INPATIENT MEDICATIONS

TECHNICAL MANUAL/ SECURITY GUIDE

Version 5.0
December 1997

(Revised September 2004)

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

Revision History

The table below lists changes made since the initial release of this manual. 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
09/04	vi-viii, 22-23, 66-66b, 118-122, 133-135	PSJ*5*110	Updated the Table of Contents to include the new section 9.5. STAT and NOW Order Notification, resulting in topics being moved to other pages in the Table of Contents. Updated section 5.1. to include the following new routines, resulting in one routine being moved to the next page: PSGOTR, PSJCOM, PSJCOM1, PSJCOMR, PSJCOMV, PSJOEA, and PSJOEA1. Added the section 9.5. to explain the new STAT and NOW Order Notification functionality. Updated the following sections to reflect changes in the order renewal process and to remove the example text that is no longer relevant: 18.5.1. Order Start Date/Time Calculation - removed Order Renewal heading and related text except for the Note. 18.5.2. Stop Date/Time: Calculation – removed item #3 from the list. 18.5.3. Patient's Default Stop Date/Time – removed item #3 from the list. Updated the Glossary with entries for the new PSJ STAT and NOW Order Notification functionality and the two related mail groups, resulting in some existing entries being moved to other pages in the Glossary.
12/03	i-ii, 5, 75	PSJ*5*119	Updated Revision History page to reflect new text preceding the table created by the technical writers for clarity, which is unrelated to this patch. Updated section 2.2.1. Fields from the PHARMACY SYSTEM file (#59.7): Added the ROUND ATC PICK LIST UNITS field, which allows rounding of fractional units per dose. Updated section 12.1 Pharmacy Set Up: Deleted reference to Unit Dose Medications User Manual.

Date	Revised Pages	Patch Number	Description
07/03	Title, i, 6-14, 21-23, 86-90, 118-122, 126-135	PSJ*5*80	Updated the Title Page and Revision History Page. Several parameter descriptions are expanded including The INPATIENT PROFILE ORDER SORT parameter, LVPS GOOD FOR HOW MANY DAYS, HYPERAL GOOD FOR HOW MANY DAYS, PBS GOOD FOR HOW MANY DAYS, SYRNS GOOD FOR HOW MANY DAYS, and CHEMO'S GOOD FOR HOW MANY DAYS parameters. Updated the Routine listing to include new routines. Cosmetic changes made to keep the lines of the Integration Agreements together. The default Start and Stop Date/Time for complex orders did not reflect the duration entered through CPRS and is now included. Included pages for double-sided printing.
04/03	Title, i, 6, 8-13	PSJ*5*95 & Developer Request	Updated the Title Page and Revision History Page. Updated the NOW explanation in the DEFAULT START DATE CALCULATION. Added the new Inpatient Ward Parameter, PRE-EXCHANGE REPORT DEVICE.
01/03	Title, i, 21-24, 34, 47, 91, 92, 92a, 92b	PSJ*5*85	Updated the Title Page and Revision History Page. New routines, protocols, and IAs were added. The *Barcode ID – Return and Destroy (IV)* option was included. Also included pages for double-sided printing.
05/02	All	PSJ*5*58	Updated this manual to include the IV functionality and BCMA – CPRS Med Order Button enhancements released with the BCMA V. 2.0 project.
01/02	i, ii, 35, 36	PSJ*5*65	Updated Revision History Page. The exported options list was updated to include the Free Text Dosage Report. Included pages for double-sided printing.
01/02	Title, i, ii, 5, 6, 7, 8, 9, 10, 69, 70, 95, 96, 97, 98	PSJ*5*63	Updated the Title Page, and Revision History Page. The Ward and System Parameters were updated to include the new parameters for determining the stop date for one-time orders. A new database integration agreement was added. Included pages for double-sided printing.
09/01	All	PSJ*5*50	Added this Revision History Page. Re-formatted the manual into sections. Added Patch Release changes and Pharmacy Ordering Enhancements (POE).
12/97			Original Released Technical Manual / Security Guide.

Preface

This technical manual is written for the Information Resources Management Service (IRMS) Chief/Site Manager and the Automated Data Processing Application Coordinator (ADPAC) for implementation and installation of the Inpatient Medications package. The main text of the manual outlines routine descriptions, file list, site configuration issues, variables, resource requirements, and package security.

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

Table of Contents

1. Introduction 1

2. Implementation and Maintenance 3

2.1. Installation 3

2.2. Inpatient Parameters 3

2.2.1. Fields from the PHARMACY SYSTEM file (#59.7) 4

2.2.2. Fields from the INPATIENT WARD PARAMETERS file (#59.6) 6

2.2.3. Fields from the INPATIENT USER PARAMETERS file (#53.45) 8

2.2.4. Fields from the IV ROOM file (#59.5) 10

3. Package Security 15

3.1. Option Security Keys 15

3.2. File Security 16

4. File List 17

4.1. Unit Dose File Diagram 18

4.2. IV File Diagram 19

5. Routines 21

5.1. Descriptions 21

5.2. Callable Routines 24

5.3. Routine Mapping 24

5.3.1. Do Not Map 24

5.3.2. Mapping Highly Recommended 25

5.3.3. Mapping Recommended 25

5.3.4. Deleting Inpatient Routines 25

6. Templates 27

6.1. Print Templates 27

6.2. Input Templates 27

6.3. List Templates 29

7. Exported Options 31

7.1. Stand-alone Options 31
7.2. Top-level Menus 31
7.2.1. Menu Assignment 31
7.2.2. Menu Placement 31
7.3. Options 32

8. Data Archiving and Purging 41

8.1. Archiving 41
8.2. Purging 41
8.2.1. Unit Dose Auto Purging 41
8.2.2. IV Auto Purging 41
8.2.3. Unit Dose Manual Purging – Temporarily Unavailable 42
8.2.4. IV Manual Purging – Temporarily Unavailable 43

9. Inpatient Medications and CPRS 45

9.1. Installation of the Protocols for CPRS 45
9.2. Converting 45
9.2.1. Order Conversion 45
9.2.2. Pick List Conversion 46
9.2.3. Order Set Conversion 46
9.2.4. Verification Data Conversion 46
9.3. Protocol Descriptions 47
9.4. Health Level Seven (HL7) Messaging 51
9.4.1. HL7 Ordering Fields 51
9.4.2. Order Event Messages 56
9.5. STAT and NOW Order Notification 66
9.5.1. PSJ STAT NOW PENDING ORDER Mail Group 66
9.5.2. PSJ STAT NOW ACTIVE ORDER Mail Group 66a
9.5.3. Adding a Remote Member as a Subscriber 66b

10. Inpatient Medications and BCMA 67

10.1. API Exchange 67
10.2. Med Order Button 68

11. Interfacing with the Bar Code Label Printer 71

11.1. Hardware Set Up 71

11.2. Software Set Up 71

11.2.1. Zebra Printers 71

11.2.2. Dot Matrix and Laser Printers 73

11.3. Printed Bar Code IV Label Sample 74

12. Interfacing with the ATC 75

12.1. Pharmacy Set Up 75

12.1.1. Drug Set Up 75

12.1.2. Ward Group Set Up 75

12.2. Hardware Set Up 76

12.2.1. Device File Example 76

12.2.2. MUX Table Example 76

12.2.3. DECServer Examples 77

12.2.4. Wiring for CXA16 Card 77

12.2.5. ATC-HPS Configuration Set Up 78

12.2.6. Common Problems 79

13. Resource Requirements 81

13.1. Hardware 81

13.2. Disk Space 81

13.2.1. Routines 81

13.2.2. Data 81

13.3. Journaling Globals 81

13.4. Translating Globals 82

13.5. Nightly Background Jobs 82

13.6. Queuing and Printing across CPUs 82

14. External Relationships 83

14.1. Packages Needed to Run Inpatient Medications 83

14.2. Unit Dose Medications and Ward Stock 83

14.3. Unit Dose Medications and Drug Accountability 83

14.4. Calls Made by Inpatient Medications 84

14.5. Introduction to Integration Agreements and Entry Points 84
14.6. The Generic Schedule Processor 93
14.6.1. Files 93
14.6.2. Input and Output Variables 96
14.6.3. Entry Points 98

15. Internal Relationships 101

16. Internal Calls and Variables 101

16.1. Package-Wide Variables 104
16.1.1. Inpatient Sign-on Variables 104
16.1.2. Standard Variables Used Throughout the Package 106
16.1.3. IV Sign-on Variables 109
16.1.4. Variables 109

17. On-line Documentation 111

17.1. On-line Help 111
17.2. Printing Data Dictionaries 111

18. Additional Information 113

18.1. SAC Exemptions 113
18.2. IV Ward List 113
18.3. IV Manufacturing List 114
18.4. IV Suspense List 115
18.5. Unit Dose “Defaults” 118
18.5.1. Order Start Date/Time Calculation 118
18.5.2. Stop Date/Time: Calculation 120
18.5.3. Patient’s Default Stop Date/Time 121
18.5.4. Pick List Wall 122

19. Glossary 123

1. Introduction

The Inpatient Medications computer software package is one segment of the Veterans Health Information Systems and Technology Architecture (**V***IST***A**) for the Department of Veterans Affairs. This package is a computerized system of tracking and assisting in the manufacture, dispensing, and administration of medications within a medical care facility by using information common to all **V***IST***A** packages such as patient information and Inpatient Medications orders entered by the users. The Inpatient Medications package consists of two modules: IV Medications and Unit Dose Medications.

The IV Medications module is one segment of **V***IST***A** in use at the Department of Veterans Affairs Medical Centers (VAMCs). This module shares a common source of information, the Patient Database, with other applications such as the Outpatient Pharmacy and Laboratory packages. The basis for information in the Inpatient Medications IV module is the patient data stored in the Patient Database.

The Unit Dose Medications module is a method of computerizing the inpatient drug distribution within the hospital. Unit dose orders are entered and edited by a ward clerk, provider, nurse, or pharmacist, and verified by a pharmacist and/or nurse. Orders can also be discontinued or renewed as appropriate. Once active, the orders are dispensed to the wards by means of the pick list. The system allows for dispensing tracking from the pick list.

The Unit Dose module can also produce 24-hour, 7-day, or 14-day Medication Administration Records (MARs), which are the computerized versions of the manual Continuing Medication Records (CMRs). The MAR contains patient demographics, all requested types of active orders and their administration schedules.

Functional Description

The Unit Dose module is designed to provide a flexible method for order entry and medication dispensing. Each VAMC should be able to adapt the system to fit its own needs. The Unit Dose module has the ability to perform the following functions:

- Tailor processes by facility, user, and/or medication.
- Allow for immediate entry of predefined sets of orders.
- Provide on-line order maintenance (e.g., edit, renewal, discontinuation).
- Generate labels containing order and patient information on demand and upon the entry/maintenance of an order.
- Provide on-line or printed patient profiles, which include a history of medication orders for the current or last facility visit.

- Display patient and order information.
- Mark orders that need attention.
- Display histories of all actions taken on active orders.
- Provide computerized pick lists, which include pre-calculated doses for pharmacists.
- Print various reports and forms for individual patients, individual wards, and pre-defined groups of wards.
- Provide an Action Profile of patient medication orders for use by physicians to cancel or continue medications.
- Provide medication administration records, alleviating the need for ward personnel to transcribe orders at the time of entry or renewal.
- Provide a Stop Order Notice report to notify users of orders near expiration.
- Discontinue medication orders for patients transferred between wards and/or services.
- Provide dispensing cost reports by patient, ward, service, drug, and provider.
- Provide a computerized order form when a provider enters orders.

The Inpatient Medications IV module is a dispensing package. It will provide the pharmacy users with

- IV labels
- Manufacturing worksheets
- Ward list for order update
- Management reports

The module will allow control of the manufacturing of IVs not achievable through manual procedures. The IV module will also allow the pharmacy to establish and maintain, through order entry and ward updating, an accurate and timely data set of the hospital's IV orders.

All reports in the IV module can be queued. When the module is entered for the first time, the user will be asked to define an IV room. Part of the IV room definition includes entering a printer label device and a printer report device. (These devices are defined in the *SIte Parameters (IV)* [PSJI SITE PARAMETERS] option.) The device entered is the one most frequently used for label and report printing, and will be the default answer for the "LABEL DEVICE:" and "REPORT DEVICE:" prompts when signing into the module. At the device prompt(s), the user can:

1. Accept the default answer that is defined.
2. Enter another device to which output is to be directed.
3. Enter **0** to get output on the computer screen.

2. Implementation and Maintenance

2.1. Installation

For initial installation of the Inpatient Medications V. 5.0 software package, please refer to the Computerized Patient Record System (CPRS) Installation Guide.

2.2. Inpatient Parameters

The following is a list of the parameters that are used in defining the functions that affect the entire Inpatient Medications package for the site. Please consult the Supervisor's Manual for more detail on the use of these options.

Note: The INPATIENT SITE file (#59.4) is no longer used by the Inpatient Medications package.

To edit these parameters from the IV Medications module, use the following menu path:

IV Menu [PSJI MGR]
  SUPervisor's Menu (IV) [PSJI SUPERVISOR] (Locked: PSJI MGR)
    AUto-Discontinue Set-Up [PSJ AC SET-UP]
    SIte Parameters (IV) [PSJI SITE PARAMETERS]

To edit these parameters from the Unit Dose Medications module, use the following menu path:

Unit Dose Medications [PSJU MGR]
  Supervisor's Menu [PSJU FILE] (Locked: PSJU MGR)
    PARameters Edit Menu [PSJ PARAM EDIT MENU]

2.2.1. Fields from the PHARMACY SYSTEM file (#59.7)

- **SITE NAME -** This is the name of the site using the pharmacy packages. Because of the nature of this file and the fact that all the Pharmacy packages use this file, it is very important that only one site name ever be entered into this file. Sites must not edit fields or make local field additions to the PHARMACY SYSTEM file (#59.7).

- **FROM WARD -** This is the ward the patient has been transferred from whenever an action is to take place (e.g., placing orders on hold, discontinuing orders). For each FROM WARD, there are the following fields:

    - **TO WARD -** Whenever a patient is transferred from the previously selected FROM WARD to a ward selected here as a TO WARD, the patient's IV and Unit Dose orders are discontinued.

    - **'ON PASS' ACTION -** This is the action the Inpatient Medications package will take on a patient's orders whenever the patient is transferred from the selected FROM WARD to "Authorized Absence less than 96 hours" (known as On Pass). If PLACE ORDERS ON HOLD is chosen, the patient's orders will be taken off of hold whenever the patient returns.

    - **ACTION ON AUTHORIZED ABSENCE -** This is the action that is to take place on a patient's Inpatient (Unit Dose and IV) Medications orders whenever the patient is transferred from the selected FROM WARD to AUTHORIZED ABSENCE. If PLACE ORDERS ON HOLD is selected, the orders will automatically be taken off of hold when the patient returns.

    - **ACTION ON UNAUTHORIZED ABSENCE -** This is the action that is to take place on a patient's Inpatient (Unit Dose and IV) Medications orders whenever the patient is transferred from the selected FROM WARD to UNAUTHORIZED ABSENCE. If PLACE ORDERS ON HOLD is selected, the orders will automatically be taken off of hold when the patient returns.

- **FROM SERVICE -** This is the service the patient has been transferred from whenever the patient's Inpatient Medications (IV and Unit Dose) orders are to be discontinued. For each FROM SERVICE, there is the following field:

    - **TO SERVICE -** Whenever a patient is transferred from the previously selected FROM SERVICE to a service selected here as a TO SERVICE, the patient's IV and Unit Dose orders are discontinued.

- **NON-FORMULARY MESSAGE -** This is a message that will be shown to non-pharmacists when they order drugs not currently stocked by the pharmacy. This is typically a warning, and describes a procedure the non-pharmacist must follow before the pharmacy will dispense the non-formulary drug.
  - **EDIT Option -** This option is used to edit the NON-FORMULARY MESSAGE above.

- **PRINT 6 BLOCKS FOR THE PRN MAR -** This field is used to indicate if 4 or 6 blocks are to be used for ONE-TIME/PRN (pro re nata – Latin for "as needed") orders on the 7/14 DAY MAR ONE-TIME/PRN SHEET. The 7/14 DAY MAR ONE-TIME/PRN SHEET will print 4 blocks if this field is <u>not</u> set to **YES**.

- **PRINT DIET ABBR LABEL ON MAR -** If this field contains a 1 or YES, the Dietetics Abbreviated Label will be printed on the MAR.

- **MAR SORT -** If this field contains a **0**, the MAR will be sorted by the order's Schedule Type* and then by Medication Names. When this field contains a **1**, the MAR will be sorted by the order's Medication Names.

  * Schedule Type is sorted based on the following orders:

Continuous MAR	One-Time/PRN MAR
---	---
Unit Dose Orders:	Unit Dose Orders:
Continuous	One-time
Fill on Request	PRN
IV Orders:	IV Orders:
Piggyback or Syringe type	One-time
Admixture type	PRN
Hyperal type	Acknowledged Pending PRN orders
Chemo type	
Acknowledged Pending Orders:	
Inpatient Meds	
IV fluids	

- **ATC SORT PARAMETER -** This parameter allows sending of the Pick List to the Automated Tablet Counter (ATC) machine by ATC mnemonic or admin time within patient.

- **CALC UNITS NEEDED PRN ORDERS -** This field controls whether or not the units needed will be calculated for the orders with PRN in the SCHEDULE field (#26) of the UNIT DOSE sub- file (#55.06) of the PHARMACY PATIENT file (#55) on the Pick List. This information will show on the Pick List if this field is set to 1.

- **DAYS UNTIL STOP FOR ONE-TIME -** This field indicates the number of days a one-time order should last. This field is only used if the ward parameter, DAYS UNTIL STOP FOR ONE-TIME, is not defined. This number can be between 1 and 30.

- **ROUND ATC PICK LIST UNITS** – This field allows the site to decide whether or not fractional units per dose will be rounded to the next whole number before the pick list is sent to the ATC.

2.2.2. Fields from the INPATIENT WARD PARAMETERS file (#59.6)

Note: Fields from the INPATIENT WARD PARAMETERS file (#59.6) are still edited through the Inpatient Medications package.

- **WARD -** This is a ward for which the site wants to tailor specific aspects of the Inpatient Medications package.

- **DAYS UNTIL STOP DATE/TIME -** This is the number of days a standard order should last. The first order entered for a patient uses this number to calculate a default value for the order's STOP DATE/TIME field (#34) of the UNIT DOSE sub-file (#55.06) of the PHARMACY PATIENT file (#55). This number is also used if SAME STOP DATE ON ALL ORDERS parameter has no entry, or an entry of **NO**.

- **DAYS UNTIL STOP FOR ONE-TIME -** This is the number of days a one-time order should last. The number can be from 1-100, however, it cannot exceed the number of days that standard orders last (DAYS UNTIL STOP DATE/TIME). When this parameter is not available, the system parameter, DAYS UNTIL STOP FOR ONE-TIME, will be used to determine the stop date. When neither parameter has been set, one-time orders will use the ward parameter, DAYS UNTIL STOP DATE/TIME, to determine the stop date instead of the start and stop date being equal.

- **SAME STOP DATE ON ALL ORDERS -** This flag, if set to **YES**, uses the STOP DATE/TIME field (#34) of the UNIT DOSE sub-file (#55.06) of the PHARMACY PATIENT file (#55) from the patient's first order as a default value for these fields on all of the patient's following orders.

- **TIME OF DAY THAT ORDERS STOP -** This is a time of day that, if found, is used in calculating the default value for the STOP DATE/TIME field (#34) of the UNIT DOSE sub-file (#55.06) of the PHARMACY PATIENT file (#55) of patients' orders. This time is in military time format with leading and trailing zeros (0001 means 1 minute after midnight).

- **DEFAULT START DATE CALCULATION –** When an order originates in CPRS and a duration accompanies the order, this field is used to calculate the Calc Start Date/Time. Otherwise, this field allows the ward to determine how the default Start date for orders should be calculated. The default may use the NEXT ADMIN TIME, the CLOSEST ADMIN TIME, or the login date/time of the order (NOW) as the default Start Date for Unit Dose and IV orders.

- **START TIME FOR 24-HOUR MAR -** This is the start time for the 24-hour MAR. It is used whenever a user enters a start date without a time when running the 24-hour MAR. This time is in military time format with leading and trailing zeros (0001 means 1 minute after midnight).

- **LABEL FOR WARD STAFF -** The following codes are used to select when labels will print for ward staff:

    - **NO LABELS -** Labels are not created when ward staff (nurses, clerks, physicians, etc.) take action on an order. Labels are always created for actions taken on orders after they are verified, unless NO LABELS is selected.

    - **FIRST LABEL ON ORDER ENTRY/EDIT -** Labels are created whenever ward staff enter an order or edit a non-verified order, but not when the nurse verifies an order.

    - **FIRST LABEL ON NURSE VERIFICATION -** Labels are not created for ward staff until a nurse has verified the order.

    - **LABEL ON ENTRY/EDIT AND VERIFICATION -** Labels are created whenever the order is entered or edited and verified.

- **WARD LABEL PRINTER -** If a device name is entered here, labels created by ward staff, due to actions taken on orders, will print automatically to the device.

- **LABEL FOR PHARMACY -** The following codes are used to select when labels will print for the pharmacy staff:

    - **NO LABELS -** Labels will not be created when the pharmacy staff (pharmacists and pharmacy technicians) take action on an order.

    - **FIRST LABEL ON ORDER ENTRY/EDIT -** Labels will be created whenever the pharmacy staff enters an order or edits a non-verified order, but not when the pharmacist verifies an order.

    - **LABEL ON ENTRY/EDIT AND VERIFICATION -** Labels are created whenever the order is entered or edited and verified.

    - **FIRST LABEL ON PHARMACIST VERIFICATION -** Labels will not be created for the pharmacy staff until a pharmacist has verified the order.

- **PHARMACY LABEL PRINTER -** If a device name is entered here, labels created by the pharmacy staff, due to actions taken on orders, will print automatically to the device.

- **LABEL ON AUTO-DISCONTINUE -** This is used to determine if labels should be created when orders for a patient from this ward are auto-discontinued (d/c) due to a patient movement. Patient movements include discharges and transfers. Labels are created for the ward on which the patient resided before the move took place.

- **MAR HEADER LABELS -** This is used to determine if MAR header labels should be generated when orders are processed for patients.

- **DAYS NEW LABELS LAST -** The Unit Dose module runs a background job once a day that deletes all unprinted new labels older than the number of days specified here. If no days are specified for this field, any unprinted new labels for this site will be purged at the end of the day.

Note: A label can still be printed for an order even though it's new label record has been purged.

- **MAR ORDER SELECTION DEFAULT -** This identifies the default for the type of orders to be included on MARs printed for this ward. All Medication, Non-IV medications only, IV piggybacks, admixtures, hyperals, and/or IV chemotherapy medication types may be selected. Multiple types may be specified.

- **PRINT PENDING ORDERS ON MAR -** This is used to determine if pending orders, that were acknowledged by a nurse, should be included on the MARs and the Medication Due Worksheet.

- **'SELF MED' IN ORDER ENTRY -** If the word **YES** (or a **1**) is entered here, the regular order entry process will prompt the user for SELF MED and HOSPITAL SUPPLIED SELF MED for each order entered. The abbreviated processes, ward order entry, and order sets are not affected in any way by this site parameter.

- **PRE-EXCHANGE REPORT DEVICE** – This is the device that is used as a default for the Pre-Exchange Report. If the value is **null,** the user will not be prompted for a device, which will disable the printing of this report for that ward. At the time the report is run, if the user enters an output device that is different from the device in this file, the option to override this parameter and define a temporary device for the remainder of this session is displayed.

2.2.3. Fields from the INPATIENT USER PARAMETERS file (#53.45)

Note: Fields from the INPATIENT USER PARAMETERS file (#53.45) are still edited through the Inpatient Medications package.

- **INPATIENT USER -** This is a user for whom the Inpatient Medications package can be tailored.

- **ALLOW USER TO RENEW ORDERS -** If this field is set to **YES**, this ward clerk/pharmacy technician can actually renew patients' inpatient orders. If this is set to **NO** (or is not set), this clerk/technician can only mark orders for renewal by another user.

- **ALLOW USER TO HOLD ORDERS -** If this field is set to **YES**, this ward clerk/pharmacy technician can actually place patients' inpatient orders on hold or take orders off of hold. If this is set to **NO** (or is not set), this clerk/technician can only mark orders for hold and take off of hold.

- **ALLOW USER TO D/C ORDERS** - If this field is set to **YES**, this ward clerk/pharmacy technician can actually discontinue patients' inpatient orders. If this is set to **NO** (or is not set), this clerk/technician can only mark orders to be discontinued by another user.

- **MAY SELECT DISPENSE DRUGS -** Unless the user is a pharmacist, the user can select only Orderable Items during the Unit Dose order entry process. A **YES** answer will allow the non-pharmacist user to select Dispense Drugs during order entry.

- **ALLOW AUTO-VERIFY FOR USER -** This is used to determine if the user can enter Unit Dose orders as active, allowing the user to skip the step of manually verifying those orders entered by this user.

- **ORDER ENTRY PROCESS** - This is the type of order entry process to be used by this user.

    - **Regular** - order entry is the full set of prompts for the entry of an order, after which the user is shown a full view of the order and allowed to take immediate action on the order.

    - **Abbreviated -** order entry gives the user fewer prompts for the entry of an order, after which the user is shown a full view of the order and is allowed to take immediate action on the order.

    - **Ward -** order entry gives the user the same prompts as the abbreviated order entry, but then gives a brief view of the entered order and does not allow immediate action to be taken on the order.

  No entry here is the same as selecting **Regular** order entry.

- **PRINT PROFILE IN ORDER ENTRY -** If this field is set to **YES**, the user will be given the opportunity to print a patient profile after entering Unit Dose orders for the patient.

- **LABEL PRINTER POINTER -** This is a device to which labels created by this user will print. If a device is entered here, it will be used instead of any device selected for the ward or pharmacy to print labels.

- **USE WARD LABEL SETTINGS -** This allows the pharmacist (or pharmacy technician) working on the ward(s) to use the label settings defined for the ward(s) instead of the label settings defined for the pharmacy.

Note: When a label printer is defined for the user, that printer will always be used to print labels instead of either the ward or pharmacy label printer.

- **INPATIENT PROFILE ORDER SORT -** This is the sort order in which the Inpatient Profile will show inpatient orders. The options will be sorted either by medication or by start date of order. Entering the words "**Medication Name**" (or the number **0**) will show the orders within schedule type (continuous, one-time, and then PRN) and then alphabetically by drug name. Entering the words "**Start Date of Order**" (or the number **1**) will show the order chronologically by start date, with the most recent dates showing first and then by schedule type (continuous, one-time, and then PRN).

Note: The Profile first shows orders by status (active, non-verified and then non-active).

2.2.4. Fields from the IV ROOM file (#59.5)

Note: Fields from the IV ROOM file (#59.5) are still edited through the Inpatient Medications package.

- **IV ROOM NAME -** This is the arbitrary name of an IV room. A site can have more than one name defined. Each IV order belongs to the IV room that input the order. An IV room can process only orders that belong to that IV room.

- **LENGTH OF LABEL -** The labels can vary in height from 12 to 66 lines. Measure the height of the label and multiply that height by the number of lines per inch for which the printer is configured.

Note: If all lines of print cannot fit within the length that is defined here, the lines of print will continue to the next label. For example, the average piggyback label is three inches high. If the printer will print 6 lines per inch, the number 18 should be entered as the answer to this parameter.

