5 = Drug Interactions	Medication Instructions
RXE	1	200	TQ	R			Quantity/Timing	Null
	2	250	CE	R			Give Code	XH001~HEMATEST TAB (NOT FOR ORAL USE)~99PSNDF~3207.12039.4321~HEMATEST REAGENT TAB. 100/BTL~99PSD
	3	20	NM	R			Give Amount-Minimum	Null
	5	250	CE	R			Give Units	20~MG~99PSU
	6	250	CE	O			Give Dosage Form	165~TAB,TEST~99PSF
	8	200	CM	O			Deliver-To Location	WINDOW

Segments used in the Outpatient Pharmacy HL7 interface Dispense Request: (continued)

SEGMENT	SEQ#	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME	EXAMPLE
	9	25	ST	O			Substitution Status	(Trade name)
	10	20	NM	O			Dispense Amount	30
	11	250	CE	O			Dispense Units	~TAB
	12	3	NM	O			Number of Refills	3
	13	250	XCN	O			Ordering Provider's DEA Number	EZ9278277
	14	250	XCN	C			Pharmacist/Treatment Supplier's Verifier ID	188~AUGUSTA~MIKE
	15	20	ST	R			Prescription Number	100002202
	16	20	NM	O			Number of Refills Remaining	3
	17	20	NM	O			Number of Refills/Doses Dispensed	0
	18	26	TS	O			D/T of Most Recent Refill	200404050830
	31	1	ID	R			Supplementary Code = spec hdlg, ScripTalk, PMI language preference	N^0^N
RXD	1	10	NM	R			Dispense Sub-ID Counter	0
	2	250	CE	R			Dispense/Give Code	XH001~HEMATEST TAB (NOT FOR ORAL USE)~99PSNDF~3207.12039.4321~HEMATEST REAGENT TAB. 100/BTL~99PSD
	3	26	TS	R			Date/Time Dispensed	20040405
	7	20	ST	R			Prescription Number	100002202
	8	20	NM	O			Number of Refills Remaining	3
	9	25	ST	O			Dispense Notes – DEA spec hdlg, NDC code	S^193-2426-21
	10	200	XCN	O			Dispensing Provider	157~JACKSON~ROBERT
	12	10	CQ	O			Total Daily Dose	30
	13	200	CM	O			Dispense-To Location	CERTIFIED MAIL
	15	10	CE	O			Pharmacy/Treatment Supplier's Special Dispensing Instructions	~NON-SAFETY
	19	26	TS	O			Substance Expiration Date	20040615
	25	250	CE	O			Supplementary Code	8~NO ALCOHOL
NTE	1	4	SI	O			Set ID-Notes and Comments	7
	3	6000	FT	O	Y		Comment	PMI free text
	4	250	CE	O			Comment Type – P MI	Patient Medication Instructions
RXR	1	250	CE			0162	Route	1~ORAL (BY MOUTH)~99PSR

Notes pertaining to some of the data elements:

[MSH-3] Sending Application is the station ID along with the DNS name of the sending facility.

[MSH-5] Receiving Application is the DNS name and DNS port number of the dispensing application.

[MSH-10] Message Control ID is the number that uniquely identifies the message. It is returned in MSA-2 of the dispense completion message.

[PID-3] Patient ID will contain the following possibilities to identify a patient:

- NI = ICN #
- SS = Social Security #
- PN = Claim #
- PI = DFN #

[PV1-2] Patient Class is hard-coded to an O for outpatient.

[PV2-24] Patient Status Code contains the patient status from the prescriptions file followed by a tilde and then whether or not the patient is COPAY.

[IAM-2] Allergen Type Code is the allergy type of F=Food, DF=Drug/Food, D=Drug, DP=Drug/Other, O=Other, DFO=Drug/Food/Other.

[IAM-5] Allergy Reaction Code will contain the possible reactions ALLERGY, PHARMACOLOGIC or UNKNOWN.

[IAM-17] Allergy Clinical Status Code is VERIFIED or NON-VERIFIED.

[ORC-2] Placer Order Number is a composite field. The first component is the IEN from the PRESCRIPTION file (#52). The second component is hard-coded to a value of OP7.0.

[ORC-10] Entered By is the person's pointer to the NEW PERSON file (#200) and name in **V*IST*A** who keyed in the order.

[ORC-12] Ordering Provider is a composite ID field. The first component is the Provider's pointer to the NEW PERSON file (#200) in **V*IST*A** and the second component is his/her name.

[ORC.13] Enterer's Location is the printer where the dispensing machine should print the label.

[ORC-15] Order Effective Date is the date/time the order took effect.

[ORC-16] Order Control Code Reason is a coded element field. The fifth component reflects the status of the order (for example, New, Refill, Partial, Reprint, or Partial Reprint).

[ORC-17] Entering Organization is the Clinic number and name.

[ORC-19] Action By is the physician who cosigned, if any, and is a composite field. The first component is the physician's pointer to the NEW PERSON file (#200) in **V*IST*A** and the second component is his/her name.

[ORC-21] Ordering Facility Name is the facility name and number found in the OUTPATIENT SITE file (#59).

[NTE] The Set ID field will identify the NTE segment (1=Med. Instructions; 2=Patient Instructions Narrative; 3=Drug Warning Narrative; 4=Profile Information; 5=Drug Interactions; 6=Drug Allergy Indications). The Comment field will contain the respective information.

[RXE-1] Quantity Timing is a required field but it will not be used in Outpatient Pharmacy V. 7.0. It will always be a null value ("").

