



# **OUTPATIENT PHARMACY**

## **TECHNICAL MANUAL/SECURITY GUIDE**

Version 7.0  
December 1997

(Revised October 2004)



## 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 <i>Non-VA Meds Usage Report</i> 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 <i>the Outpatient Pharmacy Manager</i> option to include <i>the ScripTalk Main Menu</i> 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.

*(This page included for two-sided copying.)*

## 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	PSOHLDC	PSOHLDC	PSOHLDIS	PSOHLDS
PSOHLDS1	PSOHLDS2	PSOHLDS3	PSOHLDS4	PSOHLXDC	PSOHLXDC	PSOHLINC	PSOHLINL
PSOHLNE1	PSOHLNE2	PSOHLNEW	PSOHLPII	PSOHLPII	PSOHLPII	PSOHLPII	PSOHLPII
PSOHLSG3	PSOHLSG4	PSOHLSG5	PSOHLSIG	PSOHLSIG	PSOHLSIG	PSOHLSIG	PSOHLSIG
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	PSOORED7	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	PSORESKE
PSORESKE1	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		

## 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 **VISTA** 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.

# Appendix A: Outpatient Pharmacy HL7 Interface Specifications

## A. General Information

### Introduction

This document specifies an interface between the **VISTA** 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:

<u>RDS</u>	<u>Pharmacy/Treatment Encoded Order Message</u>
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||0
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|E9278277|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:

<u>RRD</u>	<u>Pharmacy Encoded Order Ack. Message</u>
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.VH A.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~N Y~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~LGM R120.8	
	3	250	CE	R	Y		Allergen Code/Mnemonic/Description	128~ASPIRIN~L GMR120.8	
	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~DE BBIE
	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	57~7 <sup>TH</sup> FLOOR~99PSC
	19	250	XCN	O			Action By	65421~MIAMI~S TEVEN
	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	6553	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~HEMAT EST 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~HEMATE ST TAB (NOT FOR ORAL USE)~99PSNDF~3 207.12039.4321~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 VISTA 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 VISTA 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 VISTA 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 VISTA 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.VH A.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~N Y~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~HEMAT EST 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~HEMAT EST 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.VH A.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~HEMAT EST 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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