- **WIDTH OF LABEL -** Enter the maximum allowable width of the label in number of characters. If data is not entered into this field, the default will be 30. If a line of print cannot fit within the width defined here, it will continue on the next line of the label.

- **LINE FEEDS BETWEEN LABELS -** Enter a number between 0 and 6. This is the number of line feeds between each IV label. This parameter makes it possible to have a top and bottom margin on the IV labels.

- **END OF LABEL TEXT -** Enter any "end of label" text that is wanted to print at the bottom of every IV label. Separate the lines with an up-arrow (^). For example, to have this phrase print at the bottom of the IV labels:

  RETURN TO IV ROOM IN 24-HOURS
  FILLED BY: ____ CHECKED BY: ____

  The user must enter the following characters:

  RETURN TO IV ROOM IN 24-HOURS^FILLED BY: ____
  CHECKED BY: ____

- **HEADER LABEL -** When set to **YES**, an extra label is generated to record lot numbers and provide a record for new orders entered since the last printing of the active order list. This extra label, together with the active order list, provides a paper backup system in the event the computer system becomes unavailable to the user.

- **SHOW BED LOCATION ON LABEL -** The patient's ward location is always printed on the IV label. However, if bed location information is available and the user wishes to have this additional information on the label, enter **YES** or the number **1** in this field.

- **USE SUSPENSE FUNCTIONS -** If the user wants the SUSPEND LABELS as a valid choice at the "ACTION:" prompt after order entry, respond with the number **1**. If the user does not want any labels suspended after order entry, but rather have them printed, respond with the number **0**.

- **DOSE DUE LINE -** This parameter affects the printing of the dose due line on the IV label. If the number **0** is entered, the time the dose is due will not be printed on the IV label. The dose due line will be printed for Intravenous Piggybacks (IVPBs) only if the number **1** is selected, Large Volume Parenterals (LVPs) dose due line will be printed if the number **2** is selected and both IVPBs and LVPs if the number **3** is selected.

Note: LVPs include HYPERAL type orders.

- **LVPS GOOD FOR HOW MANY DAYS -** This number is one of the parameters used when the stop date of a new LVP order is computed. The computed stop date is the least of this parameter, the NUMBER OF DAYS FOR IV ORDER field (#3) in the IV ADDITIVES file (#52.6), and the DAY (nD) or DOSE (nL) LIMIT field (#.05) in the PHARMACY ORDERABLE ITEM file (#50.7) for the orderable item associated with this order. For example, if large volume IVs are good for 14 days and a new order is input with a start date of today, the stop date is T+14. If the same order contained an additive or orderable item defined for 10 days, the stop date is T+10.

- **HYPERAL GOOD FOR HOW MANY DAYS -** This number is one of the parameters used when the stop date of a new hyperal order is computed. The computed stop date is the least of this parameter, the NUMBER OF DAYS FOR IV ORDER field (#3) in the IV ADDITIVES file (#52.6), and the DAY (nD) or DOSE (nL) LIMIT field (#.05) in the PHARMACY ORDERABLE ITEM file (#50.7) for the orderable item associated with this order. For example, if a hyperal order is good for 14 days and a new order is input with a start date of today, the stop date is T+14. If the same order contained an additive or orderable item defined for 10 days, the stop date is T+10.

- **PBS GOOD FOR HOW MANY DAYS -** This number is one of the parameters used when the stop date of a new piggyback order is computed. The computed stop date is the least of this parameter, the NUMBER OF DAYS FOR IV ORDER field (#3) in the IV ADDITIVES file (#52.6), and the DAY (nD) or DOSE (nL) LIMIT field (#.05) in the PHARMACY ORDERABLE ITEM file (#50.7) for the orderable item associated with this order. For example, if a piggyback order is good for 14 days and a new order is entered today, the stop date is T+14. If the same order contained an additive or orderable item defined for 10 days, the stop date is T+10.

- **SYRNS GOOD FOR HOW MANY DAYS -** This number is one of the parameters used when the stop date for the IV syringe order is computed. The computed stop date is the least of this parameter, the NUMBER OF DAYS FOR IV ORDER field (#3) in the IV ADDITIVES file (#52.6), and the DAY (nD) or DOSE (nL) LIMIT field (#.05) in the PHARMACY ORDERABLE ITEM file (#50.7) for the orderable item associated with this order.

- **CHEMO'S GOOD FOR HOW MANY DAYS -** This number is one of the parameters used to determine the stop date for chemotherapy IV orders. The computed stop date is the least of this parameter, the NUMBER OF DAYS FOR IV ORDER field (#3) in the IV ADDITIVES file (#52.6), and the DAY (nD) or DOSE (nL) LIMIT field (#.05) in the PHARMACY ORDERABLE ITEM file (#50.7) for the orderable item associated with this order.

- **STOP TIME FOR ORDER -** Enter, in military time, the time of the day that the automatic stop of orders should occur.

- **EXPIRE ALL ORDERS ON SAME DAY -** Enter the number **1** to stop all IV orders automatically on the same day. The day the orders are stopped will be the stop date of the first active IV order found in the file. The stop date that is found will be shown as a default for the stop date of the IV ORDER.

- **ACTIVITY RULER -** The activity ruler provides a visual representation of the relationship between coverage times, doses due, and order start times. The intent is to provide the on-the-floor user with a way to track activity in the IV room and determine when to call for doses before the normal delivery.

- **TOTAL VOL. ON HYPERAL LABELS -** Enter the number **1** or **YES** if the total volume of solutions and additives are to be displayed on all hyperal labels.

- **Select START OF COVERAGE -** Enter the military time that designates the first administration time covered by this manufacturing run. In other words, if the previous manufacturing period covered up to and included the 0900 dose, the start of coverage would begin at 0901. For each START OF COVERAGE, there are the following fields:

    - **TYPE -** Enter the IV type for this start of coverage period. The user can enter only one type for each period that is defined.

    - **DESCRIPTION -** A description for each delivery time (3 to 30 characters) can be entered. The user will be prompted with a default description. This description will appear when manufacturing records and ward lists are requested. Using the default prompt will help lead to less confusion for the users.

    - **END OF COVERAGE -** Enter the military time that designates the last administration time covered by this manufacturing run. Enter midnight as 2400.

    - **MANUFACTURING TIME -** Enter the military time that designates the general time when the manufacturing list will be run and the orders prepared. This is for documentation and does not affect IV processing. Enter midnight as 2400.

- **DELIVERY TIME -** Delivery time must be entered using a 24-hour clock (e.g., 9 AM is entered as 0900). Delivery time is used as a default start time for admixtures and hyperalimentations. Enter midnight as 2400.

- **LABEL DEVICE -** Enter the name that is used most frequently as the label device for this IV room. This field displays as the default for the “Current IV LABEL device is:” prompt when signing into the IV software.

- **REPORT DEVICE -** Enter the PROFILE device number or name that will be used most frequently by this IV room. This field displays as the default for the “Current IV REPORT DEVICE:” prompt when signing into the IV software.

- **INACTIVATION DATE -** This is used to place an IV room out of service. Once the inactive date is reached, the IV room will no longer be selectable in IV Order Entry options.

- **DAYS TO RETAIN IV STATS -** This is used to allow the site to specify the number of days to keep data in the IV STATS file (#50.8).

3. Package Security

3.1. Option Security Keys

After the users are assigned the primary menu options of PSJU MGR (for Unit Dose) and/or PSJI MGR (for IV), it is necessary to give the appropriate security keys to each user as required.

Note: The security key PSJU RPH is no longer used.

The following security keys do not lock any options, however they are used to identify the type of user:

- **PSJ PHARM TECH** — This key identifies the user as a Pharmacy Technician.
- **PSJ RNURSE** — This key identifies the user as a nurse and gives them access to verify orders.
- **PSJ RPHARM** — This key identifies the user as a pharmacist and gives them access to verify orders.

The following security keys give the user access to certain order actions.

- **PSJ RNFINISH** — This key can only be granted to holders of the PSJ RNURSE key. It allows the holder to enter a Dispense Drug and to finish Unit Dose orders.
- **PSJI PHARM TECH** — This key allows the holder to finish IV orders.
- **PSJI RNFINISH** — This key can only be granted to holders of the PSJ RNURSE key. It allows the holder to finish IV orders.

The following security keys do lock options and give the user certain access capability.

- **PSJI MGR** — Locks the PSJI MGR option. This key allows access to the supervisor functions necessary to run the IV Medications package, and should be given to the Inpatient coordinator.
- **PSJI PURGE** — This key gives access to the purge IV functions, which allows the purging of expired orders. This key should be given to the Inpatient coordinator.
- **PSJU MGR** — This key allows the editing of basic background files needed to run the Unit Dose package, and various management reports. This key should be given to the Unit Dose package coordinator and/or Inpatient supervisor.
- **PSJU PL** — This key allows the user to have access to the Unit Dose Medications PICK LIST options and functions.

3.2. File Security

VA FileMan file access codes are used sparingly by the Inpatient Medications package. Only the following codes are given:

- Every file sent with the package is given a Data Dictionary (DD) access code of "@".
- IV STATS (#50.8), ACTIVITY LOG REASON (#53.3), PICK LIST (#53.5), UNIT DOSE PICK LIST STATS (#57.6), INPATIENT WARD PARAMETERS (#59.6), files are all given Write (WR), Learn as you go (LAYGO), and Delete (DEL) access codes of ^.
- No code is given for the Read (RD) access of any of the files. Anyone may print the data from any of the files.

No other access codes are given. Sites may add their own codes as they see fit, but it is highly recommended that they *do not* change the codes that are sent with the package.

Note: Please refer to page 432 of Kernel V. 8.0 Systems Manual concerning installation of security codes entitled "Sending Security Codes".

4. File List

50.2	IV CATEGORY
50.8	IV STATS
51.15	ADMINISTRATION SHIFT
53.1	NON-VERIFIED ORDERS
53.2	UNIT DOSE ORDER SET
53.3	ACTIVITY LOG REASON
53.4	PRE-EXCHANGE NEEDS
53.41	MAR LABELS
53.42	INPATIENT BACKGROUND JOB
53.43	MISCELLANEOUS REPORT FILE
53.44	PHYSICIANS' ORDERS
53.45	INPATIENT USER PARAMETERS
53.5	PICK LIST
53.55	UNIT DOSE/ATC MEDS
57.5	WARD GROUP
57.6	UNIT DOSE PICK LIST STATS
57.7	MEDICATION ADMINISTERING TEAM
59.5	IV ROOM
59.6	INPATIENT WARD PARAMETERS

Example: How to Print File Information Using VA FileMan

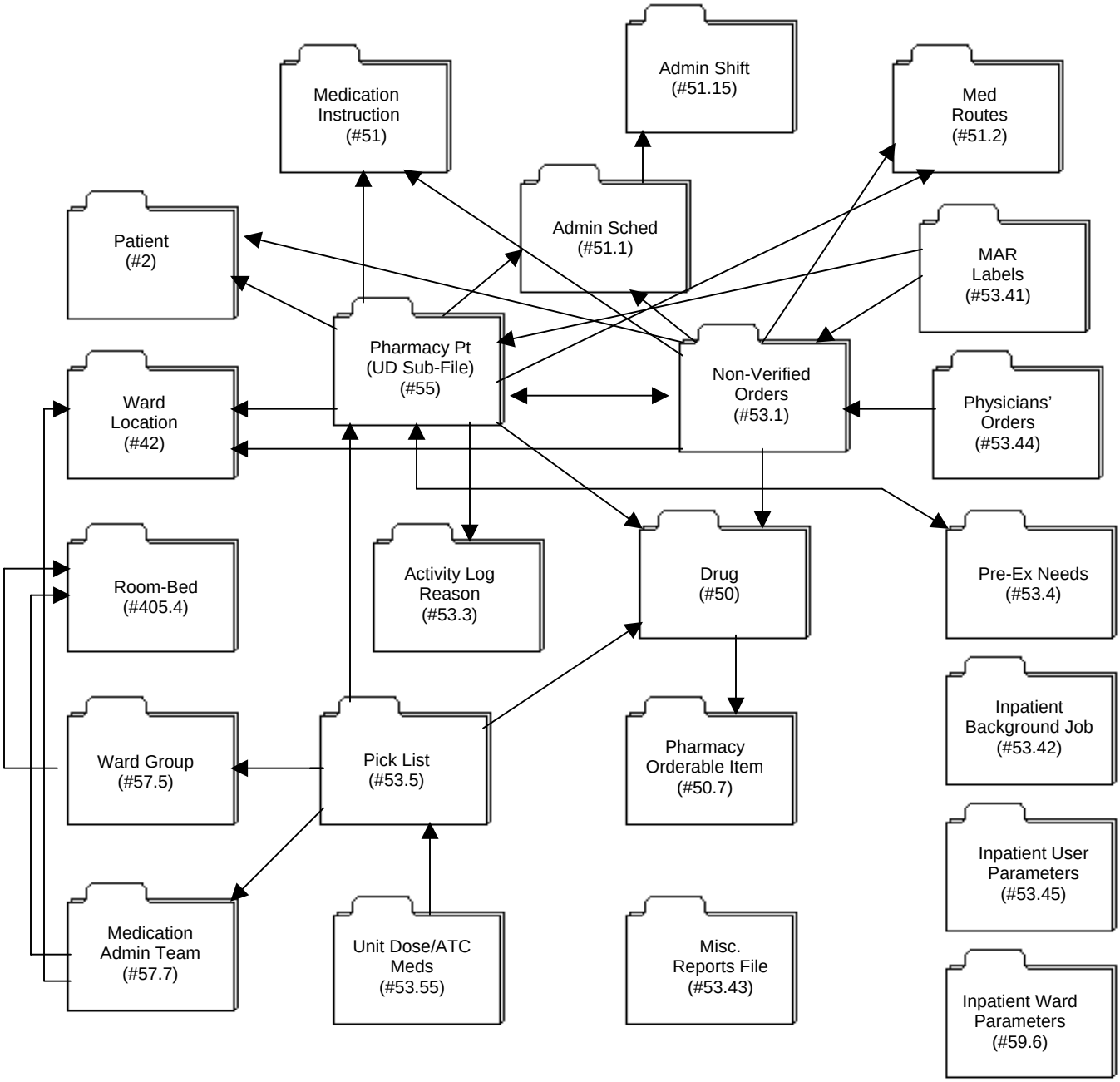
```
VA FileMan  22.0

Select OPTION:  8     DATA DICTIONARY UTILITIES
Select DATA DICTIONARY UTILITY OPTION: LIST FILE ATTRIBUTES
START WITH WHAT FILE: INPATIENT USER PARAMETERS//  <Enter>
     GO TO WHAT FILE: INPATIENT USER PARAMETERS //  <Enter>
Select SUB-FILE:   <Enter>
Select LISTING FORMAT:  STANDARD//  <Enter>
DEVICE:  [Enter Print Device Here]                    RIGHT MARGIN: 80//  <Enter>
```

The file's DD will now print on the user-specified device.

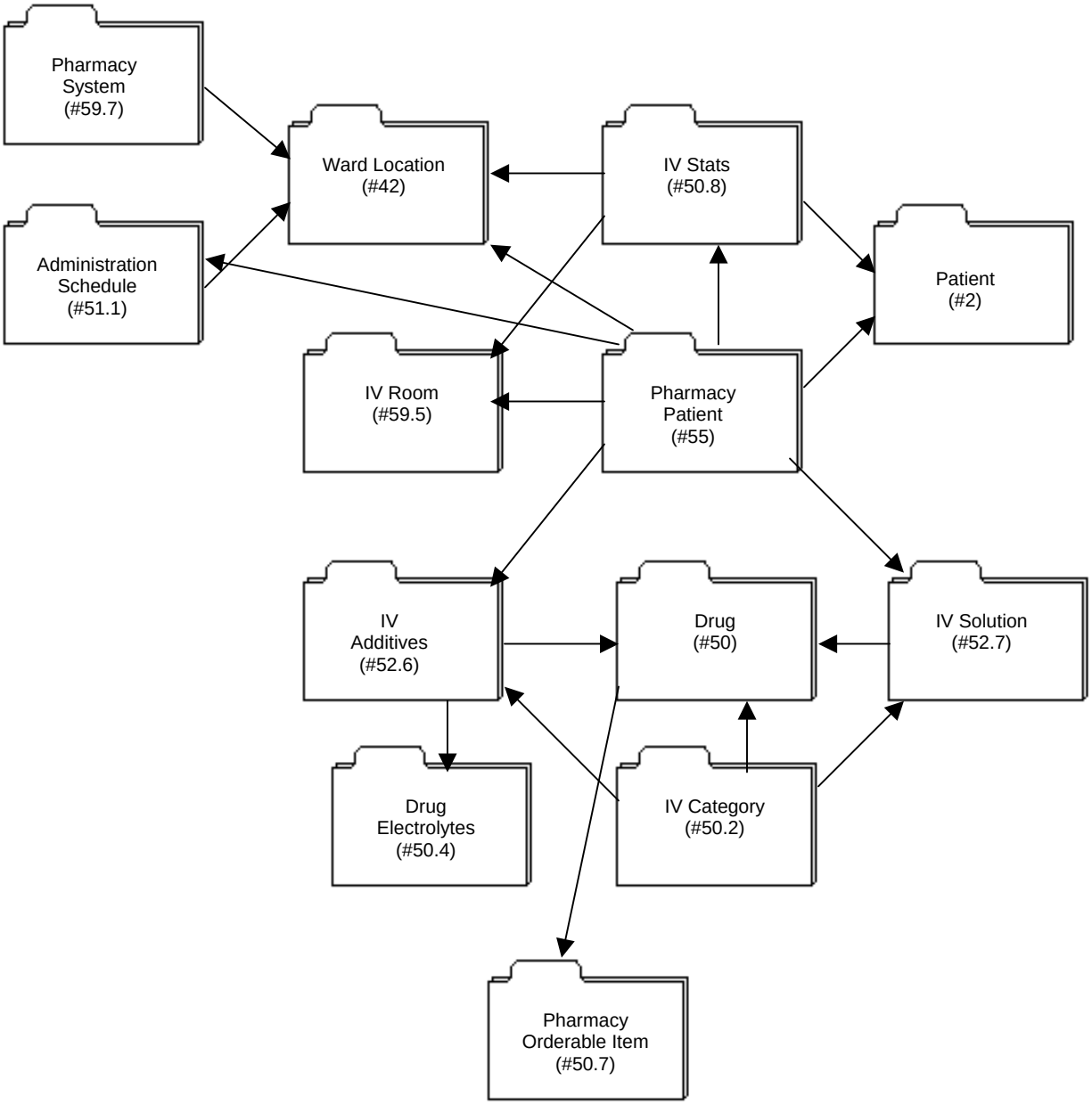
4.1. Unit Dose File Diagram

In Microsoft's latest version of Word, the user will not be able to see the File Diagram below if viewing this document electronically, unless the user is in Page Layout view. To switch to Page Layout, select View from the Word menu above and then select Page Layout. The entire manual can be viewed in this format.



4.2. IV File Diagram

In Microsoft's latest version of Word, the user will not be able to see the File Diagram below if viewing this document electronically unless the user is in Page Layout view. To switch to Page Layout, select View from the Word menu above and then select Page Layout. The entire manual can be viewed in this format.



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

5. Routines

**** IMPORTANT ****

A routine name followed by an asterisk (such as PSJ*) is used to designate the complete set of the routines that start with those characters.

5.1. Descriptions

The following routines are exported by the Inpatient Medications package. Routine names starting with the letters PSG designate routines used mainly by the Unit Dose Medications module. Routine names starting with the letters PSIV designate routines used mainly by the IV Medications module. Routine names starting with the letters PSJ designate Inpatient Medications routines - utilities used by IV, Unit Dose, and other packages.

PSGAL5	PSGAMS	PSGAMS0	PSGAMSA
PSGAP	PSGAP0	PSGAPH	PSGAPIV
PSGAPP	PSGAXR	PSGBRJ	PSGCAP
PSGCAP0	PSGCAPIV	PSGCAPP	PSGCAPP0
PSGCT	PSGDCC	PSGDCCM	PSGDCR0
PSGDCT	PSGDCT1	PSGDCTP	PSGDL
PSGDS	PSGDS0	PSGDSP	PSGDSP0
PSGDSP1	PSGDSPN	PSGEUD	PSGEUDD
PSGEUDP	PSGFILD0	PSGFILD1	PSGFILD2
PSGFILD3	PSGFILED	PSGGAO	PSGIU
PSGL	PSGL0	PSGLBA	PSGLH
PSGLOI	PSGLPI	PSGLW	PSGMAR
PSGMAR0	PSGMAR1	PSGMAR2	PSGMAR3
PSGMI	PSGMIV	PSGMMAR	PSGMMAR0
PSGMMAR1	PSGMMAR2	PSGMMAR3	PSGMMAR4
PSGMMAR5	PSGMMARH	PSGMMIV	PSGMMIVC
PSGMUTL	PSGNE3	PSGO	PSGOD
PSGOE	PSGOE0	PSGOE1	PSGOE2
PSGOE3	PSGOE31	PSGOE4	PSGOE41
PSGOE42	PSGOE5	PSGOE6	PSGOE7
PSGOE8	PSGOE81	PSGOE82	PSGOE9
PSGOE91	PSGOE92	PSGOEC	PSGOECA

PSGOECS	PSGOEE	PSGOEE0	PSGOEEW
PSGOEF	PSGOEF1	PSGOEH0	PSGOEH1
PSGOEHA	PSGOEI	PSGOEL	PSGOEM
PSGOEM1	PSGOENG	PSGOEPO	PSGOER
PSGOER0	PSGOER1	PSGOERI	PSGOERS
PSGOES	PSGOESF	PSGOETO	PSGOETO1
PSGOEV	PSGOEVS	PSGON	PSGORS0
PSGORVW	PSGOT	PSGOTR	PSGOU
PSGP	PSGPEN	PSGPER	PSGPER0
PSGPER1	PSGPER2	PSGPL	PSGPL0
PSGPL1	PSGPLD	PSGPLDP	PSGPLDP0
PSGPLDPH	PSGPLF	PSGPLFM	PSGPLG
PSGPLPRG	PSGPLR	PSGPLR0	PSGPLRP
PSGPLUP	PSGPLUP0	PSGPLUTL	PSGPLXR
PSGPO	PSGPOR	PSGPR	PSGPRVR
PSGPRVR0	PSGRET	PSGRPNT	PSGS0
PSGSCT	PSGSCT0	PSGSEL	PSGSET
PSGSETU	PSGSH	PSGSICHK	PSGSSP
PSGTAP	PSGTAP0	PSGTAP1	PSGTCTD
PSGTCTD0	PSGTI	PSGVBW	PSGVBW0
PSGVBW1	PSGVBWP	PSGVBWU	PSGVDS
PSGVW	PSGVW0	PSGVWP	PSIV
PSIVACT	PSIVAL	PSIVALN	PSIVALNC
PSIVAMIS	PSIVAOR	PSIVAOR1	PSIVBCID
PSIVCAL	PSIVCHK	PSIVCHK1	PSIVCSED
PSIVDCR	PSIVDCR1	PSIVDCR2	PSIVDRG
PSIVEDRG	PSIVEDT	PSIVEDT1	PSIVHIS
PSIVHLD	PSIVHLP	PSIVHLP1	PSIVHLP2
PSIVHLP3	PSIVHYP	PSIVHYPL	PSIVHYPR
PSIVLABL	PSIVLABR	PSIVLB	PSIVLBDL
PSIVLBL1	PSIVLBRP	PSIVLTR	PSIVLTR1
PSIVMAN	PSIVMAN1	PSIVOE	PSIVOPT
PSIVOPT1	PSIVOPT2	PSIVORA	PSIVORA1
PSIVORAL	PSIVORC	PSIVORC1	PSIVORC2
PSIVORE	PSIVORE1	PSIVORE2	PSIVOREN
PSIVORFA	PSIVORFB	PSIVORFE	PSIVORH
PSIVORLB	PSIVORV1	PSIVORV2	PSIVPAT
PSIVPCR	PSIVPCR1	PSIVPGE	PSIVPR
PSIVPRO	PSIVQUI	PSIVRD	PSIVRDC
PSIVREC	PSIVRNL	PSIVRP	PSIVRP1
PSIVRQ	PSIVRQ1	PSIVSET	PSIVSP
PSIVSPDC	PSIVST2	PSIVSTAT	PSIVSUS

PSIVSUS1	PSIVUDL	PSIVUTL	PSIVUTL1
PSIVUWL	PSIVVW1	PSIVWCR	PSIVWCR1
PSIVWL	PSIVWL1	PSIVWRP	PSIVXREF
PSIVXU	PSJ0026	PSJ0030	PSJ005
PSJ0050	PSJ0061	PSJ0063	PSJ0066
PSJ007	PSJ0071	PSJ0077	PSJ0078
PSJ010	PSJ074	PSJ0742	PSJ078A
PSJ078B	PSJ089	PSJ089B	PSJ200
PSJ200A	PSJ5P89P	PSJAC	PSJADT
PSJADT0	PSJADT1	PSJADT2	PSJALG
PSJBCMA	PSJBCMA1	PSJBCMA2	PSJBCMA3
PSJBCMA4	PSJCOM	PSJCOM1	PSJCOMR
PSJCOMV	PSJDCHK	PSJDCU	PSJDDUT
PSJDDUT2	PSJDDUT3	PSJDEA	PSJDGAL
PSJDIN	PSJDOSE	PSJDPT	PSJEEU
PSJEEU0	PSJENV	PSJEXP	PSJEXP0
PSJFTR	PSJH1	PSJHEAD	PSJHEH
PSJHIS	PSJHL10	PSJHL11	PSJHL2
PSJHL3	PSJHL4	PSJHL5	PSJHL6
PSJHL7	PSJHL9	PSJHLERR	PSJHLU
PSJHLV	PSJHVARS	PSJLIACT	PSJLIFN
PSJLIFNI	PSJLIORD	PSJLIPRF	PSJLIUTL
PSJLIVFD	PSJLIVMD	PSJLMAL	PSJLMDA
PSJLMGUD	PSJLMHED	PSJLMPRI	PSJLMPRU
PSJLMUDE	PSJLMUT1	PSJLMUTL	PSJLOAD
PSJLOI	PSJMAI	PSJMAI1	PSJMDIR
PSJMDIR1	PSJMDWS	PSJMEDS	PSJMIV
PSJMP	PSJMPEND	PSJMPRT	PSJMPRTU
PSJMUTL	PSJNTEG	PSJNTEG0	PSJNTEG1
PSJO	PSJO1	PSJO2	PSJO3
PSJOE	PSJOE0	PSJOE1	PSJOEA
PSJOEA1	PSJOEEW	PSJOERI	PSJORAPI
PSJORDA	PSJOREN	PSJORMA1	PSJORMA2
PSJORMAR	PSJORP2	PSJORPOE	PSJORRE
PSJORRE1	PSJORREN	PSJORUT2	PSJORUTL
PSJP	PSJPATMR	PSJPDIR	PSJPDV
PSJPDV0	PSJPDV1	PSJPL0	PSJPR
PSJPR0	PSJPST50	PSJPXRM1	PSJQPR
PSJRXI	PSJSPU	PSJSPU0	PSJSV
PSJSV0	PSJUNITD	PSJUTL	PSJUTL1
PSJUTL2	PSJUTL3	PSJUTL5	PSJUTL6

The following routines are not used in this version of Inpatient Medications. They were exported in the initial Kernel Installation and Distribution System (KIDS) build as Delete at Site.