[RXE-2] Give Code identifies the substance ordered as encoded by the Pharmacy. The components, in order, are the VA Product ID, VA Product Name, National Drug File, local file pointer, local drug name, and the local file.

[RXE-3] Give Amount - Minimum is a required field but it will not be used in Outpatient Pharmacy V. 7.0. It will always be a null value ("").

[RXE-5] Give Units identifies the units for the give amount as encoded by the VA National Drug file.

[RXE-6] Give Dosage Form is a coded element field. The fourth component is the pointer to the DOSAGE FORM file (#50.606). The fifth component is the form name, and the sixth component is the name of coding system (99PSF).

[RXE-8] Deliver-To-Location is the Method of Pickup (Window or Mail).

[RXE-9] Substitution Status is the value of the TRADE NAME field (#6.5) found in the PRESCRIPTION file (#52).

[RXE-10] Dispense Amount identifies the quantity.

[RXE-11] Dispense Units identifies the units for the dispense amount as encoded by the Pharmacy.

[RXE-13] Ordering Provider's DEA Number will contain the physician's DEA number if the drug is a controlled substance.

[RXE-14] Pharmacist/Treatment Supplier's Verifier ID identifies the pharmacist who verified the order. The first component is the DFN pointer in the NEW PERSON file (#200) of **V*IST*A** and the second component is the name.

[RXE-18] D/T of Most Recent Refill or Dose Dispensed contains the last date/time the patient received this particular drug. This is the PRIOR FILL DATE field (#102.1) from the PRESCRIPTION file (#52).

[RXE-31] Supplementary Code contains three pieces of information:

- An indicator that the drug is a controlled substance or not (Y/N).
- An indicator if the patient is a ScripTalk patient (0 or 1).
- An indicator if the patient's PMI language preference is something other than English (Y/N).

[RXD-1] Dispense Sub-ID Counter identifies the prescription fill number.

[RXD-2] Dispense/Give code will contain the same give code as in RXE-2.

[RXD-9] Dispense Notes have two pieces of information:

- DEA, SPECIAL HDLG field (#3) from the DRUG file (#50).
- NDC field (#27) from the PRESCRIPTION file (#52).

[RXD-10] Dispensing Provider is the person who finished the order.

[RXD-12] Total Daily Dose is the days of supply for a partial fill.

[RXD-13] Dispense-To-Location will contain how the patient will receive the medication. Possible answers are WINDOW, REGULAR MAIL, CERTIFIED MAIL or DO NOT MAIL.

[RXD-15] Pharmacy/Treatment Supplier's Special Dispensing Instructions will indicate what sort of bottle cap should be employed. It is a safety cap or non-safety cap.

[RXD-25] Supplementary Code is the drug warning number and text.

[NTE] This segment following the RXD segment will contain the Patient Medication Instructions if any.

[RXR-1] Route is the medication route.

Specific Transaction – Dispense Release Date/Time

The messages for the Dispense Release Date/Time will consist of the following HL7 segments:

MSH	Message Header
PID	Patient Identification
PV1	Patient Visit
PV2	Patient Visit – additional information
RXE	Pharmacy/Treatment Encoded Order
RXD	Pharmacy/Treatment Dispense

Example:

```
MSH|^~\&|PSO VISTA|521^OUTPATIENT|PSO
DISPENSE|521|20030620125043||RDS^O13^RDS_O13|10001|P|2.4|||AL|AL
PID|||5000000022V981671^^^USVAMC^PN^USVHA~1234^^^USVAMC^USVAMC^USVAMC~123456789^^^
USSSA^SS^USSSA||MAINE^JOE||19590116|M|||60 Park Pl&Apt 25&Suite
600^^Birmingham^AL^35233-1234^^C||(251) 555-5555
PV1||O
PV2|||||||||||||||||||||||SCL50~NO COPAY
RXE|"""""|D0082^DIGOXIN 0.25MG TAB^99PSNDF^372.3^DIGOXIN 0.25MG
TAB^99PSD|"""""||20^MG^99PSU|120^TAB, RAPID DISINTEGRATE^99PSF|||LAXOXIN
0.125MG||||||123987
RXD|3|^ASPIRIN 325 MG TAB|20030610||||100001351||20031212~233~6505-00-584-
0398|||||||||20040615
```

Segments used in the Outpatient Pharmacy HL7 interface Dispense Release Date/Time Request:

SEGMENT	SEQ#	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME	EXAMPLE
MSH	1	1	ST	R			Field Separator	|
	2	4	ST	R			Encoding Characters	~^\&
	3	180	HD	R		0361	Sending Application	PSO VISTA
	4	180	HD	R		0362	Sending Facility – station ID and station DNS name	521~FO-BIRM.MED.VA.GOV~DNS
	5	180	HD	R		0361	Receiving Application	PSO DISPENSE
	6	180	HD	R		0362	Receiving Facility – DNS name and port of dispensing machine	~DISPENSE.VHA.MED.VA.GOV:9300~DNS
	7	26	TS				Date/Time of Message	20040405152416
	9	15	CM	R	0076		Message Type	RDS~013
	10	20	ST	R			Message Control ID	10001
	11	3	PT	R	0103		Processing ID	P
	12	3	VID	R	0104		Version ID	2.4
	15	2	ID			0155	Accept Ack. Type	AL
	16	2	ID			0155	Application Ack Type	AL
PID	3	250	CX	R	Y		Patient ID (will contain IEN, SSN, ICN, Claim #, etc if exists)	218~~~USVHA&&0363~PI~VA FACILITY ID&500&L
	5	250	XPN	R			Patient Name	MAINE~JOE
	7	26	TS	R			Date/Time of Birth	19280622
	8	1	IS			0001	Administrative Sex	M
	11	250	XAD	R	Y/3		Patient Address	164 Friendship DR~""~TROY~NY~12180~~P~""
	13	250	XTN	R	Y/3		Phone Number-Home	(555)555-5555
PV1	2	1	IS	R		0004	Patient Class	O for Outpatient
PV2	24	15	IS	R	Y		Patient Status Code	SC~NO COPAY
RXE	1	200	TQ	R			Quantity/Timing	Null
	2	250	CE	R			Give Code	XH001~HEMATEST TAB (NOT FOR ORAL USE)~99PSNDF~3207.12039.4321~HEMATEST REAGENT TAB.100/BTL~99PSD
	3	20	NM	R			Give Amount-Minimum	Null
	5	250	CE	R			Give Units	20~MG~99PSU
	6	250	CE	O			Give Dosage Form	165~TAB,TEST~99PSF
	8	200	CM	O			Deliver-To Location	WINDOW
	9	25	ST	O			Substitution Status	(Trade name)
	15	20	ST	R			Prescription Number	100002202