PSGDCR	PSGDCT0	PSGEXP	PSGEXP0
PSGMMPST	PSGOROE0	PSGORU	PSGQOS
PSIVNVO	PSIVOEDO	PSIVOENT	PSIVOEPT
PSIVRD0	PSIVRD0	PSJMAN	PSJOAC
PSJOAC0	PSJOE8	PSJOE81	PSJOEE
PSJOER	PSJOER0	PSJORA	PSJORIN
PSJPRE4	PSJPRE40	PSJPRE41	PSJPRE45
PSJPRE46	PSJPRE47	PSJPRE48	PSJPRE49
PSJPRE4H	PSJQSET	PSJSPAUT	PSJUO
PSJUO1	PSJUTL4		

5.2. Callable Routines

Entry points provided by the Inpatient Medications package to other packages can be found in the External Relationships section of this manual. No other routines are designated as callable from outside of this package.

5.3. Routine Mapping

Routines not listed here are used sparingly, and can be mapped if the site desires.

5.3.1. Do Not Map

PSGXR*
PSJIP*
PSJXR*

The PSGXR* and PSJXR* routines are created by VA FileMan when it compiles the cross-references of the NON-VERIFIED ORDERS (#53.1) and PHARMACY PATIENT (#55) files.

5.3.2. Mapping Highly Recommended

PSGAL5	PSGAMSA	PSGAP*	PSGAXR
PSGCAP*	PSGCT	PSGDL	PSGDS*
PSGEUD	PSGGAO	PSGIU	PSGL*
PSGMAR*	PSGMMAR*	PSGNE3	PSGO*
PSGP	PSGPEN	PSGPL*	PSGPR
PSGRET	PSGS0	PSGSEL	PSGSET*
PSGSICHK	PSGTAP*	PSGTI	PSGVBW*
PSGVDS	PSGVW*	PSIV	PSIVACT
PSIVAL	PSIVCAL	PSIVCHK*	PSIVHYP*
PSIVLABL	PSIVLBL1	PSIVLTR*	PSIVMAN*
PSIVOPT	PSIVORE*	PSIVPRO	PSIVSTAT
PSIVSUS*	PSIVUWL	PSIVVW*	PSIVWL*
PSIVXU	PSJA*	PSJEEU*	PSJHL*
PSJL*	PSJO*	PSJP	

5.3.3. Mapping Recommended

PSGAMS	PSGAMS0	PSGBRJ	PSGDC*
PSGFILD*	PSGFILED	PSGSC*	PSGSH
PSGTC*	PSIVDCR*	PSIVHLD	PSIVOE*
PSIVQUI	PSIVRQ*	PSIVSP	

5.3.4. Deleting Inpatient Routines

1. Since this initial version is distributed using KIDS, the transport global is automatically deleted after the install.

   If the plan is to delete existing Inpatient Medications routines before loading V. 5.0, be sure not to delete PSGW* (Ward Stock) routines. These routines are not included as part of Inpatient Medications.

2. The following Inpatient Medications routines were sent with a past version of the Kernel, and are no longer needed. They can be deleted.

   PSGZ1TSK PSGZ2TSK PSIVZTSK

Note: It is okay if any of these routines are missing, because they are no longer used.

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

6. Templates

6.1. Print Templates

NAME	FILE
PSJ DOSAGE FORM REPORT	DOSAGE FORM (#50.606)

6.2. Input Templates

NAME	FILE
PSJ ECSP	PHARMACY SYSTEM (#59.7)
PSJ FILED	DRUG (#50)
PSJ IUP SUPER EDIT	INPATIENT USER PARAMETERS (#53.45)
PSJ IUP USER EDIT	INPATIENT USER PARAMETERS (#53.45)
PSJ IWP EDIT	INPATIENT WARD PARAMETERS (#59.6)
PSJ OAOPT	PHARMACY SYSTEM (#59.7)
PSJ SHIFT EDIT	ADMINISTRATION SHIFT (#51.15)
PSJI PAT UPDATE	PATIENT (#2)
PSJI SCHEDULE	MEDICATION INSTRUCTION (#51.1)
PSJI SITE PARAMETERS	IV ROOM (#59.5)
PSJIADM	PATIENT (#2)
PSJIDE	DRUG ELECTROLYTES (#50.4)
PSJIDRUG	DRUG (#50)
PSJIEDT	PHARMACY PATIENT (#55)
PSJIEDT	NON-VERIFIED ORDERS (#53.1)
PSJIES	DRUG (#50)
PSJINEW	PHARMACY PATIENT (#55)
PSJIPS	DRUG (#50)
PSJIRNW	PHARMACY PATIENT (#55)
PSJU DRUG EDIT	DRUG (#50)
PSJU EASP	INPATIENT SITE (#59.4)
PSJU ECSP	INPATIENT SITE (#59.4)
PSJU ELSP	INPATIENT SITE (#59.4)
PSJU EMSP	INPATIENT SITE (#59.4)
PSJU EOSP	INPATIENT SITE (#59.4)

NAME	FILE
PSJU EPLSP	INPATIENT SITE (#59.4)
PSJU FILED	DRUG (#50)
PSJU IVSP	INPATIENT SITE (#59.4)
PSJU WG	WARD GROUP (#57.5)
PSJUED	PHARMACY PATIENT (#55)
PSJUMATE	MEDICATION ADMINISTERING TEAM (#57.7)
PSJUOSE	UNIT DOSE ORDER SET (#53.2)
PSJUPAC	PHARMACY PATIENT (#55)
PSJURET	PHARMACY PATIENT (#55)
PSJUSCH	PHARMACY PATIENT (#55)
PSJUSFE	INPATIENT SITE (#59.4)

The following input templates are no longer used and are exported as Delete at Site.

NAME	FILE
PSJ EXT SCHEDULE EDIT	ADMINISTRATION SCHEDULE (#51.1)
PSJ PD EDIT	PRIMARY DRUG (#50.3)
PSJ SCHEDULE EDIT	ADMINISTRATION SCHEDULE (#51.1)
PSJ FILED	DRUG (#50)
PSJI ADD	IV ADDITIVES (#52.6)
PSJI SOL	IV SOLUTIONS (#52.7)
PSJQ FLUID	PHARMACY QUICK ORDER (#57.1)
PSJQ MED	PHARMACY QUICK ORDER (#57.1)
PSJUED	NON-VERIFIED ORDERS (#53.1)
PSJUPDE	PHARMACY PATIENT (#55)

6.3. List Templates

PSJ LM ALLERGY DETAIL
PSJ LM ALLERGY DISPL
PSJ LM BRIEF PATIENT INFO
PSJ LM DETAILED ALLERGY
PSJ LM IV AC/EDIT
PSJ LM IV DISPLAY
PSJ LM IV INPT ACTIVE
PSJ LM IV INPT DISPLAY
PSJ LM IV INPT PENDING
PSJ LM IV LABELS
PSJ LM IV OE
PSJ LM IV PENDING
PSJ LM IV PROFILE
PSJ LM IV RETURN LABELS
PSJ LM OE
PSJ LM OE DISPLAY
PSJ LM PENDING EDIT
PSJ LM PNV
PSJ LM UD ACTION
PSJU LM ACCEPT
PSJU LM OE

Example: How to Print List Templates using VA FileMan

```
VA FileMan 22.0


Select OPTION: INQUIRE TO FILE ENTRIES

OUTPUT FROM WHAT FILE: OPTION// LIST TEMPLATE      (62 entries)
Select LIST TEMPLATE NAME: PSJ LM ALLERGY DETAIL
ANOTHER ONE: <Enter>
STANDARD CAPTIONED OUTPUT? Yes//  <Enter> (Yes)
Include COMPUTED fields:  (N/Y/R/B): NO//  <Enter> - No record number (IEN), no Computed Fields

NAME: PSJ LM ALLERGY DETAIL             TYPE OF LIST: PROTOCOL
  RIGHT MARGIN: 80                      TOP MARGIN: 8
  BOTTOM MARGIN: 20                     OK TO TRANSPORT?: OK
  USE CURSOR CONTROL: YES
  PROTOCOL MENU: PSJ LM DETAILED ALLERGY MENU
  SCREEN TITLE: DETAILED ALLERGY VIEW   ALLOWABLE NUMBER OF ACTIONS: 2
  AUTOMATIC DEFAULTS: YES               HIDDEN ACTION MENU: VALM HIDDEN ACTIONS
  ARRAY NAME:  ^TMP("PSJAL",$J)
  EXIT CODE: D DISALL^PSJLMUTL(DFN) S VALMBCK="Q" K ^TMP("PSJALLRG",$J)
  HEADER CODE: D HDR^PSJLMHED(DFN)      HELP CODE: D HELP^PSJALG
  ENTRY CODE: D DETAIL^PSJALG
```

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

7. Exported Options

7.1. Stand-alone Options

All of the Inpatient Medications package options are designed to stand-alone and can be accessed without first accessing the top-level menu. All of the options can be placed on menus other than their original menu without any additional editing.

7.2. Top-level Menus

There is no top-level menu for Inpatient Medications. The Inpatient Medications options are included in the IV and Unit Dose top-level menus.

7.2.1. Menu Assignment

Assign the following menus to the Inpatient Medications users:

PSJU MGR	This is the only Unit Dose Medications menu, and is to be assigned to all Unit Dose users.
PSJI MGR	This IV Medications menu is to be assigned to the pharmacists, inpatient supervisors, and package coordinators.
PSJI USR1	This IV Medications menu is to be assigned to the nurses.
PSJI USR2	This IV Medications menu is to be assigned to the pharmacy technicians.

7.2.2. Menu Placement

It is strongly recommended that the user does not place the Inpatient Medications (IV and Unit Dose) menus under the Outpatient Pharmacy menu. It is suggested that they be placed on the same menu as the Outpatient Pharmacy menu instead.

Although it has been common practice to place the Inpatient Medications top-level menus under the Outpatient menu, this can cause <STORE> errors.

7.3. Options

The following options are exported with the Inpatient Medications package:

Option Name	Menu Text
PSJ AC SET-UP	AUto-Discontinue Set-Up
PSJ EXP	INpatient Stop Order Notices
PSJ EXTP	Patient Profile (Extended)
PSJ IWP EDIT	Inpatient Ward Parameters Edit
PSJ MDWS	Medications Due Worksheet
PSJ OAOPT	Order Action on Patient Transfer
PSJ OE	Inpatient Order Entry
PSJ PARAM EDIT MENU	PARameters Edit Menu
PSJ PDV	Patients on Specific Drug(s)
PSJ PR	Inpatient Profile
PSJ SEUP	Inpatient User Parameters Edit
PSJ SYS EDIT	Systems Parameters Edit
PSJ UD ALIGN LABEL	Align Unit Dose Labels
PSJ UEUP	Edit Inpatient User Parameters
PSJI 200	Correct Changed Names in IV Orders
PSJI ACTIVE	Active Order List (IV)
PSJI ALIGNMENT	Align Labels (IV)

Option Name	Menu Text
PSJI AMIS	AMIS (IV)
PSJI AOR	ACtive Order Report by Ward/Drug (IV)
PSJI BACKGROUND JOB	Compile IV Costs in Background
PSJI CHANGE	Change to Another IV Room (IV)
PSJI COMPILE STATS	COmpile IV Statistics (IV)
PSJI COMPLETE	COmplete Orders (IV)
PSJI CONTROL CODES	Test Control Codes (IV)
PSJI DELETE ORDER	Delete Orders (IV)
PSJI DEVICE	Change Report/Label Devices (IV)
PSJI DRUG COST REPORT	Drug Cost Report (132 COLUMNS) (IV)
PSJI DRUG FORM	IV Drug Formulary Report (IV)
PSJI DRUG INQUIRY	Drug Inquiry (IV)
PSJI INDIVIDUAL SUSPENSE	Individual Order Suspension (IV)
PSJI LBLI	Individual Labels (IV)
PSJI LBLMENU	Label Menu (IV)
PSJI LBLR	Reprint Scheduled Labels (IV)
PSJI LBLS	Scheduled Labels (IV)
PSJI MAN	Manufacturing List (IV)
PSJI MANAGEMENT REPORTS	Management Reports (IV)
PSJI MGR	IV Menu
PSJI ORDER	Order Entry (IV)

Option Name	Menu Text
PSJI PATIENT COST	Patient Cost Report (132 COLUMNS) (IV)
PSJI PROFILE	Profile (IV)
PSJI PROFILE REPORT	Patient Profile Report (IV)
PSJI PROVIDER REPORT	PRovider Drug Cost Report (132 COLUMNS) (IV)
PSJI PURGE	PUrge Data (IV)
PSJI PURGE ORDERS	Purge Expired Orders (IV)
PSJI RECOMPILE	Recompile Stats File (IV)
PSJI REPORTS	REPorts (IV)
PSJI RETURN BY BARCODE ID	Barcode ID – Return and Destroy (IV)
PSJI RETURNS	RETurns and Destroyed Entry (IV)
PSJI RNL	Renewal List (IV)
PSJI SITE PARAMETERS	SIte Parameters (IV)
PSJI SUPERVISOR	SUPervisor's Menu (IV)
PSJI SUSLBDEL	Delete Labels from Suspense (IV)
PSJI SUSLBLS	Labels from Suspense (IV)
PSJI SUSLIST	Suspense List (IV)
PSJI SUSMAN	Manufacturing Record for Suspense (IV)
PSJI SUSMENU	SUSpense Functions (IV)
PSJI SUSREP	Reprint Labels from Suspense (IV)
PSJI UP	Update Daily Ward List (IV)
PSJI USR1	IV Menu

Option Name	Menu Text
PSJI USR2	IV Menu
PSJI WARD	Ward List (IV)
PSJI WARD/DRUG USAGE REPORT	Ward/Drug Usage Report (132 COLUMNS) (IV)
PSJU 14D MAR	14 Day MAR
PSJU 24H MAR	24 Hour MAR
PSJU 7D MAR	7 Day MAR
PSJU AL	Align Labels (Unit Dose)
PSJU AMIS	AMIS (Cost per Ward)
PSJU AP-1	Action Profile #1
PSJU AP-2	Action Profile #2
PSJU AT	Administering Teams
PSJU BRJ	Unit Dose Clean-Up
PSJU CA	Discontinue All of a Patient's Orders
PSJU CPDD	Edit Patient's Default Stop Date
PSJU DCT	Drug (Cost and/or Amount)
PSJU DOSAGE REPORT	Free Text Dosage Report
PSJU DS	AUthorized Absence/Discharge Summary
PSJU EPPD	Pharmacy Patient Data Edit
PSJU EUD	EXtra Units Dispensed
PSJU EUDD	Extra Units Dispensed Report
PSJU EWG	Ward Groups

Option Name	Menu Text
PSJU FILE	Supervisor's Menu
PSJU HOLD ALL	Hold All of a Patient's Orders
PSJU INQ DRUG	Dispense Drug Look-Up
PSJU INQ STD SCHD	Standard Schedules
PSJU INQMGR	INQuiries Menu
PSJU LABEL	Label Print/Reprint
PSJU MAR	Medication Administration Record
PSJU MGR	Unit Dose Medications
PSJU MNGMT REPORTS	MANagement Reports Menu
PSJU NE	Order Entry
PSJU OSE	Order Set Enter/Edit
PSJU PL	Pick List
PSJU PL MENU	PIck List Menu
PSJU PLAPS	PIck List Auto Purge Set/Reset
PSJU PLATCS	Send Pick List to ATC
PSJU PLDEL	Delete a Pick List
PSJU PLDP	ENter Units Dispensed
PSJU PLMGR	PIck List Menu
PSJU PLPRG	PUrge Pick Lists
PSJU PLRP	Reprint Pick List

Option Name	Menu Text
PSJU PLUP	Update Pick List
PSJU PO PURGE	PATient Order Purge
PSJU PR	PAtient Profile (Unit Dose)
PSJU PRVR	PRovider (Cost per)
PSJU REPORTS	Reports Menu
PSJU RET	Report Returns
PSJU SCT	Service (Total Cost per)
PSJU SYSTEM	Unit Dose System
PSJU TCTD	Total Cost to Date (Current Patients)
PSJU VBW	Non-Verified/Pending Orders

The following options are no longer in this initial version of Inpatient Medications. They were exported in the KIDS build as Delete at Site.

Option Name	Menu Text
PSJ AUTO CREATE THROUGH NDF	Auto create by VA Generic Name
PSJ CREATE	Create/Update Orders in OE/RR
PSJ MANUAL MATCH	Manual match Dispense Drugs
PSJ QUICK ORDER REPORT	Quick Order Report
PSJ QUICK ORDERS	Quick Order Add/Edit
PSJ QUICK ORDERS MENU	Quick Orders Menu
PSJI NON-VERIFIED ORDERS	Non-verified Orders (IV)
PSJI NON VERIFIED ORDERS	Non verified Orders (IV)
PSJU AP	Action Profile (Unit Dose)
PSJU EXP	Stop Order Notices
PSJU DCC	Edit Cost Data
PSJU DCR	Cost at Discharge
PSJU DRUG/ATC SET UP	Dispense Drug/ATC Set Up
PSJU PLSP	Site Parameters

Example: How to Print the Exported Options Using VA FileMan

```
VA FileMan 22.0


Select OPTION: INQUIRE TO FILE_ENTRIES



OUTPUT FROM WHAT FILE: PRINT TEMPLATE// OPTION
     1   OPTION                          (2109 entries)
     2   OPTION SCHEDULING               (9 entries)
CHOOSE 1-2: 1
Select OPTION NAME: PSJ AC SET-UP          AUto-Discontinue Set-Up
ANOTHER ONE: <Enter>
STANDARD CAPTIONED OUTPUT? Yes//  <Enter> (Yes)
Include COMPUTED fields:  (N/Y/R/B): NO// <Enter> - No record number (IEN), no Computed Fields
DISPLAY AUDIT TRAIL? No//  <Enter> (No)

NAME: PSJ AC SET-UP                     MENU TEXT: AUto-Discontinue Set-Up
  TYPE: run routine                     CREATOR: POSTMASTER
  PACKAGE: INPATIENT MEDICATIONS        X ACTION PRESENT: YES
  DESCRIPTION:
  This allows the site to determine if patients' Inpatient Medications (IV and
  Unit Dose) orders are d/c'd when the patient is transferred between wards,
  between services, or to authorized absence.  This determination can be made
  on a ward-by-ward and/or service-by-service basis.
  EXIT ACTION: K C,I,I1,DIC,DLAYGO      ROUTINE: ENOAOPT^PSGFILD0
  UPPERCASE MENU TEXT: AUTO-DISCONTINUE SET-UP
```

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

8. Data Archiving and Purging

8.1. Archiving

At present, the Inpatient Medications package does not provide for the archiving of its data.

8.2. Purging

8.2.1. Unit Dose Auto Purging

When the Inpatient Medications initial installation is run, it sets up the *Unit Dose Clean-Up* option [PSJU BRJ] as a background job that is initially scheduled to run every day at 1:45 a.m. This job should run every night to "clean up" after the Unit Dose Medications module to free up as much disk space as possible, performing the tasks that would slow the package down if performed during the day. The time of day that the job runs can be changed, but this option should be run every day. The option performs the following functions:

- Deletes records in the NON-VERIFIED ORDERS file (53.1) that have been discontinued or have become active.
- Deletes label records that are older than the number of days specified in the site parameters.
- Performs the pick list auto purge, deleting pick lists that have been filed away and are older than the number of days specified by the user.

To have this background job purge filed away pick lists (which can recover considerable disk space), a user needs to enter the number of days that pick lists can last through the *PIck List Auto Purge Set/Reset* [PSJU PLAPS] option. If no entry is made here, or the entry is deleted, the auto-purge of pick lists will not occur.

8.2.2. IV Auto Purging

After the Inpatient Medications package is initially installed, the *Compile IV Costs in Background* [PSJI BACKGROUND] option should be scheduled to run each night. When this job is run, it purges any IV statistics in the IV STATS file (#50.8) that are over 100 days old before compiling the new transactions.

8.2.3. Unit Dose Manual Purging – Temporarily Unavailable

Note: The *PATient Order Purge* option is **"Out of Order"** and **TEMPORARILY UNAVAILABLE**.

The *PATient Order Purge* [PSJU PO PURGE] option under the *Supervisor's Menu* [PSJU FILE] allows the user to delete orders for patients who have been discharged. Whenever a patient is discharged, a cross-reference is created for each order for that admission only. In this way, it is possible to delete all of the orders for a patient's past admissions while not affecting any current orders if the patient is currently admitted. (The cross-reference is deleted when the order is deleted.)

Note: This option requires that there are no outstanding pick lists within 30 days of the date selected to purge. This is to ensure that no data is purged before the pick lists are done with it. Also, if the *PATient Order Purge* option is not properly purging orders for the date range specified, it might be necessary to re-cross-reference the AUDDD index on the PURGE FLAG sub-field, (#64) within the UNIT DOSE multiple (#62) within the PHARMACY PATIENT file (#55). The following example shows re-indexing this field through VA FileMan:

Example: Re-Indexing the Purge Flag in the PHARMACY PATIENT file (#55)

```
VA FileMan 22.0

Select OPTION:  UTILITY FUNCTIONS
Select UTILITY OPTION:  RE-INDEX FILE

MODIFY WHAT FILE:  PHARMACY PATIENT

THERE ARE 146 INDICES WITHIN THIS FILE
DO YOU WISH TO RE-CROSS-REFERENCE ONE PARTICULAR INDEX? NO// Y  (YES)

Select FIELD:  UNIT DOSE  (multiple)
Select Unit Dose SUB-FIELD:  PURGE FLAG

CURRENT CROSS-REFERENCES:
        1  MUMPS 'AL79' INDEX OF UNIT DOSE SUB-FIELD
                   (UNIT DOSE ACTIVITY)
        2  REGULAR 'AUDDD' INDEX OF FILE
                   (NEEDED BY UNIT DOSE)
WANT TO RE-CROSS-REFERENCE ONE OF THEM? NO// Y (YES)
WHICH NUMBER:  2
ARE YOU SURE YOU WANT TO DELETE AND RE-CROSS-REFERENCE THE 'AUDDD' INDEX? NO// Y
...HMM, I'M WORKING AS FAST AS I CAN...
...EXCUSE ME, HOLD ON.....        ...DONE!

Select UTILITY OPTION:  <Enter>
```

The *PUrge Pick Lists* [PSJU PLPRG] option allows users to immediately purge pick lists that have been filed away, if deemed necessary for immediate recovery of disk space.

8.2.4. IV Manual Purging – Temporarily Unavailable

Note: The *PUrge Data (IV)* option is **"Out of Order"** and **TEMPORARILY UNAVAILABLE**.

The *PUrge Data* (IV) [PSJI PURGE] option allows the deletion of IV orders for a specific patient. It is locked with the PSJI PURGE security key, and is designed to be used only if an order has been entered for the wrong patient. IV orders can only be deleted if no labels have been printed for the order.

The *Purge Expired Orders* (IV) [PSJI PURGE ORDERS] option allows users to purge expired or discontinued orders that have been inactive for at least 30 days. The PSJI PURGE security key controls access to this option and holders of this key should be selected carefully. When invoked, the user is required to enter a date at least 30 days in the past.

All IV orders that expired or were discontinued before the date entered will be purged. As such a large number of orders are entered in this package, this option should be run at least once a month to ensure maximum processing speed while using the IV module.

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

9. Inpatient Medications and CPRS

Inpatient Medications is designed for use with the CPRS package.

9.1. Installation of the Protocols for CPRS

The protocols used to interface with the CPRS package are automatically installed. (For more information, consult the Pharmacy Data Management (PDM) Installation Guide.) The initial installation will also add the Inpatient Medications actions on the Patient movements to the Patient Information Management System (PIMS) Movement Event protocol (DGPM MOVEMENT EVENTS).

9.2. Converting

There are four conversions that will run with the initial install.

9.2.1. Order Conversion

For V. 5.0, Orderable Item replaces the Primary Drug. Conversions are included with this initial version that copy data in the old Dosage Ordered fields to the new Dosage Ordered fields, and determines and adds an Orderable Item to each order. Only orders that have a stop date less than 365 days prior to the V. 5.0 installation date will be converted. The installation date, used by both methods described below, is determined by the DATE INITS LAST RUN field (#20.2) in the PHARMACY SYSTEM file (#59.7). Order Location Codes will be standardized to **V** for the IV sub-file (#100) of the PHARMACY PATIENT file (#55), **U** for the Unit Dose sub-file (#62) of the PHARMACY PATIENT file (#55), and **P** for Orders in the NON-VERFIED ORDERS file (#53.1). For orders in the IV sub-file (#100) of the PHARMACY PATIENT file #55, a new field was added to the ACTIVITY LOG REASON file (#53.3) multiple that is a pointer to the NEW PERSON file (#200). This ENTRY BY field (#135) is populated by taking the free text data from the ENTRY CODE field (#.23) and determining the corresponding internal entry number (IEN) in the NEW PERSON file (#200). If the determination cannot be made, a mail message is sent to holders of the PSJI MGR key with these identified. Two methods are used to perform this conversion:

Background

When CPRS V. 1.0 is initially installed, a process is queued to run in the background and convert existing Inpatient Medications orders. After a patient's orders have been processed, that patient's IEN will be stored in the DATE 5.0 UD VER CONV FINISHED field (#25.1) of the PHARMACY SYSTEM file (#59.7). This will be used to determine where the process should begin if it must be restarted. When all of the orders for a patient have been processed, the

CONVERTED FOR VERSION 5.0? field (#104) of the PHARMACY PATIENT file (#55) is set, showing the conversion has been accomplished for that patient. When all Inpatient Medications orders within the specified time frame on the system have been converted, the date/time the process completed will be stored in the DATE 5.0 CONVERSION COMPLETED field (#25.2) of the PHARMACY SYSTEM file (#59.7).

Patient Selection

The capability has been added to convert the data "on the fly" if an order is accessed before the background conversion completes and before the background process has converted the selected patient's data. After converting the orders for the selected patient, the CONVERTED FOR VERSION 5.0? field (#104) of the PHARMACY PATIENT file (#55) is set, showing the conversion has been accomplished for that patient.

9.2.2. Pick List Conversion

A new ORDERABLE ITEM sub-field (#.06) within the ORDER multiple (#1) within the PATIENT multiple (#1) in the PICK LIST file (#53.5) has been added. The ORDERABLE ITEM sub-field (#.06) of the ORDER SUB-FIELD multiple (#53.52) is populated as part of this initial conversion and the cross-references are recompiled so that the pick lists are ready for use with V. 5.0.

9.2.3. Order Set Conversion

The Dispense Drug is used to determine Orderable Item, which replaces Primary Drug. Once this initial conversion occurs, the Order Sets are ready for use with V. 5.0. If any order, within an order set, is found that has multiple Dispense Drugs matched to different Orderable Items, the Order Set is not converted. A mail message is sent to all holders of the RPHARM key with these Order Sets identified.

9.2.4. Verification Data Conversion

Additional cross-references have been added to identify orders that have not been verified by nursing or pharmacy.

Inpatient Medications protocols will be installed into the PROTOCOL file (#101). These protocols will be used for Inpatient Medication's interactions with CPRS, and to trigger the appropriate order action when Medical Administration Service (MAS) detects a patient movement.

9.3. Protocol Descriptions

The Inpatient Medications package sends the following protocols for use in V. 5.0. These protocols are automatically installed when the Inpatient Medications initial installation is run.

The protocols with "PAT" as part of their name assume that the patient has already been selected through CPRS before the protocol is selected. The other protocols will prompt the user for patients.

Protocol Name	Item Text
PSJ LM 14D MAR	14 Day MAR
PSJ LM 24H MAR	24 Hour MAR
PSJ LM 7D MAR	7 Day MAR
PSJ LM AP1	Action Profile #1
PSJ LM AP2	Action Profile #2
PSJ LM BPI HIDDEN ACTIONS	Brief Patient Info Hidden Actions Menu
PSJ LM BRIEF PATIENT INFO MENU	Brief Allergy Display
PSJ LM BYPASS	Bypass
PSJ LM CWAD	CWAD Information
PSJ LM DC	Discontinue
PSJ LM DETAILED ALLERGY	Detailed Allergy/ADR List
PSJ LM DETAILED ALLERGY MENU	ALLERGY/ADR LIST MENU
PSJ LM DIN	Drug Restriction/Guideline
PSJ LM EDIT ALLERGY/ADR DATA	Enter/Edit Allergy/ADR Data
PSJ LM EDIT NEW	
PSJ LM EXTP	Patient Profile (Extended)
PSJ LM FINISH	Finish
PSJ LM FINISH MENU	
PSJ LM FLAG	Flag
PSJ LM HOLD	Hold
PSJ LM INTERVENTION DELETE	Delete Pharmacy Intervention
PSJ LM INTERVENTION EDIT	Edit Pharmacy Intervention
PSJ LM INTERVENTION NEW ENTRY	Enter Pharmacy Intervention
PSJ LM INTERVENTION PRINTOUT	Print Pharmacy Intervention
PSJ LM INTERVENTION VIEW	View Pharmacy Intervention
PSJ LM IV NEW SELECT ORDER	
PSJ LM IV OE MENU	IV ORDER ENTRY MENU
PSJ LM IV SELECT ORDER	Select Order
PSJ LM LABEL PRINT/REPRINT MENU	Label Print/Reprint
PSJ LM MAR MENU	MAR Menu
PSJ LM MDWS	Medications Due Worksheet
PSJ LM NEW ORDER	New Order Entry

Protocol Name	Item Text
PSJ LM NEW ORDER FROM PROFILE	New Order Entry
PSJ LM NEW SELECT ALLERGY	
PSJ LM NEW SELECT ORDER	
PSJ LM OE MENU	ORDER ENTRY MENU
PSJ LM ORDER VIEW HIDDEN ACTIONS	Order View Hidden Actions Menu
PSJ LM OTHER PHARMACY OPTIONS	Other Pharmacy Options
PSJ LM PAT PR	Inpatient Medications Profile
PSJ LM PATIENT DATA	Patient Record Update
PSJ LM PATIENT INFO	Patient Information
PSJ LM PENDING ACTION	Pending Order Actions
PSJ LM PHARMACY INTERVENTION MENU	Pharmacy Intervention Menu
PSJ LM PNV JUMP	Jump to a Patient
PSJ LM PRINT OUTPATIENT PROFILE	Outpatient Prescriptions
PSJ LM PROFILE HIDDEN ACTIONS	Profile Hidden Actions Menu
PSJ LM PROFILE MENU	Patient Profiles
PSJ LM RETURNS/DESTROYED MENU	Returns/Destroyed Menu
PSJ LM SELECT ORDER	Select Order
PSJ LM SHOW PROFILE	View Profile
PSJ OR MENU	Inpatient Medications Ward Reports
PSJ OR PAT ADT	Inpatient Medications Actions on Patient ADT
PSJ OR PAT MENU	Inpatient Medications Patient Reports
PSJ OR PAT OE	Inpatient Medications
PSJ OR PAT OE MENU	Inpatient Medications
PSJ OR PAT PR	Inpatient Medications Profile
PSJ OR PAT PR MENU	Inpatient Medications Profiles
PSJ OR PR	Inpatient Medications Profile
PSJ PC IV AC/EDIT ACTION	IV ACCEPT EDIT ACTIONS
PSJ PC IV ACCEPT	Accept
PSJ PC IV CANCELLED	Cancelled
PSJ PC IV DESTROYED	Destroyed
PSJ PC IV LABELS ACTION	INDIVIDUAL IV LABEL ACTIONS
PSJ PC IV LOG	Activity Logs
PSJ PC IV NEW LABELS	PRINT NEW IV LABELS
PSJ PC IV RECYCLED	Recycled
PSJ PC IV REPRINT LABELS	Reprint IV label(s)
PSJ PC RETURN IV LABELS ACTION	RETURN IV LABELS ACTIONS
PSJ SELECT ALLERGY	Select Allergy
PSJI LM ACTIVE MENU	IV Active Order Actions
PSJI LM ACTIVITY LOG	View Activity Log
PSJI LM ALIGNMENT	Align Labels (IV)

Protocol Name	Item Text
PSJI LM DISCONTINUE	Discontinue
PSJI LM EDIT	Edit
PSJI LM FINISH	Finish
PSJI LM LABEL LOG	View Label Log
PSJI LM LBLI	Individual Labels (IV)
PSJI LM LBLR	Reprint Scheduled Labels (IV)
PSJI LM LBLS	Scheduled Labels (IV)
PSJI LM LOG MENU	IV Profile Log Menu
PSJI LM PAT PR	IV Medications Profile
PSJI LM PENDING ACTION	IV Pending Order Actions
PSJI LM RETURNS	Returns/Destroyed Entry (IV)
PSJI OR PAT FLUID OE	IV Fluids
PSJI OR PAT FLUID OE MENU	IV FLUIDS...
PSJI OR PAT HYPERAL OE	IV Hyperal
PSJI OR PAT PR	IV Medications Profile
PSJI OR PR	IV Medications Profile
PSJI PC HOLD	Hold
PSJI PC ONCALL	On Call
PSJI PC RENEWAL	Renew
PSJU LM ACCEPT	Accept
PSJU LM ACCEPT EDIT	Edit
PSJU LM ACCEPT EDIT NEW	
PSJU LM ACCEPT MENU	
PSJU LM ACTIONS MENU	
PSJU LM ACTIVITY LOG	Activity Logs
PSJU LM AL	Align Labels (Unit Dose)
PSJU LM COPY	Copy
PSJU LM EDIT	Edit
PSJU LM HIDDEN ACTIONS	UD Hidden Actions
PSJU LM HIDDEN UD ACTIONS	Unit Dose Hidden Actions
PSJU LM LABEL	Label Print/Reprint
PSJU LM MARK INCOMPLETE	Mark Order As Incomplete
PSJU LM MARK NOT GIVE	Mark Order Not To Be Given
PSJU LM PAT PR	Unit Dose Medications Profile
PSJU LM PL	Pick List
PSJU LM PL MENU	Pick List Menu
PSJU LM PLDP	Enter Units Dispensed
PSJU LM PLEUD	Extra Units Dispensed
PSJU LM PLRP	Reprint Pick List
PSJU LM PLUP	Update Pick List
PSJU LM RENEW	Renew

Protocol Name	Item Text
PSJU LM RET	Report Returns (UD)
PSJU LM SPEED DISCONTINUE	Speed Discontinue
PSJU LM SPEED FINISH	Speed Finish
PSJU LM SPEED RENEW	Speed Renew
PSJU LM SPEED VERIFY	Speed Verify
PSJU LM VERIFY	Verify
PSJU OR 14D MAR	14 Day MAR (Unit Dose)
PSJU OR 7D MAR	7 Day MAR (Unit Dose)
PSJU OR AP-1	Action Profile #1
PSJU OR AP-2	Action Profile #2
PSJU OR DS	Authorized Absence/Discharge Summary (Unit Dose)
PSJU OR PAT 14D MAR	14 Day MAR (Unit Dose)
PSJU OR PAT 7D MAR	7 Day MAR (Unit Dose)
PSJU OR PAT AP-1	Action Profile #1 (Unit Dose)
PSJU OR PAT AP-2	Action Profile #2 (Unit Dose)
PSJU OR PAT DS	Discharge Summary (Unit Dose)
PSJU OR PAT PR	Unit Dose Medications Profile
PSJU OR PAT VBW	Non-Verified Orders (Unit Dose)
PSJU OR PR	Patient Profile (Unit Dose)
PSJU OR VBW	Non-Verified Orders (Unit Dose)
PSJU PLATCS	Send Pick List to ATC
VALM DOWN A LINE	Down a Line
VALM FIRST SCREEN	First Screen
VALM GOTO PAGE	Go to Page
VALM HIDDEN ACTIONS	Standard Hidden Actions
VALM LAST SCREEN	Last Screen
VALM LEFT	Shift View to Left
VALM NEXT SCREEN	Next Screen
VALM PREVIOUS SCREEN	Previous Screen
VALM PRINT LIST	Print List
VALM PRINT SCREEN	Print Screen
VALM QUIT	Quit
VALM REFRESH	Re-Display Screen
VALM RIGHT	Shift View to Right
VALM SEARCH LIST	Search List
VALM TURN ON/OFF MENUS	Auto-Display (On/Off)
VALM UP ONE LINE	Up a Line

Example: How to Print the Exported Protocols Using VA FileMan

```
VA FileMan 22.0


Select OPTION: INQUIRE TO FILE ENTRIES


OUTPUT FROM WHAT FILE: PROTOCOL// PROTOCOL      (742 entries)
Select PROTOCOL NAME: PSJ LM 14D MAR          14 Day MAR
ANOTHER ONE: <Enter>
STANDARD CAPTIONED OUTPUT? Yes// <Enter>  (Yes)
Include COMPUTED fields:  (N/Y/R/B): NO// <Enter> - No record number (IEN), no Computed Fields

NAME: PSJ LM 14D MAR                    ITEM TEXT: 14 Day MAR
  TYPE: action                          CREATOR: POSTMASTER
  PACKAGE: INPATIENT MEDICATIONS
 DESCRIPTION:   This allows the user to print a selected patient's medication
 orders on a Medication Administration Record (MAR) for the charting of the
 administration of the orders over a 14 day period. It is designed to replace
 the manual Continuing Medication Record (CMR).  This protocol assumes that a
 patient has already been selected.
  EXIT ACTION: S VALMBCK="R"
  ENTRY ACTION: N VADM,VAIN S PSGMARDF=14 D FULL^VALM1,ENLM^PSGMMAR
  TIMESTAMP: 56693,43648
```

9.4. Health Level Seven (HL7) Messaging

9.4.1. HL7 Ordering Fields

The following is a list of HL7 data fields that will be used in transactions between Order Entry/Results Reporting (OE/RR) V. 3.0 and the Pharmacy packages. Not every data field will be used in every message.

SEG	*SEQ*	*FIELD NAME*	*EXAMPLE*	*HL7 TYPE*
MSH	1	Field Separator	|	string
	2	Encoding Characters	^~\&	string
	3	Sending Application	ORDER ENTRY	string
	4	Sending Facility	660	string
	5	Receiving Application	PHARMACY	string
	6	Receiving Facility	660	string
	7	D/T of Message	199409151010	timestamp
	9	Message Type	ORM	ID
PID	3	Patient ID	5340747	composite ID
	5	Patient Name	Alaska, Fred	patient name
PV1	2	Patient Class	I	table 4
	3	Patient Location	32^234-4	user table
{ ORC	1	Order Control	NW	table 119
	2	Placer Order Number	234123;1^OR	number^application

SEG	SEQ	FIELD NAME	EXAMPLE	HL7 TYPE
	3	Filler Order Number	870745^PS	number^application
	5	Order Status	CM	table 38
	7	Quantity/Timing	325&MG&1&TABLET&325MG&638^Q1D^D14^199409151010^^R^^325MG^	dose^schedule^duration^start^^priority^^text^conjunction
	9	D/T of Transaction	199409151010	timestamp
	10	Entered by	10	composite ID
	11	Verified by	23	composite ID
	12	Ordering Provider	97378	composite ID
	15	Order Effective D/T	199409151010	timestamp
	16	Order Control Reason	E^ELECTRONICALLY ENTERED^99ORN^12^Requesting Physician Cancelled^99ORR	coded element: NoO Code^NoO Name^99ORN ^#^Reason for Action^ 99ORR
RXO	1	Requested Give Code	^^^8^DIGOXIN TAB^99PSP	coded element
	2	Requested Give Amt	125	numeric
	10	Requested Dispense Code	576.4^DIGOXIN 0.5MG TAB^99NDF^4213^DIGOXIN 0.5MG TAB^99PSD	coded element
	11	Requested Disp Amt	30	numeric
	13	Number of Refills	5	numeric
	17	Requested Give Per	D30	string
RXE	1	Quantity/Timing	325&MG&1&TABLET^QD^^199409150600^199409250600^^^325MG^	dose^schedule^duration^start^stop^priority^^text^conjunction
	2	Give Code	576.4^^99NDF^21^^99PSD	coded element
	10	Dispense Amount	100	numeric
	12	Number of Refills	11	numeric
	22	Give Per Time	D30	string
	23	Give Rate Amount	125	string
	24	Give Rate Units	^^^^ml/hr99PSU	coded element
	25	Give Strength	325	numeric
	26	Give Strength Units	^^^20^MG^99PSU	coded element
{ NTE }	1	Set ID	7	set ID
	2	Source of Comment	P	table 105
	3	Comment	take with food	formatted text
{ RXR }	1	Route	^^^23^ORAL^99PSR	coded element

SEG	SEQ	FIELD NAME	EXAMPLE	HL7 TYPE
{ RXC }	1	RX Component Type	B	table 166
	2	Component Code	^^^4132^D5 W NS^99PSD	coded element
	3	Component Amount	1	numeric
	4	Component Units	^^^PSIV-1^ML^99OTH	coded element
{ OBX }	1	Set ID	1	set ID
	2	Value Type	TX	table 125
	3	Observation ID	^^^38^Critical Drug-Drug interaction^99OCX	coded element
	5	Observation Value	Critical drug-drug interaction Aspirin-Warfarin	string
	14	Date/time of Observation	199606130813	timestamp
	16	Observer	10	composite ID
NTE	1	Set ID	1	set ID
	2	Source of Comment	P	table 105
	3	Comment	Worth the risk	formatted text
ZRX	1	Previous Order #	2355	numeric
	2	Nature of Order	W	set of codes
	3	Reason Order Created	N	set of codes
	4	Routing	W	set of codes
	5	Current User	DUZ^NAME^99NP	composite ID
	6	IV Identifier	IV	string
ZSC	1	Service Connected	SC	coded element
}				

Note: The following are definitions of some of the data fields under the FIELD NAME column.

SENDING APPLICATION is the name of the **V***IST***A** package generating the message; RECEIVEING APPLICATION is the name of the **V***IST***A** package that is the intended recipient of the message. SENDING FACILITY and RECEIVING FACILITY are the station numbers.

PATIENT ID is the patient IEN in the PATIENT file (#2).

PATIENT LOCATION, for an inpatient, is Hospital Location IEN^Room^Bed. For an outpatient, it is the Hospital Location IEN. In both cases, this is the location from which the order is being placed.

PLACER ORDER NUMBER is the OE/RR order number.

FILLER ORDER NUMBER is the Pharmacy order number.

ORDERING PROVIDER is the IEN in the NEW PERSON file (#200).

ORDER STATUS identifies the current status of the order. Codes from table 38, located in HL7 V. 2.3, that will be used, and those added, include:

IP = pending
CM = finished/verified by pharmacist (active)
DC = discontinued
RP = replaced
HD = on hold
ZE = expired
ZS = suspended (active)
ZU = un-suspended (active)
ZX = unreleased
ZZ = renewed

QUANTITY/TIMING contains the give amount, schedule, duration, start and stop times, and priority for the order, as well as the actual text of the dose ordered. The quantity field is delimited with '&' as:

Total Dose & Unit & Give Amount & Unit & Text & Dispense Drug

By using the quantity and conjunction fields, orders with multiple schedules may be sent. For outpatient orders, multiple schedules will be sent delimited by '~' and combined into a single signature (SIG); an inpatient order with multiple schedules will be sent as separate orders for each schedule. The conjunction will be S (then), A (and), or X (except).

REQUESTED GIVE CODE identifies a combination of the drug and dosage form in the format of a universal service ID. The last three pieces (alternate components) are used to identify an entry in the PHARMACY ORDERABLE ITEM file (#50.7).

PROVIDER'S PHARMACY INSTRUCTIONS are text instructions from the provider to the pharmacist; these are passed in an NTE segment following a RXO segment with an ID of 6.

PROVIDER'S ADMINISTRATION INSTRUCTIONS are Outpatient Pharmacy's "Patient Instructions" if the provider wishes to include them with the order; these are passed in an NTE segment following a RXO or RXE segment with an ID of 7.

REQUESTED DISPENSE CODE identifies the drug ordered as it maps to the National Drug File (NDF) and to the local drug file. The first three pieces identify a VA Product Name entry in the NDF, the last three pieces (alternate components) are used to identify an entry in the DRUG file (#50). The 'code' field (piece 1) of the NDF portion uses two numbers, separated by a period, to identify VA Generic Name and VA Product Name. The fourth piece uses the IEN of the DRUG file (#50) to identify a dispensed drug. This field will be blank if a pharmacy orderable item, but no dispensed drug, was selected.

REQUESTED DISPENSE AMOUNT is used to pass the amount that was entered in the QUANTITY field (#7) for an outpatient order.

REQUESTED GIVE PER is used to pass the amount that was entered in the DAYS SUPPLY field (#8) for an outpatient order.

ROUTE uses the IEN of the MEDICATION ROUTES file (#51.1) to identify a route. To truly be HL7 compatible, the MEDICATION ROUTES file (#51.1) should be mapped to the four route fields identified in HL7 V. 2.3 Section 4.8.3.

In the case of an order for IV Fluids, the REQUESTED GIVE CODE will be PS-1^IV^99OTH. This will indicate that the order is for IV fluids and the solutions and additives will be found in the RXC segment.

The RXC segment may repeat, once for each solution and additive in an IV order. The RX COMPONENT TYPE is B for a solution and A for an additive.

The COMPONENT CODE identifies additives and solutions by their IEN in the PHARMACY ORDERABLE ITEM file (#50.7).

COMPONENT UNITS uses 99OTH codes to map the IV Additive units.

The OBX segment is used if there was a positive order check that the physician chose to override.
The special code, 38^Critical Drug-drug interaction^99OCX, is used to identify this OBX segment in the OBSERVATION ID data field, and the OBSERVATION VALUE data field contains the actual order check message displayed to the provider; the OBX segment will be followed by a NTE segment, if an override reason was entered.

A Z-segment (ZRX) is used to pass additional data on new orders:

PREVIOUS ORDER NUMBER identifies the order being edited or renewed by the current order; for front-door orders this will be the Pharmacy order number, and for back-door orders it will be the Order Entry order number.

NATURE OF ORDER may be (W)ritten, (V)erbal, (P)honed, (S)ervice Correction, (X) Rejected, (D)uplicate, Pol(I)cy, (A)uto, or (E)lectronically entered.

REASON the order was created may be (N)ew, (E)dit, or (R)enew.

ROUTING may be (W)indow, (M)ail, or (C)linic.

CURRENT USER identifies the user currently on the system performing the actions on the order.

IV IDENTIFIER will indicate a fluid (IV), Total Parenteral Nutrition (TPN), or IV med ("").

A Z-segment (ZSC) is used for service connection, as this must be at the individual order level; values may be either SC or NSC.

9.4.2. Order Event Messages

The following tables identify the HL7 data fields that are passed in each kind of event associated with OE/RR. For each event there is an order control code and a set of data fields listed. For any given event, however, some of the data fields may be empty (provider instructions, for example). Pharmacy may wish to send additional data fields in a RXE segment.

The protocols identified in the tables use OE/RR name spacing conventions. The messages sent by OE/RR will use the OR name spaced protocols indicated. Individual packages may use whatever protocol names they wish.

Front Door - Inpatient Medications

Action	*Request from OE/RR*	*Pharmacy accepts*	*Pharmacy rejects*
Protocol	OR EVSEND PS	PS EVSEND OR	PS EVSEND OR
Order Control	NW (new order) XO (change)	OK (accepted) XR (new order)	UA (unable to accept) UX (unable to change)
HL7 Fields	MSH: 1,2,3,4,5,6,7,9 PID: 3,5 PV1: 2,3 ORC: 1,2,7,9,10,12,15,16 RXO: 1,10 NTE: 1,2,3 RXR: 1 OBX: 1,2,3,5,14,16 ZRX: 1,2,3	MSH: 1,2,3,4,9 PID: 3,5 PV1: 2,3 ORC: 1,2,3,5	MSH: 1,2,3,4,9 PID: 3,5 PV1: 2,3 ORC: 1,2,3,12,15,16 RXE: 2
Protocol	OR EVSEND PS		

Action	*Request from OE/RR*	*Pharmacy accepts*	*Pharmacy rejects*
Order Control	ZV (verified)		
HL7 Fields	MSH: 1,2,3,4,5,6,7,9 PID: 3,5 PV1: 2,3,19 ORC: 1,2,3,11,15	There is no return event.	
Protocol	OR EVSEND PS	PS EVSEND OR	PS EVSEND OR
Order Control	CA (cancel) DC (discontinue) HD (hold) RL (release) SS (send status)	CR (cancelled) DR (discontinued) HR (held) OR (released) SC (status update)	UC (unable to cancel) UD (unable to dc) UH (unable to hold) UR (unable to release) DE (data errors)
HL7 Fields	MSH: 1,2,3,4,5,6,7,9 PID: 3,5 PV1: 2,3,19 ORC: 1,2,3,10,12,15,16	MSH: 1,2,3,4,9 PID: 3,5 PV1: 2,3 ORC: 1,2,3,5 RXE: 1	MSH: 1,2,3,4,9 PID: 3,5 PV1: 2,3 ORC: 1,2,3,16

OE/RR will use CA to cancel orders, which have not been finished by Pharmacy; DC will be used for orders that have been finished.

Example: Digoxin .125 mg QAM

New Order

```
Array:     MSG(1)="MSH|^~\&|ORDER
ENTRY|5000|PHARMACY|5000|19971109191941||ORM"
           MSG(2)="PID|||66||ALASKA,FRED"
           MSG(3)="PVI||I|14||||||||||||||"
           MSG(4)="ORC|NW|12500;1^OR|||||.125&MG&1&TABLET&.125MG&1
           42^QAM^^^^R^^
                 .125MG^||199711091919|10||12|||19971109191941|E^
           ELECTRONICALLY
                 ENTERED^99ORN"
           MSG(5)="RXO|^^^342^DIGOXIN TAB
      ^99PSP||||||||372.2^^99NDF^142^^99PSD"
           MSG(6)="RXR|^^^1^PO^99PSR"
           MSG(7)="ZRX||E|N"
Call:      D MSG^XQOR("OR EVSEND PS",.MSG) ; New order from OE/RR

Array:     MSG(1)="MSH|^~\&|PHARMACY|5000|||||ORR"
           MSG(2)="PID|||66||ALASKA,FRED||||||||||||||||"
           MSG(3)="PV1||I|14||||||||||||||"
           MSG(4)="ORC|OK|12500;1^OR|1079P^PS||IP|"
Call:      D MSG^XQOR("PS EVSEND OR",.MSG) ; Pharmacy accepts
```

Verified by Nursing staff

```
Array:    MSG(1)="MSH|^~\&|ORDER
ENTRY|5000|PHARMACY|5000|19971109192242||ORM"
          MSG(2)="PID|||66||ALASKA,FRED"
          MSG(3)="PV1||I|14||||||||||||||||"
          MSG(4)="ORC|ZV|12500^OR|1079P^PS|||||||1345||||1997110
     9192242"
Call:     D MSG^XQOR("OR EVSEND PS",.MSG) ; Verify order from
          OE/RR
```

Discontinue Order

```
Array:    MSG(1)="MSH|^~\&|ORDER
ENTRY|5000|PHARMACY|5000|19971109192735||ORM"
          MSG(2)="PID|||66||ALASKA,FRED"
          MSG(3)="PV1||I|14||||||||||||||||"
          MSG(4)="ORC|DC|12500;2^OR|29U^PS||||||1311||1311|||199
     71109192735|
                D^DUPLICATE^99ORN^7^Duplicate Orders^99ORR"
Call:     D MSG^XQOR("OR EVSEND PS",.MSG) ; OE/RR requests dc of
          order

Array:    MSG(1)="MSH|^~\&|PHARMACY|5000|||||ORR|||||||||"
          MSG(2)="PID|||66||ALASKA,FRED||||||||||||||||"
          MSG(3)="PV1||I|14||||||||||||||||"
          MSG(4)="ORC|DR|12500;2^OR|29U^PS||DC|"
          MSG(5)="RXE|^^^199711091920^199711091927"
Call:     D MSG^XQOR("PS EVSEND OR",.MSG) ; Pharmacy accepts dc
          request
```

Back Door - Inpatient Medications

Back door orders are handled by sending OE/RR the RDE message (pharmacy encoded order) with a 'send number' order control code. This allows OE/RR to store the order in its database and return the OE/RR order number to pharmacy with a 'number assigned' order control code. OE/RR cannot actually reject pharmacy events. The 'data errors' order control code is just used as some way to communicate to pharmacy that OE/RR could not interpret the RDE message. This should generally not happen.