Segments used in the Outpatient Pharmacy HL7 interface Dispense Release Date/Time Request: (continued)

SEGMENT	SEQ#	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME	EXAMPLE
RXD	1	10	NM	R			Dispense Sub-ID Counter	3
	2	250	CE	R			Dispense/Give Code	XH001~HEMATEST TAB (NOT FOR ORAL USE)~99PSNDF~3207.12039.4321~HEMATEST REAGENT TAB.100/BTL~99PSD
	3	26	TS	R			Date/Time Dispensed	20040405
	7	20	ST	R			Prescription Number	100002202
	9	25	ST	O			Dispense Notes – Release Date/Time, Bingo Wait time, NDC Code	200312120830^35^6505-00-584-0398

Notes pertaining to some of the data elements:

[MSH-3] Sending Application is the station ID along with the DNS name of the sending facility.

[MSH-5] Receiving Application is the DNS name and DNS port number of the dispensing application.

[MSH-10] Message Control ID is the number that uniquely identifies the message. It is returned in MSA-2 of the dispense completion message.

[PID-3] Patient ID will contain the following possibilities to identify a patient:

- NI = ICN #
- SS = Social Security #
- PN = Claim #
- PI = DFN #

[PV1-2] Patient Class is hard-coded to an O for outpatient.

[PV2-24] Patient Status Code contains the patient status from the prescriptions file followed by a tilde and then whether or not the patient is COPAY.

[RXE-1] Quantity Timing is a required field but it will not be used in Outpatient Pharmacy V. 7.0. It will always be a null value ("").

[RXE-2] Give Code identifies the substance ordered as encoded by the Pharmacy. The components, in order, are the VA Product ID, VA Product Name, National Drug File, local file pointer, local drug name, and the local file.

[RXE-3] Give Amount - Minimum is a required field but it will not be used in Outpatient Pharmacy V. 7.0. It will always be a null value ("").

[RXE-5] Give Units identifies the units for the give amount as encoded by the VA National Drug file.

[RXE-6] Give Dosage Form is a coded element field. The fourth component is the pointer to the DOSAGE FORM file (#50.606). The fifth component is the form name, and the sixth component is the name of coding system (99PSF).

[RXD-1] Dispense Sub-ID Counter identifies which fill the prescription is.

[RXD-2] Dispense/Give code will contain the same give code as in RXE-2.

[RXD-9] Dispense Notes has three pieces of information:

- FILE RELEASE DATE/TIME field (#105.1) from the PRESCRIPTION file (#52).
- BINGO WAIT TIME field (#32) from the PRESCRIPTION file (#52).
- NDC field (#27) from the PRESCRIPTION file (#52).

Specific Transaction – Dispense Completion

The messages for the dispense completion will consist of the following HL7 segments:

MSA	Message Acknowledgment
MSH	Message Header
PID	Patient Identification
ORC	Common Order
RXD	Pharmacy/Treatment Dispense

Example:

```
MSH|^~\&|PSO DISPENSE|521|PSO
VISTA|521|20031215125043||RRD^O14^RRD_O14|10001|P|2.4|||AL|AL
MSA|AA~CA|10001
PID|||5000000022V981671^^^USVAMC^PN~1234^^^PN^PI~123456789^^^USSSA^SS||MAINE^JOE||
19590116|M
ORC|OR|12345||||||||^TOPEKA^MARK|^TULSA^LARRY
RXD|1|D0082^DIGOXIN 0.25MG TAB^99PSNDF^372.3^DIGOXIN 0.25MG
TAB^99PSD|20031215||||123987||6505-00-584-
0398~20031212|1234567^ALASKA^ANDREW|||||||45201|20041201|BAXTER
```

Segments used in the Outpatient Pharmacy HL7 interface Dispense Completion:

SEGMENT	SEQ#	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME	EXAMPLE
MSH	1	1	ST	R			Field Separator	|
	2	4	ST	R			Encoding Characters	^~\&
	3	180	HD	R		0361	Sending Application	PSO DISPENSE
	4	180	HD	R		0361	Sending Facility	~DISPENSE.VHA.MED.VA.GOV:9300~DNS
	5	180	HD	R		0361	Receiving Application	PSO VISTA
	6	180	HD	R		0362	Receiving Facility	
	7	26	TS	R			Date/Time of Message	200304050938
	9	15	CM_MSG	R		0076	Message Type	RRD~014
	10	20	ST	R			Message Control ID	10001
	11	3	PT	R		0103	Processing ID	P
	12	60	VID	R		0104	Version ID	2.4
	15	2	ID	O		0155	Accept Acknowledgment	AL
	16	2	ID	O		0155	Application Acknowledgment Type	NE
MSA	1	2	ID	R		0008	Acknowledgment Code	AA
	2	20	ST	R			Message Control ID	10001