Action	*Event from Pharmacy*	*OE/RR accepts*	*OE/RR rejects*
Protocol	PS EVSEND OR	OR EVSEND PS	OR EVSEND PS
Order Control	SN (send number) ZC (conversion)	NA (number assigned)	DE (data errors)
HL7 Fields	MSH: 1,2,3,4,9 PID: 3,5 PV1: 2,3 ORC: 1,3,5,9,10,12,15,16 RXO: 1 RXE: 1,2,25,26 NTE: 1,2,3 RXR: 1 ZRX: 1,2,3,5	MSH: 1,2,3,4,5,6,7,9 PID: 3,5 PV1: 2,3 ORC: 1,2,3	MSH: 1,2,3,4,5,6,7,9 PID: 3,5 ORC: 1,2,3,16
Protocol	PS EVSEND OR		OR EVSEND PS
Order Control	SC (finished) RO (finished/replaced) XX (order changed)	 ORC-5 = CM (active)	DE (data errors)
HL7 Fields	MSH: 1,2,3,4,9 PID: 3,5 PV1: 2,3 ORC: 1,2,3,5,9,10,12,15,16 RXO: 1 RXE: 1,2,25,26 NTE: 1,2,3 RXR: 1 ZRX: 1,2,3,5	There is no return event. OE/RR must accept the instruction from Pharmacy.	MSH: 1,2,3,4,5,6,7,9 PID: 3,5 ORC: 1,2,3,16
Protocol	PS EVSEND OR		OR EVSEND PS
Order Control	ZV (verified)		DE (data errors)
HL7 Fields	MSH: 1,2,3,4,9 PID: 3,5 PV1: 2,3 ORC: 1,2,3,11,15	There is no return event. OE/RR must accept the instruction from Pharmacy.	MSH: 1,2,3,4,5,6,7,9 PID: 3,5 ORC: 1,2,3,16

Action	*Event from Pharmacy*	*OE/RR accepts*	*OE/RR rejects*
Protocol	PS EVSEND OR		OR EVSEND PS
Order Control	OC (cancel) OD (discontinue) OH (hold) OR (release) SC (status change)		DE (data errors)
HL7 Fields	MSH: 1,2,3,4,9 PID: 3,5 PV1: 2,3 ORC: 1,2,3,5,12,15,16 RXE: 1 ZRX: 2,5	There is no return event. OE/RR must accept the instruction from Pharmacy.	MSH: 1,2,3,4,5,6, 7,9 PID: 3,5 ORC: 1,2,3,16

Note: The following are Order Control Codes:

OC - order cancelled before pharmacist verification
OD - order cancelled after pharmacist verification
SC - sent by pharmacy when order is verified, expired, or suspended
XX - sent by pharmacy when fields change that do not generate new order

Example: Digoxin .125 mg QAM

New Order from Pharmacy through backdoor

```
Array:     MSG(1)="MSH|^~\&|PHARMACY|5000|||||ORM|"
           MSG(2)="PID|||66||ALASKA,FRED||||||||||||||||"
           MSG(3)="PV1||I|14^||||||||||||||||"
           MSG(4)="ORC|SN|^OR|1081P^PS||IP||||199711100752|1311^CA
     RE,GIVER||1311^C
                  ARE,GIVER|||199711100900|W^WRITTEN^99ORN^^^|||"
           MSG(5)="RXO|^^^342^DIGOXIN TAB^99PSP||||||||||||||||"
           MSG(6)="RXE|.125&MG&1&TABLET^QAM^D25^199711100900^19971
     2052400^^^.125MG^
                  |372.2^^99NDF^142^DIGOXIN 0.125MG
     U/D^99PSD||||||||||||||||||||
                  ||.125|^^^20^MG^99PSU"
           MSG(7)="RXR|^^^1^ORAL^99PSR||||"
           MSG(8)="ZRX||W|N||1311^CARE,GIVER^99NP||"
Call:      D MSG^XQOR("PS EVSEND OR",.MSG)
```

```
Array:    MSG(1)= "MSH|^~\&|ORDER
ENTRY|5000|PHARMACY|5000|19971110075215||ORR"
          MSG(2)= "PID|||66||ALASKA,FRED"
          MSG(3)= "PV1||I|14||||||||||||||"
          MSG(4)=
     "ORC|NA|12502^OR|1081P^PS||||||1311||1311|||19971110075215|
     "
Call:     D MSG^XQOR("OR EVSEND OR",.MSG) ; OE/RR returns #
```

Order has expired

```
Array:    MSG(1)="MSH|^~\&|PHARMACY|5000|||||ORM|||||||||"
          MSG(2)="PID|||66||ALASKA,FRED||||||||||||||||"
          MSG(3)="PV1||I|14^ A-1||||||||||||||"
          MSG(4)="ORC|SC|12500^OR|29U^PS||ZE||||199711121236|1311
          ^CARE,GIVER||1311
          ^CARE,GIVER|||199711120900|W^WRITTEN^99ORN^^^|||"
          MSG(5)="RXO|^^^342^DIGOXIN TAB^99PSP||||||||||||||||"
          MSG(6)="RXE|.125&MG&1&TABLET^QAD^D26^199711120900^19971
     1121238^^^.125MG|
                ||||||||||||1311^CARE,GIVER^99NP||||||||||"
          MSG(7)="RXR|^^^1^ORAL^99PSR||||"
          MSG(8)="ZRX||W|||1311^CARE,GIVER^99NP||"
Call:     D MSG^XQOR("PS EVSEND OR",.MSG)
```

Front door order has been finished and verified by Pharmacy

```
Array:    MSG(1)="MSH|^~\&|PHARMACY|5000|||||ORM|||||||||"
          MSG(2)="PID|||66||ALASKA,FRED||||||||||||||||"
          MSG(3)="PV1||I|14^||||||||||||||"
          MSG(4)="ORC|SC|12500;1^OR|29U^PS||CM||||19971109191941|
     1311^CARE,GIVER||
                1311^CARE,GIVER|||199711090900|^^99ORN^^^|||"
          MSG(5)="RXO|^^^342^DIGOXIN TAB^99PSP||||||||||||||||"
          MSG(6)="RXE|.125&MG&1&TABLET^QAM^D26^199711090900^19971
     2052400^^^.125MG|
                372.2^^99NDF^142^DIGOXIN 0.125MG
     U/D^99PSD||||||||||||1311^CARE,
                GIVER^99NP||||||||||.125|^^^20^MG^99PSU"
          MSG(7)="RXR|^^^1^ORAL^99PSR||||"
          MSG(8)="ZRX|||N||1311^CARE,GIVER^99NP||"
Call:     D MSG^XQOR("PS EVSEND OR",.MSG)
```

Front Door - IV Fluids

IV fluid orders use a RXC segment to contain information about solutions and additives. Therefore, a special code is sent in a RXO segment;1 to identify the order as an IV order (PS-1^IV Order^99OTH). Since RXC segments are used, the give fields in a RXO segment are unnecessary.

Action	*Request from OE/RR*	*Pharmacy accepts*	*Pharmacy rejects*
Protocol	OR EVSEND PS	PS EVSEND OR	PS EVSEND OR
Order Control	NW (new order) XO (changed order)	OK (accepted) XR (new order)	UA (unable to accept) UX (unable to change)
HL7 Fields	MSH: 1,2,3,4,5,6,7,9 PID: 3,5 PV1: 2,3 ORC: 1,2,7,9,10,12,15,16 RXO: 1,2 NTE: 1,2,3 RXC: 1,2,3,4 OBX: 1,2,3,5,14,16 ZRX: 1,2,3	MSH: 1,2,3,4,9 PID: 3,5 PV1: 2,3 ORC: 1,2,3,5	MSH: 1,2,3,4,9 PID: 3,5 PV1: 2,3 ORC: 1,2,3,12,15,16
Protocol	OR EVSEND PS		
Order Control	ZV (verified)		
HL7 Fields	MSH: 1,2,3,4,5,6,7,9 PID: 3,5 PV1: 2,3 ORC: 1,2,3,11,15	There is no return event.	
Protocol	OR EVSEND PS	PS EVSEND OR	PS EVSEND OR
Order Control	CA (cancel) DC (discontinue) HD (hold) RL (release) SS (send status)	CR (canceled) DR (discontinued) HR (held) OR (released) SC (status update)	UC (unable to cancel) UD (unable to dc) UH (unable to hold) UR (unable to release) DE (data errors)
HL7 Fields	MSH: 1,2,3,4,5,6,7,9 PID: 3,5 PV1: 2,3 ORC: 1,2,3,10,12,15,16	MSH: 1,2,3,4,9 PID: 3,5 PV1: 2,3 ORC: 1,2,3,5	MSH: 1,2,3,4,9 PID: 3,5 PV1: 2,3 ORC: 1,2,3,16

Example: POTASSIUM CHLORIDE INJ,SOLN FOR IV ORDERS 125 MEQ in SODIUM INJ,SOLN FOR IV ORDERS 1000 ml 100 ml/hr

New Order

```
Array:    MSG(1)="MSH|^~\&|ORDER
ENTRY|5000|PHARMACY|5000|19971109200218||ORM"
          MSG(2)="PID|||66||ALASKA,FRED"
          MSG(3)="PV1||I|14||||||||||||||"
          MSG(4)="ORC|NW|12501;1^OR|||||^^^^^R||19971109200218|13
     11||1311|||199711
                09200218|E^ELECTRONICALLY ENTERED^99ORN"
          MSG(5)="RXO|^^^PS-1^IV^99OTH|100 ml/hr"
          MSG(6)="RXC|B|^^^1158^SODIUM INJ,SOLN FOR IV
     ORDERS^99PSP|1000|^^^PSIV-
                1^ML^99OTH"
          MSG(7)="RXC|A|^^^1467^POTASSIUM CHLORIDE INJ,SOLN FOR
     IV ORDERS^99PSP
                |125|^^^PSIV-8^MEQ^99OTH"
          MSG(8)="ZRX||E|N"
Call:     D MSG^XQOR("OR EVSEND PS",.MSG) ;New order from OE/RR

Array:    MSG(1)="MSH|^~\&|PHARMACY|5000|||||ORR||||||||||"
          MSG(2)="PID|||66||ALASKA,FRED||||||||||||||||"
          MSG(3)="PV1||I|14||||||||||||||"
          MSG(4)="ORC|OK|12501;1^OR|1080P^PS||IP||||1997110920021
     8|1311^CARE,GIVER
                ||1311^CARE,GIVER||||^^99ORN^^^|||"
Call:     D MSG^XQOR("PS EVSEND OR",.MSG) ; Pharmacy accepts
```

Back Door - IV Fluids

Action	*Event from Pharmacy*	*OE/RR accepts*	*OE/RR rejects*
Protocol	PS EVSEND OR	OR EVSEND PS	OR EVSEND PS
Order Control	SN (send number) ZC (conversion)	NA (number assigned)	DE (data errors)
HL7 Fields	MSH: 1,2,3,4,9 PID: 3,5 PV1: 2,3 ORC: 1,3,5,9,10,12,15,16 RXE: 1,23,24 RXC: 1,2,3,4 ZRX: 1,2,3,5,6	MSH: 1,2,3,4,5,6,7,9 PID: 3,5 PV1: 2,3 ORC: 1,2,3	MSH: 1,2,3,4,5, 6,7,9 PID: 3,5 ORC: 1,2,3,16
Protocol	PS EVSEND OR		OR EVSEND PS
Order Control	SC (finished) XX (order changed)		DE (data errors)
HL7 Fields	MSH: 1,2,3,4,9 PID: 3,5 PV1: 2,3 ORC: 1,2,3,5,9,10,12,15,16 RXE: 1,23,24 NTE: 1,2,3 RXC: 1,2,3,4 ZRX: 1,2,3,5,6	There is no return event. OE/RR must accept the instruction from Pharmacy.	MSH: 1,2,3,4,5, 6,7,9 PID: 3,5 ORC: 1,2,3,16
Protocol	PS EVSEND OR		OR EVSEND PS
Order Control	OC (cancel) OD (discontinue) OH (hold) OR (release) SC (status change)		DE (data errors)
HL7 Fields	MSH: 1,2,3,4,9 PID: 3,5 PV1: 2,3 ORC: 1,2,3,5,9,10,12,15,16 RXE: 1 ZRX: 2,5	There is no return event. OE/RR must accept the instruction from Pharmacy.	MSH: 1,2,3,4,5, 6,7,9 PID: 3,5 ORC: 1,2,3,16

Example: **POTASSIUM CHLORIDE INJ,SOLN FOR IV ORDERS 125 MEQ in SODIUM INJ,SOLN FOR IV ORDERS 1000 ml 100 ml/hr**

New Order

```
Array:    MSG(1)="MSH|^~\&|PHARMACY|5000|||||ORM||||||||||"
          MSG(2)="PID|||66||ALASKA,FRED||||||||||||||||"
          MSG(3)="PV1||I|14^A-1||||||||||||||||"
          MSG(4)="ORC|SN|^OR|187V^PS||CM||||199711121255|1311^CAR
          E,GIVER||1311^CAR
                E,GIVER|||199711121256|W^WRITTEN^99ORN^^^|||"
          MSG(5)="RXO|^^^1467^POTASSIUM CHLORIDE
     INJ,SOLN^99PSP||||||||||||||||"
          MSG(6)="RXE|^^D3^199711121256^199711151800||||||||||||
     1311^CARE,GIVER^9
                9NP||||||||100|^^^^ml/hr^PSU|"
          MSG(7)="RXC|A|^^^1467^POTASSIUM
     CHLORIDE^99PSP|125|^^^PSIV-8^MEQ^99OTH|"
          MSG(8)="RXC|B|^^^1158^SODIUM^99PSP|1000|^^^PSIV-
      1^ML^99OTH|"
          MSG(9)="ZRX||W|N||1311^CARE,GIVER^99NP|IV|"
Call:     D MSG^XQOR("PS EVSEND OR",.MSG) ; Pharmacy backdoor
          order

Array:    MSG(1)="MSH|^~\&|ORDER
ENTRY|5000|PHARMACY|5000|19971112125616||ORR"
          MSG(2)="PID|||66||ALASKA,FRED"
          MSG(3)="PV1||I|14^A-1||||||||||||||||"
          MSG(4)="ORC|NA|12531^OR|187V^PS||||||1311||1311|||1997
     1112125616|"
Call:     D MSG^XQOR("OR EVSEND OR",.MSG) ; OE/RR returns #
```

9.5. STAT and NOW Order Notification

A STAT and NOW Order Notification has been added in Inpatient Medications to notify pharmacy and nursing staff when orders are received with a priority of STAT or a schedule of NOW. The Notification sends a text message when a pending STAT or NOW order has either been received from CPRS or has been verified and made active. To receive these messages, the user must subscribe to the mail group(s) listed in this section.

9.5.1. PSJ STAT NOW PENDING ORDER Mail Group

This mail group notifies subscribers when a pending STAT or NOW order has been received from CPRS.

Example: Messages in subscriber's Inbox

```
*207. GEN MED-PENDING STAT-ALASKA,FRED              MEDICATIONS,INPATIENT

*208. GEN MED-PENDING NOW-ALASKA,FRED               MEDICATIONS,INPATIENT
```

Example: Pending STAT Order Message

```
Subj: GEN MED-PENDING STAT-ALASKA,FRED  [#88119] 04/02/04@08:30  5 lines
From: MEDICATIONS,INPATIENT  In 'IN' basket.
Page 1  *New*
-------------------------------------------------------------------------
Inpatient Medications has received the following STAT order (PENDING)

          Patient:     ALASKA,FRED  (6789)
Order Information:     DIGOXIN 100MG PO
       Order Date:     04/02/04  08:30

Enter message action (in IN basket): Ignore//
```

Example: Pending NOW Order Message

```
Subj: GEN MED-PENDING NOW-ALASKA,FRED  [#88124] 04/02/04@08:51  5 lines
From: MEDICATIONS,INPATIENT  In 'IN' basket.
Page 1  *New*
-------------------------------------------------------------------------
Inpatient Medications has received the following NOW order (PENDING)

          Patient:     ALASKA,FRED  (6789)
Order Information:     DIGOXIN 100MG PO NOW
       Order Date:     04/02/04  08:51


Enter message action (in IN basket): Ignore//
```

9.5.2. PSJ STAT NOW ACTIVE ORDER Mail Group

This mail group notifies subscribers when a pending STAT or NOW order is made active.

Example: Messages in subscriber's Inbox

```
*209. GEN MED-ACTIVE STAT-ALASKA,FRED                MEDICATIONS,INPATIENT

*210. GEN MED-ACTIVE NOW-ALASKA,FRED                 MEDICATIONS,INPATIENT
```

Example: Active STAT Order Message

```
Subj: GEN MED-ACTIVE STAT-ALASKA,FRED  [#88125] 04/02/04@08:53  5 lines
From: MEDICATIONS,INPATIENT  In 'IN' basket.
Page 1  *New*
-------------------------------------------------------------------------
Inpatient Medications has received the following STAT order (ACTIVE)

          Patient:     ALASKA,FRED  (6789)
Order Information:     DIGOXIN 100MG PO NOW
       Order Date:     04/02/04  08:30

Enter message action (in IN basket): Ignore//
```

Example: Active NOW Order Message

```
Subj: GEN MED-ACTIVE NOW-ALASKA,FRED  [#88127] 04/02/04@08:57  5 lines
From: MEDICATIONS,INPATIENT  In 'IN' basket.
Page 1  *New*
-------------------------------------------------------------------------
Inpatient Medications has received the following NOW order (ACTIVE)

          Patient:     ALASKA,FRED  (6789)
Order Information:     DIGOXIN 100MG PO NOW
       Order Date:     04/02/04  08:51

Enter message action (in IN basket): Ignore//
```

9.5.3. Adding a Remote Member as a Subscriber

The STAT and NOW Order Notification mail groups can be set up to send text messages to a remote device. This enables anyone who has subscribed to these mail groups to use a pager, or any device that can receive an email message, to receive notification quickly when these high-priority orders are received. The following example illustrates how to define a remote device for a mail group using FileMan.

Example: Using FileMan to Define a Remote Device (for the PSJ STAT NOW ACTIVE ORDER mail group)

```
VA FileMan 22.0


Select OPTION: ENTER OR EDIT FILE ENTRIES



INPUT TO WHAT FILE: MAIL GROUP// <Enter>
EDIT WHICH FIELD: ALL// MEMBERS - REMOTE    (multiple)
   EDIT WHICH MEMBERS - REMOTE SUB-FIELD: ALL//
THEN EDIT FIELD:


Select MAIL GROUP NAME: PSJ STAT NOW ACTIVE ORDER
Select REMOTE MEMBER: ?
        You may enter a new MEMBERS - REMOTE, if you wish
        Enter a remote address (name@domain) or local device (D.device or
        H.device) or local server (S.server).

Select REMOTE MEMBER: debbie.athens@sprintpcs.com
 Are you adding 'debbie.athens@SPRINTPCS.COM' as
   a new MEMBERS - REMOTE (the 1ST for this MAIL GROUP)? No// Y  (Yes)
Select REMOTE MEMBER:
```

10. Inpatient Medications and BCMA

Inpatient Medications is designed for use with the BCMA package.

10.1. API Exchange

Patient and order information is exchanged between Inpatient Medications and BCMA. This exchange is possible through Application Package Interfaces (APIs).

APIs provided to BCMA

PSJBCMA - The entry point EN^PSJBCMA is provided by the Inpatient Medications package to return patient active orders to BCMA to be used in administering medications at patient's bedside.

PSJBCMA1 - The entry point EN^PSJBCMA1 is provided by the Inpatient Medications package to return the detail information on a patient's order for BCMA to use.

PSJBCMA2 - The entry point EN^PSJBCMA2 is provided by Inpatient Medications package to return a patient order's activity logs for BCMA to use.

PSJBCMA3 - The purpose of this API is to get information from BCMA to put in the PHARMACY PATIENT FILE (#55). It also updates the BCMA status information for the bag associated with a Unique Bar Code ID label.

PSJBCMA4- The purpose of this API is to allow BCMA to expire/reinstate Inpatient Medications orders based on an administration event.

APIs provided to Inpatient Medications

EN^PSBIPM - The entry point EN^PSBIPM is provided by the BCMA package to provide information to Inpatient Medications to be used in determining the start date for a renewed order. [Database Integration Agreement (DBIA) # 3174].

MOB^PSBIPM PSBIPM - The entry point MOB^PSBIPM is provided by the BCMA package to provide Inpatient Medications with an array of data returned by the BCMA/CPRS Med Order function.

MOBR^PSBIPM PSBIPM - The entry point MOBR^PSBIPM is provided by the BCMA package to provide Inpatient Medications a way to notify BCMA that the BCMA/CPRS Med Order Button order has been processed or rejected. There is no return from this entry point.

10.2. Med Order Button

The BCMA/CPRS Med Order Button (Med Order) software is an integrated component of the ***VISTA*** environment and uses bar code technology to electronically order, sign, and document STAT and NOW medications from verbal or telephoned medication orders for inpatients from the BCMA Virtual Due List (VDL). Medications are ordered and signed through the CPRS Inpatient Medication order dialog and are passed to the Inpatient Medications V. 5.0 software application as nurse verified orders with the Priority of Done. The medications are documented as administered to the patient in the BCMA Medication Log and Medication Administration History (MAH).

The BCMA VDL has been modified to contain a Med Order button that allows the authorized user the ability to properly document a STAT or NOW medication order through BCMA. Each user must hold a special key to allow them access to the button on the BCMA VDL. There is a system parameter in BCMA that allows the site the added ability to turn off or on the functionality system wide.

When the Med Order button is activated, BCMA opens a CPRS Graphical User Interface (GUI) medication dialog ordering session. The medication dialog screen allows for the entry of STAT or NOW Unit Dose or IV Type orders within the same session. The user is able to scan a bar coded IEN or National Drug Code (NDC) number affixed to the product, to select the dispense drug for this administration. Pharmacy Orderable item, IV Additive, and IV Solution selection (based on dispense drug) occurs in the background and is automatic. Dispense drugs selected for IV Type orders that point to multiple active IV Additive or IV Solution file links require the user to make a single selection. Manual entry of the dispense drug into the medication field is allowed if bar codes are damaged or missing.

All orders entered through this interface are automatically marked as “Done” in CPRS GUI. Unit Dose, Piggyback, and Syringe (intermittent) orders are marked as “GIVEN” in BCMA and will not appear on the VDL. IV Type orders including Admixture and Syringe (non-intermittent) are marked as “INFUSING” in BCMA and will appear on the VDL for further interaction. CPRS GUI passes the order to Inpatient Medications for pharmacist verification. Order administration data will still be available to be edited through the BCMA menu option Edit Medication Log. All orders require an electronic signature.

The administration date/time box on the order screen defaults to the time the Med Order button was accessed. The user is allowed to edit this date/time to a date/time in the past since some STAT and NOW orders are actually entered after they are administered. The user will NOT be allowed to enter a date/time in the future.

Once the Unit Dose or IV Type order is entered and the accept order button is selected, the user will be taken back to the order screen to specify ordering dialog and enter additional orders.

When the medication entry is completed, the CPRS GUI Review/Sign Changes screen will display all STAT and NOW orders entered during this input session. The user is required to select Telephoned or Verbal as the Nature of Order. Nature(s) of order Policy, Hold until signed, and Signed on Chart will NOT appear on this screen.

After selecting the appropriate Nature of Order the nurse will click on the OK button. When any entered order triggers a critical Order Check, the Order Check screen will display for the user. These Order Checks screens appear based on the medications selected during the ordering process. Some Order Checks may require Comments prior to selecting the continue button. The user is required to enter justification for overriding existing Order Checks or the user will be allowed to cancel the selected order.

The user is then required to enter their electronic signature code to release orders to Inpatient Medications. The user will then be returned to the VDL.

When the OK button on the Electronic Signature screen is selected, an entry will be created on the MAH and the Medication Administration Log in BCMA for the orders entered. In addition, the Medication Administration Log will display the following text with the order "BCMA /CPRS Interface Entry". The following actions will then take place:

BCMA will pass the administration date/time information to Inpatient Medications for display to the pharmacist who verifies the order. The administration data will be displayed in the order view by BCMA LAST ACTION: Date, Time, and Status.

A DONE priority code for inpatient orders will be created by CPRS and passed with nurse verified orders to Inpatient Medications. The DONE priority displays on the Inpatient Profiles with a "d" immediately preceding the order within Inpatient Medications. In addition, the Unit Dose and IV Verification screens display "EXPIRED UNIT DOSE or IV (DONE)" in the upper left-hand corner of the order screen. All Inpatient Medications profile print options used prior to the order being verified (profile and expanded view) will reflect "d" or the "DONE" priority.

The administration information is passed to Inpatient Medications. Inpatient Medications displays the administration information to the pharmacist during the order verification process. Administration Date/Time is used as the Start Date/Time and Stop Date/Time for all Med Order button orders. The only allowable Inpatient Medications actions on this nurse verified order would be "VF" Verify and "AL" Activity Log. The pharmacist is given an opportunity to enter a progress note after verifying this order. The pre-exchange doses prompt for Unit Dose orders defaults to 0, since no doses will need to be delivered to complete this administration. The IV label print prompt for IV Type orders defaults to "B" for BYPASS, since no IV labels will need to be delivered to complete this administration. The only allowable Inpatient Medications actions on this pharmacist verified order would be "AL" Activity Logs, "CO" Copy, "N" Mark Not to be Given, and "I" Mark Incomplete. In order to support future Inpatient Medications enhancements to renewal orders, the "RN" Renew action will not be allowed.

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

11. Interfacing with the Bar Code Label Printer

The Inpatient Medications package includes an interface between the IV module and the Bar Code label printer. The IV module currently prints IV labels on a label printer. This interface allows a Unique Bar Code to be printed on the first line of the IV label.

Any printer that supports bar code printing can be used for the IV labels. However, the scan success rate will probably be lower if anything other than direct thermal transfer on synthetic labels is used. Labels from dot matrix printers, laser printers or even barcode printers using other types of transfer, wipe off more easily. The label could become unreadable, especially in areas where the bag might become wet. With a direct thermal transfer onto a synthetic label, the print actually bonds to the label material. Essentially, the label would have to be ripped to damage the print.

11.1. Hardware Set Up

The printer must be physically connected to the network and then defined in the DEVICE (#3.5) and TERMINAL TYPE (#3.2) files.

11.2. Software Set Up

The type of printer will determine the next step. The Zebra printer requires Control Codes where the Dot Matrix or Laser printers do not require these codes. The IV label print routine checks the existence of the Control Codes before attempting to execute. It is not required for all Control Codes to be defined; just build the necessary Control Codes for the selected printer.

11.2.1. Zebra Printers

For this type of printer to print a Unique Bar Code on the IV labels, IRM must build Control Codes. The CONTROL CODES fields are added to the TERMINAL TYPE file (#3.2) in the Kernel patch XU*8*205. **This patch must be installed before proceeding**.

Control Code Set Up

The IV label print uses twelve control codes presently. These control codes must be built with FileMan using the names listed in order for the routine to work correctly. These twelve codes are listed below:

Code	Description
FI	Format Initialization
FE	Format End

Code	Description
SL	Start of Label
EL	End of Label
SB	Start of Bar Code
EB	End of Bar Code
SBF	Start of Bar Code Field
EBF	End of Bar Code Field
ST	Start of Text
ET	End of Text
STF	Start of Text Field
ETF	End of Text Field

Pseudo-Code Listing

The following pseudo-code listing shows the flow and the points at which each of the CONTROL CODES are used. (It is not required for all Control Codes to be defined; just build the necessary Control Codes for the selected printer.)

```
1. Label print routine invoked.
2. CONTROL CODES loaded into local array PSJIO.  Variable PSJIO defined to
   indicate whether or not CONTROL CODES exist.
3. Format Initialization.
4. If selected, header label printed.
      a. Start of Label.
      b. Start of Text.*
      c. Start of Text Field.*
      d. Text Information.*
      e. End of Text Field.*
      f. End of Text.*
      g. End of Label.
5. IV label printed.
      a. Start of Label.
      b. Barcode unique ID assigned.
      c. Print barcode.
            i.  If no CONTROL CODES, check for IOBARON and execute.
           ii.  If CONTROL CODES, Start of Barcode, Start of Barcode Field.
          iii.  Unique ID printed.
           iv.  If no CONTROL CODES, check for IOBAROFF and execute.
            v.  If CONTROL CODES, End of Barcode Field, End of Barcode.
      d. Start of Text.*
      e. Start of Text Field.*
      f. Text Information.*
      g. End of Text Field.*
      h. End of Text.*
      i. End of Label.
6. Format End.

In the event the label text needs to continue on another label, the following
CONTROL CODE sequence will be used.
   1. End of Label.
   2. Start of Label.

'*' indicates items that may be executed repeatedly.
```

Example Set Up

The following is a setup example that was used in the development process. This example is provided to guide the user in this set up. Please note that it is only an example and may not hold true in all cases.

Example: Zebra Printer Example Set Up

```
NUMBER: 1                                ABBREVIATION: FI
  FULL NAME: FORMAT INITIALIZATION       CONTROL CODE: W "^XA",!,"^LH0,0^FS",!
NUMBER: 2                                ABBREVIATION: SB
  FULL NAME: START OF BARCODE
  CONTROL CODE: W "^BY2,3.0^FO60,25^B3N,N,80,Y,N"
NUMBER: 3                                ABBREVIATION: ST
  FULL NAME: START OF TEXT
  CONTROL CODE: W "^FO",PSJBARX,",",PSJBARY,"^A0N,30,20" S PSJBARY=PSJBARY+40
NUMBER: 6                                ABBREVIATION: EB
  FULL NAME: END OF BARCODE              CONTROL CODE: S LINE=LINE+1,PSJBARY=130
NUMBER: 7                                ABBREVIATION: STF
  FULL NAME: START OF TEXT FIELD         CONTROL CODE: W "^FD"
NUMBER: 8                                ABBREVIATION: SBF
  FULL NAME: START OF BARCODE FIELD      CONTROL CODE: W "^FD"
NUMBER: 9                                ABBREVIATION: ETF
  FULL NAME: END OF TEXT FIELD           CONTROL CODE: W "^FS",!
NUMBER: 10                               ABBREVIATION: SL
  FULL NAME: START OF LABEL
  CONTROL CODE: W "^XA",! S PSJBARY=50,PSJBARX=60
NUMBER: 11                               ABBREVIATION: EL
  FULL NAME: END OF LABEL                CONTROL CODE: W "^XZ",!
NUMBER: 12                               ABBREVIATION: EBF
  FULL NAME: END OF BARCODE FIELD        CONTROL CODE: W "^FS",!
```

11.2.2. Dot Matrix and Laser Printers

The Control Codes in the TERMINAL TYPE file (#3.2) are not required for these printers. However, the BAR CODE ON and BAR CODE OFF fields in the TERMINAL TYPE file (#3.2) are needed.

An example of each field is shown below for the Output Technology Corporation (OTC) printers. Please note that it is only an example and may not hold true in all cases.

Example: OTC Printer Example

```
BAR CODE OFF: $C(27),"[0t",!   BAR CODE ON: $C(27),"[4;4;0;2;4;2;4;2}",$C(27),"[3t"
```

11.3. Printed Bar Code IV Label Sample

With this interface, a Unique Bar Code will be printed on the first line of the IV label with the label number printed below it. This label number is comprised of the patient IEN, a “V” as a delimiter, and the label sequential number for the patient (not the order). Depending upon the type of printer used, the asterisks (*) may or may not be printed on either side of the label number.

Example: Bar Code IV Label Example

```
*520V452*

[65] 6789  ONE EAST 03/19/02
ALASKA,FRED  B-12

ACETAMINOPHEN 100 MEQ
0.9% SODIUM CHLORIDE 100 ML

Dose due at: ________
100 ml/hr
Fld by: ____  Chkd by: ____
1[1]
```

12. Interfacing with the ATC

This initial version of Inpatient Medications includes an interface between the Unit Dose Medications module and the Automatic Tablet Counter (ATC) Unit Dose Dispensing machine. The Unit Dose Medications module currently allows the users to send their pick lists to the ATC. The interface allows for multiple ATCs, tying the ATCs to ward groups.

Note: If a site elects to send Pick Lists to the ATC machine by ADMIN TIME, the following change must be made to the ATC machine parameter:

At the password screen, enter <**F8**> for system parameter. Move over to the SORT parameter. The choices will be Time or Medication. Select Medication and press <**Enter**>.

12.1. Pharmacy Set Up

In order to send medication orders to the ATC, the Pharmacy must determine the Dispense Drugs that can be sent to the ATC and the pharmacy ward groups that will be sending pick lists to the ATC. This can be done before the ATC is set up or even delivered.

12.1.1. Drug Set Up

For each drug that the pharmacy determines can be sent to the ATC, the pharmacy must enter a MNEMONIC, and enter a CANISTER NUMBER for each pharmacy ward group that will be sending the drug to an ATC. This can be assigned through the *Dispense Drug/ATC Set Up* [PSSJU DRUG/ATC SET UP] option. This option is no longer part of the Unit Dose *Supervisor's Menu* [PSJU FILE]. It is sent out with the PDM package as a stand-alone option. This option should be added to the menu of designated users on an as needed basis.

The pharmacy must also enter each drug into the ATC's software, giving each drug the same mnemonic entered into the PDM package.

12.1.2. Ward Group Set Up

For each ward group that will be sending to the ATC, the device name given to the ATC must be entered into the WARD GROUP file (#57.5). This can be assigned through the *Ward Groups* [PSJU EWG] option found within the Unit Dose *Supervisor's Menu* [PSJU FILE].

12.2. Hardware Set Up

In order for the pharmacy to be able to send Unit Dose Medications orders to the ATC, the ATC must be set up as a device in the system. The ATC should be set up similar to a printer, but must be set up for two-way communication. Some of these corresponding settings must also be made in the ATC setup software. The following examples are provided to guide the user in this set up. Please note that they are only examples and may not hold true in all cases.

12.2.1. Device File Example

The following is an example of a DEVICE file (#3.5) entry for the ATC. (The entry for the $I field will more than likely be different at each site.) Only those fields to which data is entered are shown.

Example: Device File Entry for the ATC

```
LOCATION OF TERMINAL: ATC
$I: 142

TYPE: TERMINAL
SUBTYPE: C-OTHER
DEFAULT SUBTYPE: C-OTHER//  <Enter>
ASK DEVICE: YES//  <Enter>
ASK PARAMETERS: YES// N    (NO)
MARGIN WIDTH: 80//  255
FORM FEED: #//  <Enter>
PAGE LENGTH: 66//  <Enter>
```

12.2.2. MUX Table Example

The following is a Digital Standard MUMPS (DSM) example of a Multiplexer (MUX) table entry for the ATC. Please note that OUTPUT ONLY is set to NO.

```
Enter device number, or range of device numbers (NN:NN). Enter <CR> when done.
      Parity Auto         Modem  Output    Stall   Lower
        |     Baud        Cntrl   only Count        Case
        |     |            |       |       |         |
Device  |CRT  | Rcvr Xmit  |ZUSE   | Login | Tab     |Output    Rtn    Edit
Number  | |   | Spd  Spd   |  |    |   |   |  |      |Margin    num   Comment
-----------------------------------------------------------------------------
142     N Y   N 9600 9600  N  N    N   N    0  Y      Y   255     2 N
142     N Y   N 9600 9600  N  N    N   N    0  Y      Y   255     2 N
```

12.2.3. DECServer Examples

The following are examples for setting up the ATC for DECServers:

```
Device          Output Tab   Lowcase  CRT  Login     Output   ZUSE  Comment
                Only   Cntrl  Cntrl        Allowed   Margin
-----------------------------------------------------------------------------
PORT_15@DSV1     N      Y       Y        Y    N         255       N   ATC-212


-----------------------------------------------------------------------------
```

SHO POR 15

Port 15:		Server: DSV1	
Character size:	8	Input Speed:	9600
Flow Control:	XON	Output Speed:	9600
Parity:	None	Modem Control:	Disabled
Access:	Remote	Local Switch:	None
Backward Switch:	None	Name:	PORT_15
Break:	Disabled	Session Limit:	4
Forward Switch:	None	Type:	HARD

Preferred Service: None

Authorized Groups: 0
(Current) Groups: 0

Enabled Characteristics:

Lock, Loss Notification, Message,...Verification

12.2.4. Wiring for CXA16 Card

2----------3
3----------2
7----------7

(Do not connect pin #20)

12.2.5. ATC-HPS Configuration Set Up

The following is an example of the ATC software setup:

Host Port Set up (HPS) Configuration Settings

		Current
Baud Rate (9600, 4800, 1200)	:	9600
Parity (S, M, E, O, N)	:	O
Data Bits (7, 8)	:	7
Stop Bits (1, 2)	:	1
STX (050)	:	050*
PSOH (052)	:	052*
PETB (053)	:	053*
MSOH (054)	:	054*
METB (055)	:	055*
ETX (051)	**:**	**013* (most important)**
ACK (048)	:	048*
NACK (049)	:	049*
Lineterm (1=On, 0=Off)	:	0
Drug Mnemonic Length (01, 02..., 15)	:	04*
Drug Mnemonic Mode (1=True, 0=False)	:	0
Response Timer-Control (0, 1, 2..., 9)	:	0†
Response Timer-Data (0, 1, 2..., 9)	:	0†
Wake-up (1=Yes, 0=No)	:	0
Flag Fixed Lngth Records (1=Yes, 0=No)	:	0

* The Unit Dose Medications module is set up for the HPS Configuration Settings to be set as shown, and might not function properly if they are changed.

† If the ATC is dropping the line, it might be necessary to increase these timers.

12.2.6. Common Problems

Occasionally, a site experiences trouble getting the interface to run properly when the site first acquires an ATC, or has trouble later with the interface stopping in the middle of pick lists sends. If this happens, please try one or more of the following:

- Some sites have found that lowering the baud rate from 9600 to 4800, or even 2400, solves their problem.

- Sometimes, there is an error in the ATC HPS CONFIGURATION SETTINGS. If the user experiences trouble, please double-check these settings.

- In some cases, it is only a matter of changing the time of day that pick lists are sent to the ATC to avoid peak loads on the **V***IST***A** computer system.

- In other cases, it has simply been a matter of adjusting the RESPONSE TIMER-CONTROL and/or RESPONSE TIMER-DATA settings within the HPS CONFIGURATION settings.

- If all else fails and the interface still does not want to work, the user may consider setting the USE OLD INTERFACE flag in the WARD GROUP file (#57.5) for all ward groups that will be sending pick lists to the ATC. (See the Ward Groups section in the Inpatient Medications Supervisor's User Manual.)

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

13. Resource Requirements

13.1. Hardware

The Unit Dose labels and MAR are designed to print at 16 or 16.5 pitch (6 lines per inch). The user might need to add entries in the DEVICE (#3.5) and TERMINAL TYPE (#3.2) files.

If the site plans to use the labels, an extra printer will be needed in the pharmacy, and at each nursing station that also plans to use the labels.

An extra terminal might also be needed at each nursing station planning to use this package.

An extra printer will be needed in the pharmacy to print IV labels.

13.2. Disk Space

13.2.1. Routines

Since this version was distributed using KIDS, the transport global was automatically deleted after the initial install.

Depending on how the VA FileMan compiles the cross-references, there will be approximately 364 Inpatient Medications routines, taking up approximately 813K of disk space.

13.2.2. Data

Each inpatient order uses approximately 600 bytes of disk space.

13.3. Journaling Globals

The only global used by the Inpatient Medications package that is recommended for journaling is the ^PS global.

13.4. Translating Globals

In previous versions of Inpatient Medications, it was recommended that if the site was translating PS*, that the PSG global be placed above the PS* in the translation table, and that PSG be translated back to itself. This was suggested because the PSG global was subscripted by $J and translating it would produce errors.

Version 5.0 no longer uses the PSG global, and entries in the translation table referring to it can be deleted.

13.5. Nightly Background Jobs

The IV Medications and Unit Dose Medications modules each have a background job that is scheduled to run every night. These background jobs are needed to compile statistics and to perform general clean up of no longer needed data. Both of these background jobs are options.

For IV Medications, the option is PSJI BACKGROUND JOB (*Compile IV Costs in Background*).

For Unit Dose Medications, the option is PSJU BRJ (*Unit Dose Clean-Up*).

13.6. Queuing and Printing across CPUs

All reports and labels can be queued and can be printed across Central Processing Units (CPUs). When the labels are first created, they are automatically queued, unless the terminal or a slave printer is selected as the user's label device.

14. External Relationships

14.1. Packages Needed to Run Inpatient Medications

The Inpatient Medications package requires the minimum version, stated on the following external packages, to run effectively:

PACKAGE	MINIMUM VERSION NEEDED
Kernel	8.0
VA FileMan	22.0
MailMan	7.1
PIMS	5.3
CPRS	1.0
Outpatient Pharmacy	7.0
PDM	1.0
Dietetics	5.0

14.2. Unit Dose Medications and Ward Stock

The Inpatient Medications package also has a tie to the Automatic Replenishment/ Ward Stock (AR/WS) package so that if the site is running the AR/WS package, the Inpatient Medications package will know which items in the DRUG file (#50) are ward stock items for each ward. The tie is a cross-reference under the PHARMACY AOU STOCK file (#58.1).

14.3. Unit Dose Medications and Drug Accountability

The Inpatient Medications package also has a tie to the Drug Accountability (DA) package so that if the site is running the DA package, the Inpatient Medications package will know which items in the DRUG file (#50) are ward stock items for each ward. This cross-reference is the link between the Controlled Substances package and the Unit Dose package for determining ward-stocked drugs.

14.4. Calls Made by Inpatient Medications

The following external calls are supported via inter-package agreements:

ROUTINE	ENTRY POINTS USED
ECXUD1	^ECXUD1
ECXPIV1	^ECXPIV1
GMRVUTL	EN6
GMRADPT	EN1
GMRAOR	$$ORCHK
GMRAOR2	EN1
GMRAPEM0	EN2
OR3CONV	OTF
ORCONV3	PSJQOS
ORERR	EN
ORUTL	READ
ORX1	NA
ORX2	LK,ULK
PSAPSI5	EN
PSBIPM	EN, MOB, MOBR
PSSHLSCH	EN
SDROUT2	DIS
VADPT	IN5, INP, PID, SDA

14.5. Introduction to Integration Agreements and Entry Points

The following integration agreements and entry points are provided for the associated packages; only those packages listed can use these integration agreements and entry points. If there are any questions, please contact the Birmingham System Design & Development (SD&D) Field Office.

Inpatient Medications Custodial Integration Agreements

```
       172     NAME: DBIA172-A
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: DSS EXTRACTS                 Birmingham
            ROUTINE: PSGPLF


       206     NAME: DBIA206
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: SURGERY                      Birmingham
            ROUTINE: PSIVACT


       296     NAME: DBIA296
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: OUTPATIENT PHARMACY          Birmingham
               FILE: 50.8
               ROOT: PS(50.8,


       435     NAME: DBIA435
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY BENEFITS MANAGEMENT Birmingham
               FILE: 50.8
               ROOT: PS(50.8,


       438     NAME: DBIA438
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY BENEFITS MANAGEMENT Birmingham
               FILE: 57.6
               ROOT: PS(57.6,


       472     NAME: DBIA472
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY BENEFITS MANAGEMENT Birmingham
               FILE: 50.8
               ROOT: PS(50.8,


       475     NAME: DBIA475
  CUSTODIAL PACKAGE: INPATIENT MEDICATI           Birmingham
SUBSCRIBING PACKAGE: PHARMACY BENEFITS MANAGEMENT Birmingham
               FILE: 57.6
               ROOT: PS(57.6


       486     NAME: PSJEEU0
  CUSTODIAL PACKAGE: INPATIENT MEDICATI           Birmingham
SUBSCRIBING PACKAGE: HEALTH SUMMARY               Salt Lake City
                     ADVERSE REACTION TRACKING    Chicago
                     CONTOLLED SUBSTANCES         Birmingham
            ROUTINE: PSJEEU0
```

```
       534     NAME: DBIA68-C
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: HEALTH SUMMARY               Salt Lake City
               FILE: 53.1
               ROOT: PS(53.1,


       634     NAME: DBIA172-B
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PSS EXTRACTS                 Birmingham
            ROUTINE: PSGAMSA


       771     NAME: DBIA271-C
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: DRUG ACCOUNTABILITY          Birmingham
               FILE: 50.8
               ROOT: PS(50.8,


       772     NAME: DBIA271-D
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: DRUG ACCOUNTABILITY          Birmingham
               FILE: 57.6
               ROOT: PS(57.6,


       900     NAME: PSIVACT
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: SURGERY                      Birmingham
            ROUTINE: PSIVACT


       902     NAME: PSJSV0
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE:
            ROUTINE: PSJSV0


      1095     NAME: DBIA1095
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: CONTROLLED SUBSTANCES        Birmingham


      1882     NAME: DBIA1882
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: DSS EXTRACTS                 Birmingham
            ROUTINE: PSIVSTAT


      1884     NAME: DBIA1884
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: DSS EXTRACTS                 Birmingham
                     DRUG ACCOUNTABILITY          Birmingham
               FILE: 59.5
               ROOT: PS(59.5
```

```
      2100     NAME: DBIA2100
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham


      2108     NAME: DBIA2108
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham


      2109     NAME: DBIA2109
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham
               FILE: 53.45
               ROOT: PS(53.45,


      2110     NAME: DBIA2110
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham
               FILE: 59.6
               ROOT: PS(59.6,


      2111     NAME: DBIA2111
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham
               FILE: 57.7
               ROOT: PS(57.7,


      2112     NAME: DBIA2112
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham
               FILE: 57.5
               ROOT: PS(57.5


      2114     NAME: DBIA2114
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham
               FILE: 51.15
               ROOT: PS(51.15,


      2115     NAME: DBIA2115
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham
               FILE: 53.2
               ROOT: PS(53.2,


      2116     NAME: DBIA2116
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham
```

```
     2125      NAME: DBIA2125
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham


      2127     NAME: DBIA2127
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham
               FILE: 50.3
               ROOT: PS(50.3,


      2132     NAME: DBIA2132
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham
               FILE: 51.15
               ROOT: PS(51.15,


      2139     NAME: DBIA2139
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham
               FILE: 57.1
               ROOT: PS(57.1,


      2140     NAME: DBIA2140
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham


      2144     NAME: DBIA2144
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham
            ROUTINE: PSGAL5


      2145     NAME: DBIA2145
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham
            ROUTINE: PSGAMSA


      2146     NAME: DBIA2146
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham
            ROUTINE: PSGCT


      2150     NAME: DBIA2150
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham
            ROUTINE: PSGNE3
```

```
     2153      NAME: DBIA2153
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham
            ROUTINE: PSGSETU


      2154     NAME: DBIA2154
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham
            ROUTINE: PSIVWL


      2155     NAME: DBIA2155
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham
            ROUTINE: PSIV


      2156     NAME: DBIA2156
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham
            ROUTINE: PSIVHLP1


      2157     NAME: DBIA2157
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham
            ROUTINE: PSIVXU


      2350     NAME: DBIA2350
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY DATA MANAGEMENT     Birmingham


      2376     NAME: DBIA2376
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: OUTPATIENT PHARMACY          Birmingham
            ROUTINE: PSJORUT2


      2383     NAME: DBIA2383
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: OUTPATIENT PHARMACY          Birmingham
            ROUTINE: PSJORRE


      2384     NAME: DBIA2384
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: OUTPATIENT PHARMACY          Birmingham
            ROUTINE: PSJORRE1
```

```
      2401     NAME: OE/RR CONVERSION CALL TO PSJIPST3
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS         Birmingham
SUBSCRIBING PACKAGE: ORDER ENTRY/RESULTS REPORTING Salt Lake City
            ROUTINE: PSJIPST3


      2402     NAME: OE/RR CALLS TO PSJORUT2
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS         Birmingham
SUBSCRIBING PACKAGE: ORDER ENTRY/RESULTS REPORTING Salt Lake City
            ROUTINE: PSJORUT2


      2403     NAME: OE/RR CALLS TO PSJORUTL
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS         Birmingham
SUBSCRIBING PACKAGE: ORDER ENTRY/RESULTS REPORTING Salt Lake City
            ROUTINE: PSJORUTL


      2404     NAME: OE/RR CALL TO PSJORMAR
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS         Birmingham
SUBSCRIBING PACKAGE: ORDER ENTRY/RESULTS REPORTING Salt Lake City
            ROUTINE: PSJORMAR


      2411     NAME: DBIA2411
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: OUTPATIENT PHARMACY          Birmingham
            ROUTINE: PSJUTL1


      2417     NAME: Pharmacy Schedule and Admin Team Utilities
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS         Birmingham
SUBSCRIBING PACKAGE: ORDER ENTRY/RESULTS REPORTING Salt Lake City
            ROUTINE: PSJEEU


      2499     NAME: DBIA2499
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY BENEFITS MANAGEMENT Birmingham
               FILE: 59.5
               ROOT: PS(59.5
```

```
      2612     NAME: DBIA2612
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: NATIONAL DRUG FILE           Birmingham
               FILE: 50.3
               ROOT: PS(50.3,


      2805     NAME: DBIA2805
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: PHARMACY BENEFITS MANAGEMENT Birmingham
               FILE: 59.6
               ROOT: PS(59.6,


      2828     NAME: DBIA2828
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: BAR CODE MED ADMIN           Birmingham
            ROUTINE: PSJBCMA


      2829     NAME: DBIA2829
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: BAR CODE MED ADMIN           Birmingham
            ROUTINE: PSJBCMA1


      2830     NAME: DBIA2830
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: BAR CODE MED ADMIN           Birmingham
            ROUTINE: PSJBCMA2


      2831     NAME: Calls to ORQPT2
  CUSTODIAL PACKAGE: ORDER ENTRY/RESULTS REPORTING Salt Lake City
SUBSCRIBING PACKAGE: CONSULT/REQUEST TRACKING      Salt Lake City
                     INPATIENT MEDICATIONS         Birmingham
            ROUTINE: ORQPT2


      2907     NAME: TIU MEDICATION OBJECTS READ PHARMACY FILE
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: TEXT INTEGRATION UTILITIES   Salt Lake City
               FILE: 53.1
               ROOT: PS(53.1,


      2945     NAME: Use of calls in PSIVSP
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS         Birmingham
SUBSCRIBING PACKAGE: ORDER ENTRY/RESULTS REPORTING Salt Lake City
            ROUTINE: PSIVSP


      3143     NAME: DBIA3143
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: CLINICAL REMINDERS           Salt Lake City
            ROUTINE: PSJORAPI
```

```
      3167     NAME: 3167
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: ORDER ENTRY/RESULTS REPORTING Salt Lake City
            ROUTINE: PSJORPOE


      3243     NAME: Active Flag
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: ORDER ENTRY/RESULTS REPORTING Salt Lake City
            ROUTINE: PSJORREN


      3320     NAME: UPDATE BCMA STATUS INFORMATION
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: BAR CODE MED ADMIN           Birmingham
            ROUTINE: PSJBCMA3


     3370      NAME: DBIA3370
  CUSTODIAL PACKAGE: BAR CODE MED ADMIN           Birmingham
SUBSCRIBING PACKAGE: INPATIENT MEDICATIONS        Birmingham
            ROUTINE: PSJ0050


      3416     NAME: DBIA3416
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS        Birmingham
SUBSCRIBING PACKAGE: BAR CODE MED ADMIN           Birmingham
            ROUTINE: PSJBCMA4


      3620     NAME: ORCFLAG
  CUSTODIAL PACKAGE: ORDER ENTRY/RESULTS REPORTING Salt Lake City
SUBSCRIBING PACKAGE: INPATIENT MEDICATIONS        Birmingham
            ROUTINE: ORCFLAG


      3632     NAME: ES`ORX8
  CUSTODIAL PACKAGE: ORDER ENTRY/RESULTS REPORTING Salt Lake City
SUBSCRIBING PACKAGE: INPATIENT MEDICATIONS        Birmingham
            ROUTINE: ORX8
```

Example: How to Print DBIA Information from FORUM

```
Select FORUM Primary Menu Option: DBA

Select DBA Option: INTEGRATIon Agreements Menu

Select Integration Agreements Menu Option: INQUIRe
Select INTEGRATION REFERENCES: DBIA296  296  INPATIENT MEDICATIONS   DBIA296      PS(50.8,
DEVICE:   [Select Print Device]


INTEGRATION REFERENCE INQUIRY #296             OCT  1,1996  10:24    PAGE 1
-------------------------------------------------------------------------------

       296     NAME: DBIA296
  CUSTODIAL PACKAGE: INPATIENT MEDICATIONS           Birmingham
SUBSCRIBING PACKAGE: OUTPATIENT PHARMACY           Birmingham
              USAGE: Private            APPROVED: APPROVED
             STATUS: Active              EXPIRES:
           DURATION: Till Otherwise Agr  VERSION:
               FILE: 50.8                   ROOT: PS(50.8,
        DESCRIPTION:                        TYPE: File
   Outpatient Pharmacy 6.0v will be printing a management report.  In order
   to complete the report, we need to read ^PS(50.8 (IV STATS FILE).  We are
   reporting the outpatient ward's number of dispensed units, average cost of
   the dispensed units, and the total costs of the dispensed units.

   To obtain this data, we need to read the 0 node in subfile 50.804, the
   Average Drug Cost Per Unit field (#4) on the 0 node piece 5 in subfile
   50.805, the Dispensed Units (Ward) field (#2) on the 0 node piece 2 in the
   subfile 50.808, and the B cross-reference in subfile 50.808.

   GLOBAL MAP DATA DICTIONARY #50.8 -- IV STATS FILE STORED IN ^PS(50.8,
           SITE: BIRMINGHAM ISC
   ---------------------------------------------------------------------------
   ^PS(50.8 D0,2,D1,1,0)=^50.804P^^ (#1) WARD ^PS(50.8,D0,2,D1,2,D2,0)=^^^^
   (#4) AVERAGE DRUG COST PER UNIT [5N] ^PS(50.8,D0,2,D1,2,D2,3,D3,0)=^ (#2)
   DISPENSED UNITS (WARD) [2N] ^
```

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

14.6. The Generic Schedule Processor

Starting with Version 3.2, the Inpatient Medications package provides a set of utilities that can be used to create, validate, and process schedules. To Inpatient Medications, a schedule is a set of intervals over which an action is to take place. These utilities allow users to define schedules, and use those schedules to determine the number of times (and when) an action needs to take place over a defined range of dates. These utilities are available for use by any package willing to use them as described.

After installing the Inpatient Medications package, the user will need to have an entry in the PACKAGE file (#9.4) to use the Processor. The Generic Schedule Processor uses the package prefix so that each package views and edits only its own schedules. The Processor can be used by class III software merely by creating an entry in the PACKAGE file (#9.4) that has a package prefix (e.g., ZZMP, ZZX).

Please refer any questions, comments, and/or requests to the Birmingham campus of the Office of Information Field Office.

14.6.1. Files

The Processor uses two files for which the users input data:

ADMINISTRATION SCHEDULE (#51.1)
ADMINISTRATION SHIFT (#51.15)

The ADMINISTRATION SCHEDULE file (#51.1) contains the following information:

- **NAME -** A common abbreviation for a schedule, such as Q8H for every eight hours or QOD for every other day.

  The name can also be days of the week, separated by dashes. The user does not have to use the complete name of each day, but must use at least the first two letters, (e.g., MO-WE-FR).

- **TYPE OF SCHEDULE -** A schedule can be categorized into six types. The processor handles each type differently. The types are described as the following:

  1. CONTINUOUS - An action is to take place on a regular basis, such as three times a day or once every two days.

  2. DAY OF THE WEEK - The action is to take place only on specific days of the week. A day-of-the-week schedule with admin times is processed differently than one without admin times (see PSJC under Input and Output Variables). Whenever day of the week is selected as the type of schedule, a check will be done on the schedule name to make sure it is in the form of MO-WE-FR (Monday, Wednesday, Friday).

  3. DAY OF THE WEEK-RANGE - The action is to take place only on specific days of the week, but at no specific time of day. A day of the week-range schedule is similar to the day of the week schedule, except that it is processed like a range schedule once the days have been determined. A day of the week range schedule has no admin times. Whenever day of the week-range is selected as the type of schedule, a check will be done on the schedule name to make sure it is in the form of MO-WE-FR. Inpatient Medications does not use this type of schedule.

  4. ONE-TIME - The action will take place only once at a specific date/time.

  5. RANGE - An action will take place only once, but at anytime within a given date range. Inpatient Medications does not use this type of schedule.

  6. SHIFT - This is a continuous schedule in which the action will not take place at an exact time of day (nor even an exact day), but within a range of times. Inpatient Medications does not use this type of schedule.

- **STANDARD ADMINISTRATION TIMES -** Standard time(s) of the day that an action should take place. This is for continuous and day of the week schedules. The times should be in military time (24 hour clock), two or four characters, separated by dashes if more than one, such as 06-14-22 or 1400. (Leading zeros for times less than 10 are required.) All times must be the same length, either 2 or 4 digits.

- **FREQUENCY (IN MINUTES) -** The number of minutes between each time that an action is to take place. It is used for non-standard and multiple day continuous schedules, such as Q5H (every 5 hours) or QOD (every other day). This is very important for schedules (standard or non-standard) that encompass multiple days. (The scheduler will attempt to provide a default value for users when they enter/edit this field).