Segments used in the Outpatient Pharmacy HL7 interface Dispense Completion: (continued)

SEGMENT	SEQ#	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME	EXAMPLE
PID	3	250	CX	R	Y		Patient ID (will contain IEN, SSN, ICN, Claim #, etc if exists)	218~~~USVHA&&0363~PI~VA FACILITY ID&500&L
	5	250	XPN	R			Patient Name	MAINE~JOE
	7	26	TS	R			Date/Time of Birth	19280622
	8	1	IS			0001	Administrative Sex	M
ORC	1	2	ID	R		0119	Order Control	OR
	2	22	EI	C			Placer Order Number	12345
	10	250	XCN	O			Entered By	114~TOPEKA~MARK
	11	250	XCN	O			Verified By	115~TULSA~LARRY
RXD	1	4	NM	R			Dispense Sub-ID Counter	1 (Fill Number)
	2	250	CE	R		0292	Dispense/Give Code	XH001~HEMATEST TAB (NOT FOR ORAL USE)~99PSNDF~3207.12039.4321~HEMATEST REAGENT TAB.100/BTL~99PSD
	3	26	TS	R			Date/Time Dispensed	20040405
	7	20	ST	R			Prescription Number	100002202
	9	25	ST	O			Dispense Notes	6505-00-584-0398^200404050830
	10	200	XCN	O			Dispensing Provider	1234~ALASKA~ANDREW
	18	20	ST	O			Substance Lot Number	45201
	19	26	TS	O			Substance Expiration Date	20050405
	20	250	CE	O		0227	Substance Manufacturer Name	BAXTER

Notes pertaining to some data elements:

[MSH-3] Receiving Application is the DNS name and DNS port number of the dispensing application.

[MSH-5] Sending Application is the station ID along with the DNS name of the facility.

[MSH-10] Message Control ID is the number that uniquely identifies the message.

[MSA-2] Message Control ID is the same number that was in MSH-2 in the dispense request message.

[PID-3] Patient ID will contain the following possibilities to identify a patient:

- NI = ICN #
- SS = Social Security #
- PN = Claim #
- PI = DFN #

[ORC-2] Placer Order Number is the RX internal entry number.

[ORC-10] Entered By is the name of the Filling Person for the prescription.

[ORC-11] Verified By is the name of the Checking Pharmacist for the prescription.

[RXD-1] Dispense Sub-ID Counter is the fill number for the prescription.

[RXD-3] Date/Time Dispensed is the fill date and time.

[RXD-9] Dispense Notes contains two components. First component is the NDC code and the second component is the release date/time of the prescription from the dispensing machine.

[RXD-10] Dispensing Provider is the name of the releasing pharmacist.

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Appendix B:
HL7 Messaging with an External System

New Protocol

A new protocol, PSO RECEIVE ORDER, is exported for processing orders from an external system. To use this functionality, this protocol must be added as a SUBSCRIBER to the Event Driver protocol in the PROTOCOL file (#101), which sends the external order message.

New Application Parameter

A new HL7 application parameter, PSO RECEIVE, is exported as the Receiving Application of the PSO RECEIVE ORDER protocol from the HL7 APPLICATION PARAMETER file (#771).

New Logical Link

A new HL7 logical link, PSO LLPO from the HL LOGICAL LINK file (#870), is being exported as the Logical Link of the PSO RECEIVE ORDER protocol. This link information will need to be edited to match the communication method of the interface if this interface is activated.

For any orders received from an external source, two new fields are stored with the Outpatient Pending Order and with the prescription, once the Pending Order is finished. These fields are EXTERNAL PLACER ORDER NUMBER field (#114) and EXTERNAL APPLICATION field (#116) in the PENDING OUTPATIENT ORDERS file (#52.41). These fields are also within the PRESCRIPTION file (#52) and are the EXTERNAL PLACER ORDER NUMBER field (#123) and EXTERNAL APPLICATION field (#124).

Any external systems that send orders through this interface to **V*IST*A** must comply with having **unique** external placer order numbers within the orders from this system. This number is used for various look-ups within the interface, in conjunction with the EXTERNAL APPLICATION field (#116) in the PENDING OUTPATIENT ORDERS file (#52.41) and the EXTERNAL APPLICATION field (#124) in the PRESCRIPTION file (#52).

HL7 Order Message Segment Definition Table

When the PSO RECEIVE ORDER protocol is enabled to process orders from an external system, the following table defines the data elements required for each segment of the incoming order message. This is a unilateral interface. No order information will be returned to the external system.

Segment	Piece	Description/Field Name	Data	Data Type
MSH	1	Field Separator	|	String
	2	Encoding Characters	^~\&	String
	3	Sending Application	Sending Application Name	String
	4	Sending Facility		String
	5	Receiving Application	PSO RECEIVE	String
	6	Receiving Facility		String
	9	Message Type	ORM^O01	Coded Value
	10	Message Control ID		String
	11	Processing ID	P	Coded Value
	12	Version ID	2.3.1	Coded Value
	15	Accept Acknowledgement	NE	Coded Value
	16	Application Acknowledgement	AL	Coded Value
	17	Country Code	USA	Coded Value
PID	3	Patient (pointer to File #2)	**V*IST*A** IEN of Patient from File #2	Composite ID
	5	Patient Name		Person Name
PVI	3	Clinic (pointer to File #44)	**V*IST*A** IEN of Hospital Location from File #44	Composite
ORC	1	Order Control Code	'NW'	Coded Value
	2	Placer Order Number*****	External Placer Order Number	Composite
	9	Date/Time of Transaction	Current Date/Time	Time Stamp
	10	Entered By	**V*IST*A** IEN of Provider from File #200	Composite ID Number and Name
	12	Ordering Provider	**V*IST*A** IEN of Provider from File #200	Composite ID Number and Name
	15	Order Effective Date	Current Date/Time	Time Stamp

Segment	Piece	Description/Field Name	Data	Data Type
RXO	10	Dispense Drug	**V*IST*A** IEN of Drug from File #50	Coded Element
	11	Quantity	Quantity	Numeric
	13	Number of Refills	Number of Refills	Numeric
NTE	6	Provider's Instructions to Dispensing Pharmacy	Free Text Provider Comments	String
	7	Patient's Instructions	Expanded Sig	String
ZRN	1	Non-VA	N	Coded Element (N=Non VA med)
	2	Statement/Reason	Non-VA Medication not recommended by VA provider or Medication prescribed by non-VA provider	String
ZRX	4	Routing	'W' (for Window)	String

* Field must contain unique data

The PSO RECEIVE ORDER protocol can also receive discontinue order messages. The following table gives the details of the fields that need to be received in the incoming order message.

Segment	Piece	Description/Field Name	Data	Data Type
MSH	1	Field Separator	|	String
	2	Encoding Characters	^~\&	String
	3	Sending Application	Sending Application Name	String
	4	Sending Facility		String
	5	Receiving Application	PSO RECEIVE	String
	6	Receiving Facility		String
	9	Message Type	ORM^O01	Coded Value
	10	Message Control ID		String
	11	Processing ID	P	Coded Value
	12	Version ID	2.3.1	Coded Value
	15	Accept Acknowledgement	NE	Coded Value
	16	Application Acknowledgement	AL	Coded Value
	16	Country Code	USA	Coded Value
PID	3	Patient (pointer to File #2)	**V*IST*A** IEN of Patient from File #2	Composite ID
	5	Patient Name		Person Name
PVI	3	Clinic (pointer to File #44)	**V*IST*A** IEN of Hospital Location from File #44	Composite
ORC	1	Order Control Code	'CA'	Coded Value
	2	Placer Order Number*****	External Placer Order Number	Composite
	9	Date/Time of Transaction	Current Date/Time	Time Stamp
	10	Entered By	**V*IST*A** IEN of Provider from File #200	Composite ID Number and Name
	12	Ordering Provider	**V*IST*A** IEN of Provider from File #200	Composite ID Number and Name
	15	Order Effective Date	Current Date/Time	Time Stamp

ZRN	1	Non-VA	N	Coded Element (N=Non VA med)
	2	Statement/Reason	Non-VA Medication not recommended by VA provider or Medication prescribed by non-VA provider	String

* Field must contain unique data

An Application Acknowledgement message is returned for new and discontinue messages received from the external system. Sequence 1 (Acknowledgement Code) of the MSA segment will always be Application Accept (AA), regardless of whether or not the incoming message passed all of the exception checks. Sequence 3 (Text Message) of the MSA segment will be null if the message was accepted and passed all of the exception checks. If the message is rejected by the receiving application, Sequence 3 (Text Message) will contain the reason for the rejection.

Segment	Piece	Description/Field Name	Data	Data Type
MSH	1	Field Separator	|	String
	2	Encoding Characters	^~\&	String
	3	Sending Application	PSO RECEIVE	String
	4	Sending Facility	(Sending Facility)	String
	5	Receiving Application	(Receiving Application Name)	String
	6	Receiving Facility	(Receiving Facility)	String
	7	Date/time of Message	Current Date/Time	Time Stamp
	9	Message Type	ORR^O01	Coded Value
	10	Message Control ID		String
	11	Processing ID	P	Coded Value
	12	Version ID	2.3.1	Coded Value
	15	Accept Acknowledgement	NE	Coded Value
	16	Application Acknowledgement	NE	Coded Value
	17	Country Code	US	Coded Value
MSA	1	Acknowledgement Code	AA	Coded Value
	2	Message Control ID		String
	3	Text Message	(Null, or Rejection Reason)	String

Order Messaging Exceptions

Exceptions will occur when **V*IST*A** rejects a new or discontinue order message. For new order messages, the rejections are largely based on the drug, provider, or patient associated with the prescription order.

Drug exceptions

- Drug is inactive (less than today's date)
- Drug is not marked for outpatient use
- Drug is not associated with a Pharmacy Orderable Item
- Invalid drug entry

Provider exceptions

- Provider is not authorized to write med orders
- Provider has an inactive date (date of today or less)
- Provider has a termination date (date of today or less)
- Provider does not hold the PROVIDER key
- Invalid provider entry

Patient exceptions

- Patient is deceased
- Invalid patient entry

Other exceptions

- Invalid NTE segment, greater than 245 characters
- Invalid message structure
- Missing MSH segment
- Missing PID segment
- Missing PVI segment
- Missing ORC segment
- Missing RXO segment
- External order, unable to successfully transmit to CPRS
- Unable to derive Institution from Clinic
- Unable to add order to Pending file
- Missing sending application name
- Invalid Order Control Code
- No Patient Location
- Missing CHCS Placer Order Number
- Duplicate order number in Outpatient Pending file
- Duplicate order number in Outpatient Prescription file
- Missing number of refills
- Missing effective date
- Missing Entered by data

For discontinue order messages, these are the possible exceptions:

Provider exceptions

- Provider is not authorized to write med orders
- Provider has an inactive date (date of today or less)
- Provider has a termination date (date of today or less)
- Provider does not hold the PROVIDER key
- Invalid provider entry

Other exceptions

- Invalid message structure
- Missing MSH segment
- Missing PID segment
- Missing ORC segment
- Missing sending application name
- Missing CHCS Placer Order Number
- Unable to find order in Pharmacy
- Patient mismatch in Pending order
- Pending order is being edited by another user
- Unable to cancel Pending order, status is HOLD
- Unable to cancel Pending order, status is RENEW
- Unable to cancel Pending order, status is DISCONTINUE (EDIT)
- Unable to cancel Pending order, status is DISCONTINUE
- Unable to cancel Pending order, status is REFILL REQUEST
- Patient mismatch in prescription
- Prescription is being edited by another user
- Unable to cancel prescription, status is DISCONTINUED
- Unable to cancel prescription, status is DELETED
- Unable to cancel prescription, status is DISCONTINUED BY PROVIDER
- Unable to cancel prescription, status is DISCONTINUED (EDIT)

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Appendix C:
HL7 Messaging for Transitional Pharmacy Benefit Extract

New Protocol

Two new protocols have been added to the PROTOCOL file (#101) to process TPB patient demographics from the TPB ELIGIBILITY file (#52.91). PSO TPB EV has been added as a new event driver protocol and the PSO TPB SUB protocol has been added as a subscriber to the new event driver. These protocols are exported in the Patch PSO*7*146.

New Application Parameter

A new HL7 application parameter, PSO TPB-AAC, has been added to the HL7 APPLICATION PARAMETER file (#771) and is exported as the Receiving Application of the PSO TPB SUB protocol.

A new HL7 application parameter, PSO TPB-PHARM, has been added to the HL7 APPLICATION PARAMETER file (#771) and is exported as the Sending Application of the PSO TPB EV protocol.

New Logical Link

A new HL7 logical link, PSOTPBAAC has been added to the HL LOGICAL LINK file (#870), is being exported as the Logical Link of the PSO TPB SUB protocol.

After completion of the post init routine of PSO*7*146, the initial data extraction, message creation, and transmission of information from the TPB ELIGIBILITY file (#52.91) is automatically performed. (If this patch is re-installed, a second message creation and transmission will NOT take place. This applies to both the test and production accounts.) As part of this initial data extraction process, the new *TPB HL7 Data Extract/Transmission* [PSO TPB HL7 EXTRACT] option is created and automatically scheduled to run every 24 hours.

> Therefore, when installing in the test account, the IRMS personnel should NOT enable the PSOTPBAAC HL7 Logical Link. For more specific information concerning the installation of Patch PSO*7*146 and the *TPB HL7 Data Extract/Transmission* [PSO TPB HL7 EXTRACT] option scheduling, please refer to the *Transitional Pharmacy Benefit Installation Guide Phase II*.

The post-install routine in Patch PSO*7*153 will set the AUTOSTART field (#4.5) of the HL LOGICAL LINK file (#870) of the PSOTPBAAC HL7 logical link to “enabled”.

New TPB HL7 Data Extract/Transmission Option

The *TPB HL7 Data Extract/Transmission* option is a new option designed to run the TPB HL7 extract as a background process. This option should **NOT** be assigned to a user's menu.

The re-scheduling frequency is set to 24H (hours) and it is recommended to retain this timeframe. The background process will run at 6:00 pm daily. No action will be taken on a daily basis unless the day is Sunday. On Sunday, additions and edits to data in the TPB ELIGIBILITY file (#52.91) will be extracted and transmitted to the Austin Automation Center (AAC).