- **STANDARD SHIFTS -** The shift (or shifts) during which an action is to take place. Used for schedules designated as shift schedules. Each shift is an abbreviation for a range of times (e.g., M for morning - 06-12). Separate shifts, if more than one, by dashes, such as M-E. To be available for use, shifts must first be defined in the ADMINISTRATION SHIFT file (#51.15).

- **MAX DAYS FOR ORDERS -** The maximum number of days (1-999) continuous orders will last for this administration schedule. (This data is not used by the Pharmacy software.)

- **HOSPITAL LOCATION (multiple) -** An area of the hospital that might need to use a set of administration times or shifts that are different than the standard ones. The Processor allows users to define the location and then times or shifts for each location. After selecting a hospital location, the user can then enter/edit either a set of locations specific admin times or shifts, depending on the type of the schedule.

The ADMINISTRATION SHIFT file (#51.15) contains the following information:

- **NAME -** An arbitrary name for a shift, such as Morning.

- **ABBREVIATION -** A one-character code for the shift, such as M for Morning. The abbreviation is used by the STANDARD SHIFTS field (#6) of the ADMINISTRATION SCHEDULE file (#51.1).

- **STANDARD START/STOP TIMES -** Two times of the day that designates the range over which the action is to take place. The two times (military) must both be either two or four characters, and separated by a dash, such as 06-12 or 0600-1200.

- **HOSPITAL LOCATION (multiple) -** An area of the hospital that might need to use a set of start/stop times that are different than the standard ones. The Processor allows users to define the location and then times for each location. After selecting a hospital location, the user can then enter/edit a set of location specific start/stop times.

14.6.2. Input and Output Variables

The following variables are used as input and/or output variables:

- **PSJAT** – A set of either admin times or shifts, depending on the type of schedule. If it is admin times, it will be similar to: PSJAT="04-08-12-16-20". If it is shifts, it will be similar to: PSJAT="M-E" PSJAT("M")="05-11" PSJAT("E")="18-22".

- **PSJAX** - Maximum number of days for continuous orders. This variable is returned as null if not found.

- **PSJC** - The number of times the action is to take place within the given window, and an array of the date/times the action is to occur.

  For continuous, day of the week, and one-time schedules, PSJC will be similar to the following: PSJC=2, PSJC(2891001.09)="", PSJC(2891001.12)="". If a day of the week schedule is used without admin times, the start time of the order is used as the admin time.

  For day of the week-range, shift, and range schedules, the array will be similar to PSJC(start date/time)=stop date/time (e.g., PSJC(2891001.18)=2891001.24). If the type of schedule is range, and PSJM=0, PSJC will not be greater than 1.

  PSJC will be -1 if the processor found problems, such as incomplete or invalid input.

- **PSJFD** - Stop date/time of a window for processing orders.

- **PSJM** - The frequency (in minutes) that an action is to take place. Used for continuous and range schedules.

- **PSJNE** - No Echo. If found to exist (set to anything), the processor should not produce any dialogue with the user.

- **PSJOFD -** Stop date/time of the order (action to take place). If PSJOFD is not found, PSJFD is used.

- **PSJOSD -** Start date/time of the order. If PSJOSD is not found, PSJSD is used.

- **PSJPP -** Package prefix, as found in the PACKAGE file (#9.4). Needed by most entry points.

- **PSJSCH -** Schedule, used for processing.

- **PSJSHLS -** Executable code that sets $T, to be used to screen Hospital Locations when editing schedules and shifts. If PSJSHLS exists, DIC("S") is set to PSJHLS. The scheduler will not try to validate PSJSHLS.

- **PSJHLS -** The scheduler will not try to validate PSJSHLS.

- **PSJSD -** Start date/time of a window for processing orders.

- **PSJTS -** A code representing the type of schedule. The codes are: C - continuous; D - day of the week; DR - day of the week-range; O - one-time; R - range; and S - shift.

- **PSJW -** Pointer to the HOSPITAL LOCATION file (#44); not required. If PSJW does exist, and the schedule selected has a special set of times (or shifts) for PSJW, the special times are returned instead of the standard ones. The processor always tries to validate PSJW, and if found to be invalid, PSJW is killed.

- **PSJX -** Schedule, used for validating; will be killed (along with X) if invalid.

- **PSJY -** Pointer to the ADMINISTRATION SCHEDULE file (#51.1). Returned by ENSV^PSJEEU as a pointer value if an entry is found in the file; returned as null if not.

- **X -** Input variable used when validating Administration Times or Shifts. Will be killed if invalid.

Note: Except for PSJW, PSJX, and X, none of the other input variables are killed. PSJW, PSJX, and X are only killed if found to be invalid.

14.6.3. Entry Points

- **ENSE^PSJEEU** - Allows the user to edit the ADMINISTRATION SCHEDULE file (#51.1).
  Needs: PSJPP
  Optional: PSJSHLS

- **ENSHE^PSJEEU** - Allows the user to edit the ADMINISTRATION SHIFT file (#51.15).
  Needs: PSJPP
  Optional: PSJSHLS

- **ENSVI^PSJEEU** - For an inquiry option. Allows users to view the information (admin times, minutes, or shifts) pertaining to standard schedules. Nothing more.
  Needs: PSJPP

- **ENSV^PSJEEU** - Validates a schedule and gives the admin times (or shifts) and minutes for the schedule. For use in an input transform.
  Needs: PSJPP

- **PSJX** - The schedule need not be complete. For example, if PSJX="Q", the user will be asked to select from all the schedules in the file starting with "Q", if any.

  Optional: PSJW - pointer to HOSPITAL LOCTION file (#44), for admin times or shifts by location.
  PSJNE - if defined, there is no dialogue with the user.

  Returns: PSJX - as complete schedule name - killed if invalid.
  PSJAT - admin times or shifts, if any - will be null if PSGX is invalid.
  PSJM - frequency in minutes - will be null if PSGX invalid.
  PSJTS - code representing type of schedule - will be null if PSGX is invalid.
  PSJY - pointer to the ADMINISTRATION SCHEDULE file (#51.1) if PSJX is found in the file - will be null if PSJX is invalid or not found in the file (a non-standard schedule).
  PSJAX - Maximum days continuous orders last for this schedule; will be null if not found.

- **ENATV^PSJEEU** - Validates administration times. For use in an input transform.
  Needs: X
  Returns: X - if valid.
  Kills: X - if invalid

- **ENSHV^PSJEEU** - Validates shifts. For use in an input transform.
  Needs: X
  Returns: X - if valid.
  Kills: X - if invalid

- **ENSPU^PSJEEU** - Calculates the number of times (and when) an action is to take place.
  Needs: PSJSCH - the schedule, not required if schedule type is shift or range.
  PSJAT
  PSJM
  PSJTS
  PSJSD
  PSJFD
  Optional: PSJOSD - start date/time of order
  PSJOFD - stop date/time of order
  (If PSJOSD or PSJOFD are not found, they are set to PSJSD or PSJFD, respectively.)
  Returns: PSJC

- **ENSVH^PSJSV0** - Help text for use when validating a schedule. For use in the executable help of a field.
  Needs: X set to one or more "?", supplied by VA FileMan if used as executable help.

- **ENDSD^PSJEEU** - Provides a date/time that might be used as a default value for the start date of an order. If PSJTS is "O" (for one-time) or PSJSCH is a one-time or on call schedule, or PSJAT is null, the start date returned will be the nearest hour, forward or backward. Otherwise, the start date returned will be the nearest time in PSJAT.
  Needs: PSJSCH
  PSJAT
  PSJTS
  Returns: PSJX - Will either be a date/time in VA FileMan internal format, or null if unable to calculate the start date/time.

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

15. Internal Relationships

All of the Inpatient Medications package options have been designed to stand-alone.

16. Internal Calls and Variables

The following is a description of the major Inpatient Medications routines and subroutines. These routines and subroutines are not callable from outside of the package.

^PSGAL5	Places entries into the orders' activity logs. Called when any action is taken upon a verified order, either through the package or through the VA FileMan.
ENDEV^PSGTI	Used by most of the cost reports to select a print device.
ENDTS^PSGAMS	Used by most of the cost reports to select a range of dates over which the report is to run.
^PSGCT	Adds or subtracts minutes from a date.
^PSGFILED	Used at various entry points to edit the files used by the Inpatient Medications package.
ENDPT^PSGP	All individual patients are selected here. Will not allow the selection of patients who have never been admitted. Will allow the selection of patients, not currently admitted, only to print a profile or to enter returned meds. Also, checks to see if the patient selected has been transferred, discharged, etc.
^PSGNE3	Calculates default values for an order's start and stop dates during the order entry process. Sometimes called at ENFD entry point to calculate a new stop date.
^PSGO	Prints the Unit Dose Medications orders for a patient.
EN^PSGOE1	Allows the user to take various action on an order (edit, cancel, etc.). First determines the actions that are allowed for the order, depending on the status of the order (active, non-verified, etc.) and the type of user (pharmacist, nurse, or ward clerk).

ENUNM^PSGOU	Goes through a patient's orders, updating the status of the orders that have expired.
^PSGPLG	Used to select pick lists that have already been run, for reprinting, updating, etc.
^PSGPL0	Calculates the number of units needed of a medication over a given date range.
^PSGSEL	Handles the "WARD GROUP (G), WARD (W), OR PATIENT (P)" prompt and the associated help text.
^PSGSET	Sets the variables necessary to run the Unit Dose Medications module. Also sets the variables into the ^XUTL("OR","PSG") global for use by the various Unit Dose options, to allow the option to be independent.
ENCV^PSGSETU	Used by the Unit Dose Medications options to set the package variables. If the ^XUTL("OR","PSG") global is found, this global is used to set the variables. If it is not found, the routine ^PSGSET is called.
ENIVKV^PSGSETU ENKV^PSGSETU	These are used by the IV Medications and Unit Dose Medications module, (respectively), to kill the package-wide variables when exiting options.
^PSGTI	The Unit Dose interface to TaskMan, using the ^%ZTLOAD routine.
EN2^PSGVW	Prints the expanded view of an order. It calls the ^PSGVW0 routine to print the activity log, if the order has one.
^PSIV	Used for patient selection, editing of administration schedules and selection of IV orders from the IV profile.
^PSIVACT	Called each time an IV order is addressed to update the order's status and ward location.
^PSIVCAL	Calculates the default Start and Stop times for an order during IV order entry.
^PSIVCHK	Called after an IV order has been entered or edited to ensure the order is in the correct format for that IV type.

^PSIVHLP*	These routines contain help text to be displayed to the user during interactive sessions. When a PSIVHLP* routine is invoked, the variable “HELP” is set to the name of a line label which begins the appropriate help text.
^PSIVLABL	Prints IV labels (except hyperals) to the IV label device.
^PSIVHYPL	Prints IV hyperal labels to the IV label device.
^PSIVOPT	Called each time an order entry option is invoked. When an order is chosen from the profile, this routine prompts the user on actions available on the order. When an action is chosen, the order is checked to be sure the action is allowed and to make sure another user is not currently editing the order. The orders activity log is also updated by this routine after an action has been taken on the order.
^PSIVSTAT	Creates “transaction nodes” in the IV STATS file (#50.8) each time an IV label is printed, or a “return/destroyed” item is entered. This routine is also called (at different entry points) by the PSJI BACKGROUND JOB (*Compile IV Costs in Background*) and PSJI COMPILE STATS (*COmpile IV Statistics (IV*)) options to compile these transactions into the file.
^PSIVVW	Displays an IV order to the screen when one is selected for “viewing” through the order entry or patient profile options.
^PSIVXU	When the IV module is entered, this routine calls the ^PSIVSET routine, which prompts the user for the IV site parameters to be used during that session. ^PSIVXU routine stores these variables in the ^XUTL global, so they can be reused during that session without prompting the user each time they are needed.
^PSJAC	Checks to see if the patient has been transferred, discharged, re-admitted, or has died and takes the appropriate action, depending on the site parameters.
^PSJO	Prints Inpatient (IV and Unit Dose) Medications orders for a patient.

16.1. Package-Wide Variables

The following is a list of the more important namespace variables used by the Inpatient Medications package. These variables are listed here for support purposes only and can change from version to version.

16.1.1. Inpatient Sign-on Variables

The following Inpatient Medications system variables are set whenever a user enters any of the Inpatient Medications options. These variables are needed to use many of the options. The variables are killed when the user exits each option.

PSJSYSU
Used by the Inpatient Medications package in defining the characteristics of the user – what the user can or cannot do with regards to the package.

1st piece = **3** if the user is seen as a pharmacist,
1 if the user is seen as a nurse, otherwise, **0** or NULL

2nd piece = **1** if the user is seen as a valid provider, able to write medication orders, otherwise, NULL

3rd piece = **3** if the user is seen as a pharmacist,
2 if the user is a pharmacy technician,
1 if the user is a nurse,
0 (or NULL), in which case the user is ward staff

4th piece = **1** if the user can select from dispense drugs when prompted for a drug during Inpatient/Unit Dose order entry, otherwise,
0, in which case the user must select an Orderable Item during order entry

PSJSYSP
IEN of the user's entry in the INPATIENT USER PARAMETERS file (#53.45), defined using the user logged on to the system.

PSJSYSP0
The user's record (zero node) from the INPATIENT USER PARAMETERS file (#53.45). This is another set of user characteristics that define what the user can and cannot do with regard to the Inpatient Medications package. The user, through the *Edit Inpatient User Parameters* option, can set some of these parameters. Other parameters can only be set by the Inpatient Supervisor. A list of these characteristics can be obtained by printing the data dictionary for the INPATIENT USER PARAMETERS file (#53.45).

PSJSYSL
Defines how the package should act in regards to Unit Dose labels when the user takes actions on Unit Dose orders.

1st piece = **0** if labels are not to be created
1 if the first label is to be created when the order is entered or completed, but not on verification
2 if the label is to be created when the order is entered and when the order is verified
3 if the first label is not to be created until the order is verified

If the setting for the first piece is 1 or 2, labels will be created when a non-verified Unit Dose order is edited. If the setting of the 1st piece is greater than 0, a label will be created on all actions taken on the order after it is verified. If the setting for the 1st piece is 0, the 2nd and 3rd pieces will be NULL.

2nd piece = device name (**ION**) to which labels are to be printed - can be NULL, in which case labels will be created but not printed
3rd piece = device (**IO**) to which labels are to be printed - will be NULL if 2nd piece is NULL

PSJSYSL is defined when the user first enters an option, but is redefined each time a patient is selected to reflect the settings in the INPATIENT WARD PARAMETERS file (#59.6) for the ward on which the patient currently resides.

PSGDT
This is the current date and time in VA FileMan internal format. This is reset as needed by the package.

^TMP("PSJUSER",$J,"PSG",0)
^TMP("PSJUSER",$J,"PSG",1)

Used to store the above variables, except for PSGDT. These global variables are not killed until the user completely exits **V***IST***A**. If these variables are found, they are used to set PSJSYSU, PSJSYSP, and PSJSYSP0. If the ^TMP variables are not found, PSJSYSU, PSJSYSP, and PSJSYSP0 are calculated and the ^TMP variables are set accordingly.

```
^TMP("PSJUSER",$J,"PSG",0)=PSJSYSU_"^"_PSJSYSP
^TMP("PSJUSER",$J,"PSG",1)=PSJSYSP0
```

PSJRNF
Is defined when the user first enters an option if the user holds the PSJ RNFINISH key.

PSJIRNF
Is defined when the user first enters an option if the user holds the PSJI RNFINISH key.

PSJITECH
Is defined when the user first enters an option if the user holds the PSJI PHARM TECH key.

16.1.2. Standard Variables Used Throughout the Package

The following variables are set whenever a patient is selected.

PSJSYSW
IEN of an entry in the INPATIENT WARD PARAMETERS file (#59.6), defined by the ward on which the selected patient is found to reside, or by the ward on which the patient was last found to reside if the patient is not currently admitted to the medical center.

PSJSYSW0
The record (zero node) from the INPATIENT WARD PARAMETERS file (#59.6), as determined by the PSJSYSW variable. This is another set of characteristics that define what the user can and cannot do with regards to the Inpatient Medications package, determined by the ward on which the selected patient is found to reside, or last found to reside. These parameters are set by an Inpatient Supervisor or ADPAC. A list of these characteristics can be obtained by printing the DD for the INPATIENT WARD PARAMETERS file (#59.6).

PSJSYSL
Defines how the package should act in regards to Unit Dose labels when the user takes actions on Unit Dose orders.

1st piece =
- **0** if labels are not to be created
- **1** if the first label is to be created when the order is entered or completed, but not on verification
- **2** if the label is to be created when the order is entered and when the order is verified
- **3** if the first label is not to be created until the order is verified

If the setting for the first piece is 1 or 2, labels will be created when a non-verified Unit Dose order is edited. If the setting of the 1st piece is greater than 0, a label will be created on all actions taken on the order after it is verified. If the setting for the 1st piece is 0, the 2nd and 3rd pieces will be NULL.

2nd piece = device name (**ION)** to which labels are to be printed - can be NULL, in which case labels will be created but not printed

3rd piece = device (**IO**) to which labels are to be printed - will be NULL if 2nd piece is NULL

PSJSYSL is defined when the user first enters an option, but is redefined each time a patient is selected to reflect the settings in the INPATIENT WARD PARAMETERS file (#59.6) for the ward on which the patient currently resides.

PSGP
The IEN of the selected patient - the pointer to the PATIENT file (#2).

PSGP(0)
The zero node of the entry in the PATIENT file (#2) of the selected patient.

PSJPAD
The date of the selected patient's current or last admission, in the form of *internal^external.*

PSJPBID
The short form of the selected patient's identifier, as provided by the PIMS package.

PSJPDD
The date of the selected patient's last discharge, in the form of *internal^external.* Will be NULL if the patient is currently admitted.

PSJPDOB
The date of the selected patient's birth, in the form of *internal^external*.

PSJPDX
The short diagnosis of the selected patient's current or last admission.

PSJPHT
The selected patient's height, in centimeters.

PSJPRB
The selected patient's current or last room-bed.

PSJPSEX
The selected patient's sex, in the form of *internal^external*.

PSJPSSN
The selected patient's social security number.

PSJPPID
The selected patient's identifier, as provided by the PIMS package.

PSJPTD
The date of the last transfer of the current or last admission for the selected patient, in the form of *internal^external*.

PSJPTS
The selected patient's current or last treating specialty.

PSJPTSP
The selected patient's current or last treating specialty provider.

PSJPWD
The selected patient's current or last ward. This is a pointer to the WARD LOCATION file (#42).

PSJPWDN
The name of the selected patient's current or last ward.

PSJPWT
The selected patient's weight, in kilograms.

16.1.3. IV Sign-on Variables

These variables are set whenever a user selects the IV or Inpatient Medications option.

PSIVPL
The default label device set either from the IV room site parameters, or through the *Change Report/Label Devices (IV)* option.

PSIVPR
The default report device set either from the IV room site parameters, or through the *Change Report/Label Devices (IV)* option.

PSIVSITE
Contains the site parameters for the IV room chosen upon entry to the package. It is the one node concatenated with the five node of the entry chosen in the IV ROOM file (#59.5).

PSIVSN
The pointer value to the IV ROOM file (#59.5) of entry chosen upon entry to the IV module.

16.1.4. Variables

PSGORD
Contains the IEN of the order currently being worked on, concatenated with a set of codes that "tell" the package where to look for the order. If PSGORD contains a **V**, the order is an IV, and the package will look for the order at ^PS(55,PSGP,"IV",+PSGORD,. Similarly if PSGORD contains a **P** or a **N**, the package will look for the order at ^PS(53.1,+PSGORD,. If PSGORD contains a **U**, the package will look for the order at ^PS(55,PSGP,5,+PSGORD,.

PSGSS
Returned by the routine PSGSEL in response to the "WARD GROUP (G), WARD (W), OR PATIENT (P)" prompt. Its value will be **G**, **W**, **P**, ^, or NULL.

ON
The IEN of the IV order in the PHARMACY PATIENT file (#55).

HELP
When one of the IV help routines is invoked (PSIVHLP*), this variable is set to the line label identifying the help text to be displayed.

P(n)
Where *n* is a number from 1 to 23. This local array is set to each piece of data stored on the zero node for an IV order (^PS(55,PSGP,"IV",ON,0)), so that a disk access is not necessary each time this information is needed.

PSIVNOL
The number of IV labels being printed, returned, destroyed, recycled, or canceled.

Other namespace variables usually follow certain conventions. For example, most namespace variables are namespace by routine (e.g., PSGPL for pick list variables, PSGAL for activity log variables). Most variables ending in “WD” contain the IEN of a ward in the WARD LOCATION file (#42), while those ending in “WDN” usually contain the name of the ward. Variables ending in “WG” will usually contain the IEN of a ward group from the WARD GROUP file (#57.5), while those ending in “WGN” will usually contain the name of the ward group. Variables ending in “SD” will usually be the start date for a range of dates over which a report or process is run. Those ending in “FD” will usually be the stop date for the same range of dates.

17. On-line Documentation

17.1. On-line Help

Throughout the entire Inpatient Medications package, the user will always be able to enter a question mark (?) to obtain on-line information to assist in the choice of actions at any prompt.

17.2. Printing Data Dictionaries

The DDs are considered part of the on-line documentation for this software application. The user can, and should, print the DDs as soon as the software has been installed and initialized. The following are the files which the user should print DDs:

50.2 IV CATEGORY
50.8 IV STATS
51.15 ADMINISTRATION SHIFT
53.1 NON-VERIFIED ORDERS
53.2 UNIT DOSE ORDER SET
53.3 ACTIVITY LOG REASON
53.4 PRE-EXCHANGE NEEDS
53.41 MAR LABELS
53.42 INPATIENT BACKGROUND JOB
53.43 MISCELLANEOUS REPORT FILE
53.44 PHYSICIANS' ORDERS
53.45 INPATIENT USER PARAMETERS
53.5 PICK LIST
53.55 UNIT DOSE/ATC MEDS
57.5 WARD GROUP
57.6 UNIT DOSE PICK LIST STATS
57.7 MEDICATION ADMINISTERING TEAM
59.5 IV ROOM
59.6 INPATIENT WARD PARAMETERS

Use VA FileMan option #8 [DATA DICTIONARY UTILITIES] to print the DDs.

Example: How to Print DDs Using VA FileMan

```
VA FileMan  22.0

Select OPTION:  8     DATA DICTIONARY UTILITIES
Select DATA DICTIONARY UTILITY OPTION: LIST FILE ATTRIBUTES
START WITH WHAT FILE: INPATIENT USER PARAMETERS//  <Enter>
     GO TO WHAT FILE: INPATIENT USER PARAMETERS //  <Enter>
Select SUB-FILE:   <Enter>
Select LISTING FORMAT:  STANDARD//  BRIEF
ALPHABETICALLY BY LABEL?  NO//  Y  (YES)
DEVICE:  [Enter Print Device Here]                     RIGHT MARGIN: 80//  <Enter>
```

The DD will now print on the user-specified device.

18. Additional Information

18.1. SAC Exemptions

The Unit Dose Medications module has been granted a permanent Standards and Conventions (SAC) exemption to use asterisk (*) reads in its interface with the ATC Unit Dose dispensing machine.

The IV Medications module has been granted a permanent SAC exemption from VA FileMan compatibility for the WARD LIST cross-reference, MANUFACTURING LIST cross-reference and the SUSPENSE LIST.

18.2. IV Ward List

This report lists all of the IV orders needed for the date and IV types specified. The Ward List must be run before scheduled labels can be printed for IV orders. The labels are printed in the order of the ward list, and only counted as usage the first time they are printed.

The data for the ward list is stored in a non-VA FileMan compatible cross-reference in the PHARMACY PATIENT file (#55). Because of this, ward lists should not be manipulated using VA FileMan. The basic structure of this cross-reference is as follows:

```
^PS(55,"PSIVWL",S1,S2,S3,S4,S5)=P1^P2^P3^P4
^PS(55,"PSIVWL",S1,S2,S3,S4,S5,BCMA ID)= ""
```

where:

S1 =	The IEN of the IV Room for which the order is associated.
S2 =	The name of the ward where the patient is located.
S3 =	The first letter of the IV type, concatenated with the start date/time of the coverage period this entry is associated with. For example, if the ward list was run on 2/22/91 for admixtures which had a period of coverage from 0859 to 0858, S3 would look like "A2910222.0859."
S4 =	The IEN of the patient for whom the order exists.
S5 =	The IEN of the order.
BCMA ID =	Unique Bar Code ID printed for the order.

P1 =	The number of labels needed for this period of coverage.
P2 =	The start date concatenated with the administration times for the order.
P3 =	The cumulative number of labels that have been printed for the order.
P4 =	When scheduled labels have been run, this piece is set to "1." This is used to prevent labels from being counted again in the IV STATS file (#50.8) if scheduled labels are printed more than once.

18.3. IV Manufacturing List

The IV Manufacturing List produces a report by additive or solution of all orders due to be mixed for the specified date and IV types. The total number of admixtures, piggybacks, hyperals, chemotherapies, and syringes containing each additive is shown, as well as how many belong to each patient. As the manufacturing list is compiled from the ward list cross-reference, the manufacturing list must be run after the ward list.

The data for the manufacturing list is stored in a non-VA FileMan compatible cross-reference in the PHARMACY PATIENT file (#55). Because of this, manufacturing lists should not be manipulated using VA FileMan. The basic structure of this cross-reference is as follows:

The top node for each drug listed on the manufacturing list:

```
^PS(55,"PSIVWLM",S1,S2,S3,S4,0)=P1
```

where:

S1 = The IEN of the IV Room for which this order is associated.

S2 = The first letter of the IV type, concatenated with the start date/time of the coverage period for which this entry is associated. For example, if the manufacturing list was run on 2/22/91 for admixtures which had a period of coverage from 0859 to 0858, S2 would look like “A2910222.0859.”

S3 = The first letter of the IV type.

S4 = If the order includes an additive, the first piece of S4 contains the first 10 characters of the additive print name, the second piece contains the additive strength, and the third piece contains “6” concatenated with the IEN of the additive in the IV ADDITIVES file (#52.6). If the order does not include an additive, piece one contains the first 10 characters of the solution print name, piece two contains the solution volume, and piece three contains “7” concatenated with the solution’s IEN in the IV SOLUTIONS file (#52.7).

P1 = The total number of each type order containing the drug identified in S4.

Each record on the manufacturing list should be in the following format:

```
^PS(55,"PSIVWLM",S1,S2,S3,S4,S5,S6,S7,S8)=P1^P2
```

where:

S1 = The IEN of the IV Room for which this order is associated.

S2 = The first letter of the IV type, concatenated with the start date/time of the coverage period for which this entry is associated. For example, if the manufacturing list was run on 2/22/91 for admixtures which had a period of coverage from 0859 to 0858, S2 would look like “A2910222.0859.”

S3 = The first letter of the IV type.

S4 = If the order includes an additive, the first piece of S4 contains the first 10 characters of the additive print name, the second piece contains the additive strength, and the third piece contains “6”; concatenated with the internal number of the additive in the IV ADDITIVES file (#52.6). If the order does not include an additive, piece one contains the first 10 characters of the solution print name, piece two contains the solution volume, and piece three contains “7”; concatenated with the solution’s internal number in the IV SOLUTIONS file (#52.7).

S5 = If the order contains an additive, piece one contains the first 10 characters of the first solution’s print name, piece two contains the solution’s volume, and piece three contains “7”; concatenated with the solution’s IEN in the IV SOLUTIONS file (#52.7). If no additive was found for the order, S4 contains “zz6” only.

S6 = The IEN of the patient for whom the order exists.

S7 = The IEN of the order.

P1 = The number of labels needed for this order and period of coverage.

P2 = The name of the ward where the patient is located at the time the list is run.