Example: Queued TPB HL7 Extract

```
    Option Name: PSO TPB HL7 EXTRACT
    Menu Text: TPB HL7 Data Extract/Transmissio          TASK ID: <number>
  ____________________________________________________________________________

  QUEUED TO RUN AT WHAT TIME: SEP 16,2003@18:00

DEVICE FOR QUEUED JOB OUTPUT:

 QUEUED TO RUN ON VOLUME SET:

      RESCHEDULING FREQUENCY: 24H

              TASK PARAMETERS:

             SPECIAL QUEUEING:

_____________________________________________________________________________




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

HL7 Schedule Information Unsolicited (SIU) Table

This message will transmit the patient demographic data in the TPB ELEGIBILITY file (#52.91) to the Austin Automation Center (AAC). After installing Patch PSO*7*146, the initial data extraction, message creation, and transmission will be performed and sent to AAC. For more information, please see the New TPB HL7 Data Extract/Transmission Option section in this document.

There are two types of SIU messages. Event S12 transmits new data and event S14 is used to send modified data from the TPB ELIGIBILITY file (#52.91) to AAC. The message type in the MSH segment, piece 9, will show which event is being sent.

Segment	Piece	Description/Field Name	Data	Data Type
BHS	1	Field Separator	^	String
	2	Encoding Characters	~|\&	String
	3	Sending Application	PSO TPB-PHARM	String
	4	Sending Facility	999~VHA-SENDINGFACILITY.MED.VA.GOV~DNS	String
	5	Receiving Application	PSO TPB-AAC	String
	6	Receiving Facility	~YYY-RECEIVINGFACILITY.MED.VA.GOV~DNS	String
	7	Creation Date/Time	Date and Time Message is Created	Time Stamp
	9	Name/ID/Type	~P~SIU|S12~2.4	String
	11	Control ID	Automatically generated by HL7 application	String
MSH	1	Field Separator	^	String
	2	Encoding Characters	~|\&	String
	3	Sending Application	PSO TPB-PHARM	Hierarchic Designator
	4	Sending Facility	Site Defined	Hierarchic Designator
	5	Receiving Application	PSO TPB-AAC	Hierarchic Designator
	6	Receiving Facility	Site Defined	Hierarchic Designator

Segment	Piece	Description/Field Name	Data	Data Type
	7	Date/Time of Message	Date and Time Message is Created	Time Stamp
	9	Message Type	SIU S12 or S14	Composite
	10	Message Control ID	Number to uniquely identify the message	String
	11	Processing ID	P	Processing Type
	12	Version ID	2.4	Version Identifier
	15	Accept Acknowledgement	AL	Coded value for HL7 defined tables
	16	Application Acknowledgement	NE	Coded value for HL7 defined tables
	17	Country Code	US	Coded value for HL7 defined tables
SCH	6	Event Reason (Inactivation Reason Code and Text)	**V*IST*A** TPB ELEGIBILITY File #52.91	Coded Element
	7	Appointment Reason (Exclusion Reason Code and Text)	**V*IST*A** TPB ELEGIBILITY File #52.91	Coded Element
	8	Appointment Type (Wait Type Code and Text)	**V*IST*A** TPB ELEGIBILITY File #52.91	Coded Element
	11	Appt. Timing Quality (Desired Appointment Date and Text; Primary Care Sch Appt. Date and Text; Date Pharmacy Benefit Began Date and Text; Inactivation of Pharmacy Benefit Date and Text; Record Change Date & Text)	**V*IST*A** TPB ELEGIBILITY File #52.91	Timing Quantity

Segment	Piece	Description/Field Name	Data	Data Type
	22	Entered by Location (Station Number, Institution Number and Institution Name)	**V*IST*A** TPB ELEGIBILITY File #52.91	Person Location
PID	1	Set ID - PID	Sequential Number	Sequence ID
	3	Patient Identifier List	**V*IST*A** PATIENT File #2	Extended Composite ID with check digit
	5	Patient Name	**V*IST*A** PATIENT File #2	Extended Person Name
	6	Mother's Maiden Name	**V*IST*A** PATIENT File #2	Extended Person Name
	7	Date/Time Birth	**V*IST*A** PATIENT File #2	Time Stamp
	8	Administrative Sex	**V*IST*A** PATIENT File #2	Coded Value for user-defined tables
	11	Patient Address	**V*IST*A** PATIENT File #2	Extended Address
	12	County Code	**V*IST*A** STATE File #5	Coded Value for user-defined tables
	13	Phone Number-Home	**V*IST*A** PATIENT File #2	Extended telecommunications number
	14	Phone Number-Business	**V*IST*A** PATIENT File #2	Extended telecommunications number
	16	Marital Status	**V*IST*A** MARITAL STATUS File #11	Coded Element
	17	Religion	**V*IST*A** RELIGION File #13	Coded Element
	29	Patient Death Date/Time	**V*IST*A** PATIENT File #2	Time Stamp
BTS	1	Batch Message Count	Count of messages within batch	String

Example: HL7 Message

```
[HL7 Message was sent on 08/29/2003]

BHS^~|\&^PSO TPB-PHARM^999~VHA-SendingFacility.MED.VA.GOV~DNS^PSO TPB-AAC
^~YYY-ReceivingFacility.MED.VA.GOV~DNS^20030829144205-0500^
^~P~SIU|S12~2.4~AL~NE^^999781^
MSH^~|\&^PSO TPB-PHARM^^PSO TPB-ACC^^20030829144205-0500^
^SIU~S12~SIU_S12^999782-1^P^2.4^^^AL^NE^US
SCH^^^^^^3~Patient Ended^~^E~EWL^^^~~~20030803~~~~Desired Appointment Date|
~~~~~~~Primary Care Scheduled Appointment Date|
~~~20030826~~~~Date Pharmacy Benefit Began|
~~~20030826~~~~Inactivation of Benefit Date|
~~~20030826~~~~Record Change Date^^^^^^^^^^^999~~~999&VAMC TEST
PID^1^^1234567890V123111~~~USVHA&&HL70363~NI~VA FACILITY ID&999&L|
000001111~~~USSSA&&HL70363~SS~VA FACILITY ID&999&L|
1111~~~USVHA&&HL70363~PI~VA FACILITY ID&999&L^^LASTNAME1~FIRSTNAME1~M~~~~L
^""^19190830^M^^^9999 SOMESTREET PL~""~SOMECITY~CA~99999~~P~""|~~""~""~~~N
^""^(999)999-9999^""^^""^""^^^^^^^^^^^^""^^
:
:
:
MSH^~|\&^PSO TPB-PHARM^^PSO TPB-ACC^^20030829144205-0500^
^SIU~S14~SIU_S14^999782-52^P^2.4^^^AL^NE^US
SCH^^^^^^7~Exclusion^1~Excluded due to active Rx#^X~S\T\E^^^
~~~20030625~~~~Desired Appointment Date|
~~~20031030~~~~Primary Care Scheduled Appointment Date|
~~~20030819~~~~Date Pharmacy Benefit Began|
~~~20030819~~~~Inactivation of Benefit Date|
~~~20030819~~~~Record Change Date^^^^^^^^^^^999~~~999&VAMC TEST
PID^1^^1234567894V123444~~~USVHA&&HL70363~NI~VA FACILITY ID&999&L|
000004444~~~USSSA&&HL70363~SS~VA FACILITY ID&999&L|
44444444~~~USVHA&&HL70363~PI~VA FACILITY ID&999&L^^LASTNAME2~FIRSTNAME2~M~~~~L
^MOTHERLASTNAME~~~~~~M^19291107^M^^^9999 SOMESTREET PLACE~""~SOMECITY~CA~99999~~P~""|
~~OTHERCITY~NE~~~N^""^(999)999-9999^""^^W^5^^^^^^^^^^^^""^^
BTS^52



[ACK MessageS were received on 08/29/2003]

BHS^~|\&^PSO TPB-AAC^~YYY-SENDINGFACILITY.MED.VA.GOV~DNS^PSO TPB-PHARM
^999~VHA-RECIVINGFACILITY.MED.VA.GOV~DNS^20030829144205-0500^
^~P~ACK|S12~2.4^^999781
MSA^CA^999781^Message Processed
BTS^1
```

MailMan Messages

With the installation of Patch PSO*7*153, a new MailMan group, PSO TPB HL7 EXTRACT, will be exported. Members of this mail group will receive weekly MailMan messages concerning the HL7 extract of TPB patient information. These messages will either display information that the message generation was successful or display information that the message generation was unsuccessful. If the message generation was unsuccessful, a reason why it was unsuccessful will be displayed.

The patch installer of Patch PSO*7*153 will be added as a member of this mail group. This installer will be asked for the coordinator of this mail group upon installation.

There are six possible MailMan messages that can be received on the weekly HL7 extract. They are as follows:

Message 1: Successful building of the message and the MailMan group is located and has at least one member, so this message will go to the MailMan group members.

Example: Message 1

```
Subj: PSO TPB HL7 weekly update ** successful **  [#523] 09/24/03@17:12
12 lines
From: PSO TPB HL7 EXTRACT  In 'IN' basket.   Page 1
---------------------------------------------------------------------------
SENT TO: G.PSO TPB HL7 EXTRACT

The weekly generation of the HL7 Message of
TPB Patient Information was successful

Please check the PSOTPBAAC HL7 Logical Link to ensure
successful transmission to the Austin Automation Center.

MSH-ID: 21912920

The job ended at SEP 24,2003@17:12:01
```

Message 2: Successful building of the message and the MailMan group is located but has no members, so this message will go to the user who scheduled the task.

Example: Message 2

```
Subj: PSO TPB HL7 weekly update ** successful **  [#525] 09/24/03@17:17
12 lines
From: PSO TPB HL7 EXTRACT  In 'IN' basket.   Page 1
---------------------------------------------------------------------------
SENT TO: G.PSO TPB HL7 EXTRACT   (Error = Mail group has no members.)

The weekly generation of the HL7 Message of
TPB Patient Information was successful

Please check the PSOTPBAAC HL7 Logical Link to ensure
successful transmission to the Austin Automation Center.

MSH-ID: 21912921

The job ended at SEP 24,2003@17:17:02
```

Message 3: Successful building of the message and the MailMan group is not located, so this message will go to the user who scheduled the task.

Example: Message 3

```
Subj: PSO TPB HL7 weekly update ** successful **  [#527] 09/24/03@17:27
12 lines
From: PSO TPB HL7 EXTRACT  In 'IN' basket.   Page 1
---------------------------------------------------------------------------
SENT TO: G.PSO TPB HL7 EXTRACT   (Error = Mail group not found.)

The weekly generation of the HL7 Message of
TPB Patient Information was successful

Please check the PSOTPBAAC HL7 Logical Link to ensure
successful transmission to the Austin Automation Center.

MSH-ID: 21912922

The job ended at SEP 24,2003@17:27
```

Message 4: Unsuccessful building of the message and the MailMan group is located and has at least one member, so this message will go to the MailMan group members.

Example: Message 4

```
Subj: PSO TPB HL7 weekly update ** unsuccessful **  [#528] 09/24/03@17:37
12 lines
From: PSO TPB HL7 EXTRACT  In 'IN' basket.   Page 1  *New*
---------------------------------------------------------------------------
SENT TO: G.PSO TPB HL7 EXTRACT

The weekly generation of the HL7 Message of
TPB Patient Information was unsuccessful

Reason: Server Protocol Disabled

Please contact National Help Desk @888-596-4357


The job ended at SEP 24,2003@17:37:02
```

Message 5: Unsuccessful building of the message and the MailMan group is located but has no members, so this message will go to the user who scheduled the task.

Example: Message 5

```
Subj: PSO TPB HL7 weekly update ** unsuccessful **  [#530] 09/24/03@17:41
12 lines
From: PSO TPB HL7 EXTRACT  In 'IN' basket.   Page 1  *New*
---------------------------------------------------------------------------
SENT TO: G.PSO TPB HL7 EXTRACT   (Error = Mail group has no members.)

The weekly generation of the HL7 Message of
TPB Patient Information was unsuccessful

Reason: Server Protocol Disabled

Please contact National Help Desk @888-596-4357


The job ended at SEP 24,2003@17:41:01
```

Message 6: Unsuccessful building of the message and the MailMan group is not located, so this message will go to the user who scheduled the task.

Example: Message 6

```
Subj: PSO TPB HL7 weekly update ** unsuccessful **  [#532] 09/24/03@17:45
12 lines
From: PSO TPB HL7 EXTRACT  In 'IN' basket.   Page 1  *New*
---------------------------------------------------------------------------
SENT TO: G.PSO TPB HL7 EXTRACT   (Error = Mail group not found.)

The weekly generation of the HL7 Message of
TPB Patient Information was unsuccessful

Reason: Server Protocol Disabled

Please contact National Help Desk @888-596-4357


The job ended at SEP 24,2003@17:45:01
```

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