18.4. IV Suspense List

When labels for an order are suspended, an entry is made in the “PSIVSUS” cross-reference of the PHARMACY PATIENT file (#55). Because this cross-reference is non-VA FileMan compatible, suspense data should not be manipulated using VA FileMan. The basic structure of this cross-reference is as follows:

```
^PS(55,"PSIVSUS",S1,S2,S3,S4)=P1^P2^P3
```

where:

S1 = The IEN of the IV Room associated with this order.

S2 = The IEN of the patient for whom the order exists.

S3 = The IEN of the order.

S4 = The date and time the order was suspended.

P1 = The number of labels suspended for the order.

P2 = The start date concatenated with the administration times for the order.

P3 = The cumulative number of labels that have been printed for the order (does not include those labels suspended and not printed).

When the *Labels from Suspense (IV)* option is used [PSJI SUSLBLS], the routine first deletes any orders that labels have been printed for and are more than 1 day old. The new labels are then printed, a new entry is added to the cross-reference and set to the same values as the old entry, and the old entry is then deleted. This new node shows that labels for this suspended order have already been printed, and is used by the *Reprint Label from Suspense (IV)* option [PSJI SUSREP] when reprinting batches of labels. The structure of the new node is as follows:

```
^PS(55,"PSIVSUS",S1,S2,S3,S4,S5)=P1^P2^P3
^PS(55,"PSIVSUS",S1,S2,S3,S4,S5,BCMA ID)= ""
```

where:

S1 = The IEN of the IV Room associated with this order.
S2 = "A" concatenated with the date and time labels for the order were printed.
S3 = The IEN of the patient for whom the order exists.
S4 = The IEN of the order.
S5 = The date and time the order was suspended.
BCMA ID = Unique Bar Code ID printed for the order.

P1 = The number of labels suspended for the order.
P2 = The start date concatenated with the administration times for the order.
P3 = The cumulative number of labels that have been printed for the order (does not include those labels suspended and not printed).

The *Manufacturing Record for Suspense (IV)* option [PSJI SUSMAN] creates a temporary cross-reference in the PHARMACY PATIENT file (#55) to hold the data needed for this report. This is done so that the same routines, which build and print the Manufacturing List described above, can be used for this report also. It only exists during the running of this option. The structure of the cross-reference is as follows:

```
^PS(55,"PSIVSUSM",S1,S2,S3,S4,0)=P1
```

where:

S1 = The IEN of the IV Room associated with this order.
S2 = The job number ($J).
S3 = The first letter of the IV type.
S4 = If the order includes an additive, the first piece of S4 contains the first 10 characters of the additive print name, the second piece contains the additive strength, and the third piece contains "6"; concatenated with the internal number of the additive in the IV ADDITIVES file (#52.6). If the order does not include an additive, piece one contains the first 10 characters of the solution print name, piece two contains the solution volume, and piece three contains "7"; concatenated with the solution's IEN in the IV SOLUTIONS file (#52.7).

P1 = The total number of each type order containing the drug identified in S4.

Each record on the Suspense Manufacturing List should be in the following format:

```
^PS(55,"PSIVWLM",S1,S2,S3,S4,S5,S6,S7)=P1
```

where:

S1 = The IEN of the IV Room associated with this order.

S2 = The job number ($J).

S3 = The first letter of the IV type.

S4 = If the order includes an additive, the first piece of S4 contains the first 10 characters of the additive print name, the second piece contains the additive strength, and the third piece contains “6”; concatenated with the IEN of the additive in the IV ADDITIVES file (#52.6). If the order does not include an additive, piece one contains the first 10 characters of the solution print name, piece two contains the solution volume, and piece three contains “7”; concatenated with the solution’s IEN in the IV SOLUTIONS file (#52.7).

S5 = If the order contains an additive, piece one contains the first 10 characters of the first solution’s print name, piece two contains the solution’s volume, and piece three contains “7”; concatenated with the solution’s IEN in the IV SOLUTIONS file (#52.7). If no additive was found for the order, S4 contains “zz6” only.

S6 = The IEN of the patient for whom the order exists.

S7 = The IEN of the order.

P1 = The number of labels suspended for this order.

18.5. Unit Dose “Defaults”

18.5.1. Order Start Date/Time Calculation

When an order is created, the software will calculate a Start Date/Time for the order. If the order is entered through a Unit Dose Order Set, the Calculated Start Date/Time is automatically entered into the order and may be edited later. If the regular, abbreviated, or ward order entry process is used, the Calculated Start Date/Time is shown as a default value during the order entry process and may be edited immediately.

If the order originated in CPRS and a duration is received with the order, the default Start Date/Time will be the expected first dose that was displayed in CPRS at the time the order was created. The DEFAULT START DATE CALCULATION parameter is used to calculate the Calc Start Date/Time value.

If the order originated in CPRS and no duration is received with the order, The DEFAULT START DATE CALCULATION parameter is used to calculate the Start Date/Time value. The expected first dose that was displayed in CPRS at the time the order was created is displayed as the Requested Start Date/Time.

This DEFAULT START DATE CALCULATION parameter is set using the *Inpatient Ward Parameters Edit* [PSJ IWP EDIT] option under the *PARameters Edit Menu* [PSJ PARAM EDIT MENU] option under the *Supervisor’s Menu* [PSJU FILE]. The choices for the DEFAULT START DATE CALCULATION are as follows:

1. NOW - If this choice is selected, the Start Date/Time will equal the Login Date/Time of the order.

2. CLOSEST ADMIN TIME - If this choice is selected, the Admin Date/Time that is closest to the Login Date/Time of the order will be used as the default.

3. NEXT CLOSEST ADMIN TIME - If this choice is made, the closest Admin Date/Time after the Login Date/Time of the order, will be used as the default.

Note: When an order is placed through CPRS prior to the next administration time of the schedule for the order, the Expected First Dose will be today at the next administration time. However, if the order is placed after the last administration time of the schedule for the order, the Expected First Dose will be the next administration time. This Expected First Dose date/time is seen through CPRS and is always based on the logic of using "next administration time," regardless of what the site has set for the ward parameter. The Expected First Dose displayed in CPRS displays as Requested Start Date/Time on the order view if no duration is received from CPRS. The Expected First Dose displays as the default Start Date/Time on the order view when a duration is received.

Page 119 referred to Order Renewal information and example text that is no longer in the package and has been removed from the manual.

18.5.2. Stop Date/Time: Calculation

When an order is created, the package will calculate a Stop Date/Time for the order. If the order is entered through the abbreviated or ward order entry process, or through an Order Set, the Calculated Stop Date/Time is automatically entered into the order, and can be edited later. If the regular order entry process is used, the Calculated Stop Date/Time is shown as a default value during the order entry process, and can be edited immediately.

When calculating the default Stop Date/Time, the software uses the following criteria (in the order shown):

1. If the order was created in CPRS and a duration is received with the order, the order's default Stop Date/Time is calculated using the default Start Date/Time plus the duration. The system also calculates the default Stop Date/Time that would have been used if no duration had been received, and this date is displayed as the Calculated Stop Date/Time.

2. If the patient has a default Stop Date/Time associated with him/her, and this date/time is not less than the current date/time, the order's default Stop Date/Time will be set to the patient's default Stop Date/Time.

3. If the order has a Schedule Type of One-Time, the ward parameter, DAYS UNTIL STOP FOR ONE-TIME, is accessed to determine the stop date. When the ward parameter is not available, the system parameter, DAYS UNTIL STOP FOR ONE-TIME, will be used to determine the stop date. When neither parameter has been set, one-time orders will use the ward parameter, DAYS UNTIL STOP DATE/TIME, to determine the stop date instead of the start and stop date being equal.

4. If the Orderable Item of the order contains a day or dose limit and the Start Date/Time of the order plus the day or dose limit is less than the order's current default Stop Date/Time, the order's default Stop Date/Time will equal the order Start Date/Time plus the day or dose limit.

5. If the default Stop Date/Time has not been determined by the previous methods, the order's default Stop Date/Time will be calculated using the DAYS UNTIL STOP DATE/TIME and TIME OF DAY THAT ORDERS STOP parameters. These parameters may be edited under the *Inpatient Ward Parameters Edit* [PSJ IWP EDIT] option under the *PARameters Edit Menu* [PSJ PARAM EDIT MENU] option under the *Supervisor's Menu* [PSJU FILE] option. If a number is found for the DAYS UNTIL STOP DATE/TIME, the Stop Date of the order will be set to the Start Date of the order plus this number. If no number is found, the Stop Date of the order will be set to the Start Date of the order plus fourteen days. The default Stop Time will be set to the military time found in the TIME OF DAY THAT ORDERS STOP parameter. If no time is found in this parameter, the Stop Time will be set to the order's Start Time.

18.5.3. Patient's Default Stop Date/Time

The software shows a default Stop Date/Time for the order when creating and renewing orders. The default depends largely on the patient's default Stop Date/Time (sometimes referred to as the patient's "wall").

A wall will exist for a patient if the SAME STOP DATE ON ALL ORDERS parameter is set to **YES**. This parameter may be edited with the *Inpatient Ward Parameters Edit* [PSJ IWP EDIT] option under the *PARameters Edit Menu* [PSJ PARAM EDIT MENU] option under the *Supervisor's Menu* [PSJU FILE] option.

The wall for the patient is calculated based on the DAYS UNTIL STOP DATE/TIME and the TIME OF DAY THAT ORDERS STOP parameters. These parameters may be updated under the *PARameters Edit Menu* [PSJ PARAM EDIT MENU] option under the *Supervisor's Menu* [PSJU FILE] option. If a number is found for the DAYS UNTIL STOP DATE/TIME, the date of the wall will be set to the Start Date of the order being created plus this number. If no number is found, the date of the wall will be set to the Start Date of the order plus fourteen days. If a time is found in the TIME OF DAY THAT ORDERS STOP parameter, the time of the wall will be set to that time. If no time is found, the time for the wall will be set to the order's Start Time.

The following tells when the wall is updated:

1. If the patient has no active orders, the wall is set to NULL.
2. If the order is a new order and the patient's current wall is less than the current date/time, a new wall is assigned.
3. If the order is created due to an edit, the wall remains the same.

Note: The wall may be edited by a pharmacist, or pharmacy technician, using the *Edit Patient's Default Stop Date* [PSJU CPDD] option.

18.5.4. Pick List Wall

When a pick list is created (run), the START DATE selected is in effect a wall for the pick list. As long as the actual date (and time) is less than the Start Date, the pick list can be updated. Also, until the Start Date is reached, the pick list cannot be filed away. Conversely, once the Start Date is reached, the pick list can be filed away, but can no longer be updated.

The user can now enter units dispensed before the Start Date is reached to allow greater accuracy of the units needed when a pick list is sent to the ATC dispensing machine.

Note: If the user enters the units dispensed for a pick list before the Start Date is reached and then updates the pick list, the units dispensed data could be lost for any order that is updated.

19. Glossary

Action Prompt

There are three types of "Action" prompts that occur during order entry. One type of requesting action on the order is the standard ListMan action prompt. The following actions are valid:

+	**Next Screen**
-	**Previous Screen**
UP	**Up a Line**
DN	**Down a Line**
>	**Shift View to Right**
<	**Shift View to Left**
FS	**First screen**
LS	**Last Screen**
GO	**Go to Page**
RD	**Re Display Screen**
PS	**Print Screen**
PT	**Print List**
SL	**Search List**
Q	**Quit**
ADPL	**Auto Display (on/off)**

The second type of "Action" prompts is the Inpatient Medications Patient/Order actions. These actions are:

PU	**Patient Record Updates**
DA	**Detailed Allergy/ADR List**
VP	**View Profile**
NO	**New Orders Entry**
IN	**Intervention Menu**
PI	**Patient Information**
SO	**Select Order**
DC	**Discontinue**
ED	**Edit**

VF	**Verify**
HD	**Hold**
RN	**Renew**
AL	**Activity Logs**
OC	**On Call**
NL	**Print New IV Labels**
RL	**Reprint IV Labels**
RC	**Recycled IV**
DT	**Destroyed IV**
CA	**Cancelled IV**

The third type of "Action" prompts is the Hidden actions. These actions are:

LBL	**Label Patient/Report**
JP	**Jump to a Patient**
OTH	**Other Pharmacy Options**
MAR	**MAR Menu**
DC	**Speed Discontinue**
RN	**Speed Renew**
SF	**Speed Finish**
SV	**Speed Verify**
CO	**Copy**
N	**Mark Not to be Given**
I	**Mark Incomplete**
DIN	**Drug Restr/Guide**

Active Order

Any order which has not expired or been discontinued. Active orders also include any orders that are on hold or on call.

Activity Reason Log

The complete list of all activity related to a patient order. The log contains the action taken, the date of the action, and the user who took the action.

Activity Ruler	The activity ruler provides a visual representation of the relationship between manufacturing times, doses due and order start times. The intent is to provide the on-the-floor user with a means of tracking activity in the IV room and determining when to call for doses before the normal delivery. The activity ruler can be enabled or disabled under the *SIte Parameters (IV)* option.
Additive	A drug that is added to an IV solution for the purpose of parenteral administration. An additive can be an electrolyte, a vitamin or other nutrient, or an antibiotic. Only electrolyte or multivitamin type additives can be entered as IV fluid additives in CPRS.
ADMINISTRATION SCHEDULE File	File #51.1. This file contains administration schedule names and standard dosage administration times. The name is a common abbreviation for an administration schedule type (e.g., QID, Q4H, PRN). The administration time entered is in military time, with each time separated from the next by a dash, and times listed in ascending order.
Administering Teams	Nursing teams used in the administration of medication to the patients. There can be a number of teams assigned to take care of one ward, with specific rooms and beds assigned to each team.
Admixture	An admixture is a type of intravenously administered medication comprised of any number of additives (including zero) in one solution. It is given at a specified flow rate; when one bottle or bag is empty, another is hung.
APSP INTERVENTION File	File #9009032.4. This file is used to enter pharmacy interventions. Interventions in this file are records of occurrences where the pharmacist had to take some sort of action involving a particular prescription or order. A record would record the provider involved, why an intervention was necessary, what action was taken by the pharmacists, etc.
Average Unit Drug Cost	The total drug cost divided by the total number of units of measurement.

BCMA	A **V***IST***A** computer software package named Bar Code Medication Administration. This package validates medications against active orders prior to being administered to the patient.
Calc Start Date	Calculated Start Date. This is the date that would have been the default Start Date/Time for an order if no duration was received from CPRS. Due to the existence of a duration, the default Start Date/Time of the order becomes the expected first dose.
Calc Stop Date	Calculated Stop Date. This is the date that would have been the default Stop Date/Time for an order if no duration was received from CPRS. Due to the existence of a duration, the default Stop Date/Time of the order becomes the expected first dose plus the duration.
Chemotherapy	Chemotherapy is the treatment or prevention of cancer with chemical agents. The chemotherapy IV type administration can be a syringe, admixture, or a piggyback. Once the subtype (syringe, piggyback, etc.) is selected, the order entry follows the same procedure as the type that corresponds to the selected subtype (e.g., piggyback type of chemotherapy follows the same entry procedure as regular piggyback IV).
Chemotherapy "Admixture"	The Chemotherapy "Admixture" IV type follows the same order entry procedure as the regular admixture IV type. This type is in use when the level of toxicity of the chemotherapy drug is high and is to be administered continuously over an extended period of time (e.g., seven days).
Chemotherapy "Piggyback"	The Chemotherapy "Piggyback" IV type follows the same order entry procedure as the regular piggyback IV type. This type of chemotherapy is in use when the chemotherapy drug does not have time constraints on how fast it must be infused into the patient. These types are normally administered over a 30 - 60 minute interval.

Chemotherapy "Syringe"

The Chemotherapy "Syringe" IV type follows the same order entry procedure as the regular syringe IV type. Its administration may be continuous or intermittent. The pharmacist selects the type when the level of toxicity of the chemotherapy drug is low and needs to be infused directly into the patient within a short time interval (usually 1-2 minutes).

Continuous Syringe

A syringe type of IV that is administered continuously to the patient, similar to a hyperal IV type. This type of syringe is commonly used on outpatients and administered automatically by an infusion pump.

Coverage Times

The start and end of coverage period designates administration times covered by a manufacturing run. There must be a coverage period for all IV types: admixtures and primaries, piggybacks, hyperals, syringes, and chemotherapy. For one type, admixtures for example, the user might define two coverage periods; one from 1200 to 0259 and another from 0300 to 1159 (this would mean that the user has two manufacturing times for admixtures).

CPRS

A **V***IST***A** computer software package called Computerized Patient Record Systems. CPRS is an application in **V***IST***A** that allows the user to enter all necessary orders for a patient in different packages from a single application. All pending orders that appear in the Unit Dose and IV modules are initially entered through the CPRS package.

Cumulative Doses

The number of IV doses actually administered, which equals the total number of bags dispensed less any recycled, destroyed, or canceled bags.

Default Answer

The most common answer, predefined by the system to save time and keystrokes for the user. The default answer appears before the two slash marks (//) and can be selected by the user by pressing <**Enter**>.

Dispense Drug

The Dispense Drug name has the strength attached to it (e.g., Acetaminophen 325 mg). The name alone without a strength attached is the Orderable Item name.

Delivery Times	The time(s) when IV orders are delivered to the wards.
Dosage Ordered	After the user has selected the drug during order entry, the dosage ordered prompt is displayed.
DRUG ELECTROLYTES File	File #50.4. This file contains the names of anions/cations, and their concentration units.
DRUG File	File #50. This file holds the information related to each drug that can be used to fill a prescription.
Electrolyte	An additive that disassociates into ions (charged particles) when placed in solution.
Entry By	The name of the user who entered the Unit Dose or IV order into the computer.
Hospital Supplied Self Med	Self med which is to be supplied by the Medical Center's pharmacy. Hospital supplied self med is only prompted for if the user answers Yes to the SELF MED prompt during order entry.
Hyperalimentation (Hyperal)	Long term feeding of a protein-carbohydrate solution. Electrolytes, fats, trace elements, and vitamins can be added. Since this solution generally provides all necessary nutrients, it is commonly referred to as Total Parenteral Nutrition (TPN). A hyperal is composed of many additives in two or more solutions. When the labels print, they show the individual electrolytes in the hyperal order.
Infusion Rate	The designated rate of flow of IV fluids into the patient.
INPATIENT USER PARAMETERS File	File #53.45. This file is used to tailor various aspects of the Inpatient Medications package with regards to specific users. This file also contains fields that are used as temporary storage of data during order entry/edit.
INPATIENT WARD PARAMETERS File	File #59.6. This file is used to tailor various aspects of the Inpatient Medications package with regards to specific wards.

Intermittent Syringe A syringe type of IV that is administered periodically to the patient according to an administration schedule.

Internal Order Number The number on the top left corner of the label of an IV bag in brackets ([ ]). This number can be used to speed up the entry of returns and destroyed IV bags.

IV ADDITIVES File File #52.6. This file contains drugs that are used as additives in the IV room. Data entered includes drug generic name, print name, drug information, synonym(s), dispensing units, cost per unit, days for IV order, usual IV schedule, administration times, electrolytes, and quick code information.

IV CATEGORY File File #50.2. This file allows the user to create categories of drugs in order to run "tailor-made" IV cost reports for specific user-defined categories of drugs. The user can group drugs into categories.

IV Label Action A prompt, requesting action on an IV label, in the form of "Action ( )", where the valid codes are shown in the parentheses. The following codes are valid:

P – Print a specified number of labels now.
B – Bypass any more actions.
S – Suspend a specified number of labels for the IV room to print on demand.

IV Room Name The name identifying an IV distribution area.

IV SOLUTIONS File File #52.7. This file contains drugs that are used as primary solutions in the IV room. The solution must already exist in the DRUG file (#50) to be selected. Data in this file includes: drug generic name, print name, status, drug information, synonym(s), volume, and electrolytes.

IV STATS File File #50.8. This file contains information concerning the IV workload of the pharmacy. This file is updated each time the *COmpile IV Statistics* option is run and the data stored is used as the basis for the AMIS (IV) report.

Label Device	The device, identified by the user, on which computer-generated labels will be printed.
Local Possible Dosages	Free text dosages that are associated with drugs that do not meet all of the criteria for Possible Dosages.
LVP	Large Volume Parenteral — Admixture. A solution intended for continuous parenteral infusion, administered as a vehicle for additive(s) or for the pharmacological effect of the solution itself. It is comprised of any number of additives, including zero, in one solution. An LVP runs continuously, with another bag hung when one bottle or bag is empty.
Manufacturing Times	The time(s) that designate(s) the general time when the manufacturing list will be run and IV orders prepared. This field in the *SIte Parameters (IV)* option (IV ROOM file, (#59.5)) is for documentation only and does not affect IV processing.
MEDICATION ADMINISTERING TEAM File	File #57.7. This file contains wards, the teams used in the administration of medication to that ward and the rooms/beds assigned to that team.
MEDICATION INSTRUCTION File	File #51.2. This file is used by Unit Dose and Outpatient Pharmacy. It contains the medication instruction name, expansion, and intended use.
MEDICATION ROUTES File	File #51.2. This file contains medication route names. The user can enter an abbreviation for each route to be used at their site. The abbreviation will most likely be the Latin abbreviation for the term.
Medication Routes/ Abbreviations	Route by which medication is administered (e.g., oral). The MEDICATION ROUTES file (#51.2) contains the routes and abbreviations, which are selected by each VAMC. The abbreviation cannot be longer than five characters to fit on labels and the MAR. The user can add new routes and abbreviations as appropriate.
Non-Formulary Drugs	The medications that are defined as commercially available drug products not included in the VA National Formulary.

Non-Verified Orders	Any order that has been entered in the Unit Dose or IV module that has not been verified (made active) by a nurse and/or pharmacist. Ward staff may not verify a non-verified order.
Orderable Item	An Orderable Item name has no strength attached to it (e.g., Acetaminophen). The name with a strength attached to it is the Dispense Drug name (e.g., Acetaminophen 325mg).
Order Sets	An Order Set is a set of N pre-written orders. (N indicates the number of orders in an Order Set is variable.) Order Sets are used to expedite order entry for drugs that are dispensed to all patients in certain medical practices and procedures.
Order View	Computer option that allows the user to view detailed information related to one specific order of a patient. The order view provides basic patient information and identification of the order variables.
Parenteral	Introduced by means other than by way of the digestive track.
Patient Profile	A listing of a patient's active and non-active Unit Dose and IV orders. The patient profile also includes basic patient information, including the patient's name, social security number, date of birth, diagnosis, ward location, date of admission, reactions, and any pertinent remarks.
Pending Order	A pending order is one that has been entered by a provider through CPRS without Pharmacy or Nursing finishing the order. Once Pharmacy or Nursing has finished and verified the order, it will become active.
PHARMACY SYSTEM File	File # 59.7. This file contains data that pertains to the entire Pharmacy system of a medical center, and not to any one site or division.
Piggyback	Small volume parenteral solution for intermittent infusion. A piggyback is comprised of any number of additives, including zero, and one solution; the mixture is made in a small bag. The piggyback is given on a schedule (e.g., Q6H). Once the medication flows in, the piggyback is removed; another is not hung until the administration schedule calls for it.

Possible Dosages

Dosages that have a numeric dosage and numeric dispense units per dose appropriate for administration. For a drug to have possible dosages, it must be a single ingredient product that is matched to the VA PRODUCT file (#50.68). The VA PRODUCT file (#50.68) entry must have a numeric strength and the dosage form/unit combination must be such that a numeric strength combined with the unit can be an appropriate dosage selection.

Pre-Exchange Units

The number of actual units required for this order until the next cart exchange.

Primary Solution

A solution, usually an LVP, administered as a vehicle for additive(s) or for the pharmacological effect of the solution itself. Infusion is generally continuous. An LVP or piggyback has only one solution (primary solution). A hyperal can have one or more solutions.

Print Name

Drug generic name, as it is to appear on pertinent IV output, such as labels and reports. Volume or Strength is not part of the print name.

Print Name{2}

Field used to record the additives contained in a commercially purchased premixed solution.

Profile

The patient profile shows a patient's orders. The Long profile includes all the patient's orders, sorted by status: active, non-verified, pending, and non-active. The Short profile will exclude the patient's discontinued and expired orders.

Prompt

A point at which the system questions the user and waits for a response.

Provider

Another term for the physician involved in the prescription of an IV or Unit Dose order for a patient.

PSJI MGR

The name of the *key* that allows access to the supervisor functions necessary to run the IV medications software. Usually given to the Inpatient package coordinator.

PSJI PHARM TECH	The name of the *key* that must be assigned to pharmacy technicians using the IV module. This key allows the technician to finish IV orders, but not verify them.
PSJI PURGE	The key that must be assigned to individuals allowed to purge expired IV orders. This person will most likely be the IV application coordinator.
PSJI RNFINISH	The name of the *key* that is given to a user to allow the finishing of IV orders. This user must also be a holder of the PSJ RNURSE key.
PSJI USR1	The primary menu option that may be assigned to nurses.
PSJI USR2	The primary menu option that may be assigned to technicians.
PSJU MGR	The name of the *primary menu option* and of the *key* that must be assigned to the pharmacy package coordinators and supervisors using the Unit Dose module.
PSJU PL	The name of the *key* that must be assigned to anyone using the *Pick List Menu* options.
PSJ PHARM TECH	The name of the *key* that must be assigned to pharmacy technicians using the Unit Dose module.
PSJ RNFINISH	The name of the *key* that is given to a user to allow the finishing of a Unit Dose order. This user must also be a holder of the PSJ RNURSE key.
PSJ RNURSE	The name of the *key* that must be assigned to nurses using the Unit Dose module.
PSJ RPHARM	The name of the *key* that must be assigned to a pharmacist to use the Unit Dose module. If the package coordinator is also a pharmacist he/she must also be given this key.
PSJ STAT NOW ACTIVE ORDER Mail Group	A mail group that notifies subscribers when a pending STAT or NOW order is made active.

PSJ STAT NOW PENDING ORDER Mail Group	A mail group that notifies subscribers when a pending STAT or NOW order has been received from CPRS.
Quick Code	An abbreviated form of the drug generic name (from one to ten characters) for IV orders. One of the three drug fields on which lookup is done to locate a drug. Print name and synonym are the other two. Use of quick codes will speed up order entry, etc.
Report Device	The device, identified by the user, on which computer-generated reports selected by the user will be printed.
Schedule	The frequency of administration of a medication (e.g., QID, QD, QAM, STAT, Q4H).
Schedule Type	Codes include: **O** - one time (i.e., STAT - only once), **P** - PRN (as needed; no set administration times). **C**- continuous (given continuously for the life of the order; usually with set administration times). **R** - fill on request (used for items that are not automatically put in the cart - but are filled on the nurse's request. These can be multidose items (e.g., eye wash, kept for use by one patient and is filled on request when the supply is exhausted). And **OC** - on call (one time with no specific time to be given, i.e., 1/2 hour before surgery).
Self Med	Medication that is to be administered by the patient to himself.
Standard Schedule	Standard medication administration schedules stored in the ADMINISTRATION SCHEDULE file (#51.1).
Start Date/Time	The date and time an order is to begin.
STAT and NOW Order Notification	Sends a text message to subscribers of the PSJ STAT NOW mail groups when a pending STAT or NOW order has been received from CPRS or has been verified and made active.
Status	**A** - active, **E** - expired, **R** - renewed (or reinstated), **D** - discontinued, **H** - on hold, **I** - incomplete, or **N** - non-verified, **U** – unreleased, **P** – pending, **O** – on call, **DE** – discontinued edit, **RE** – reinstated, **DR** – discontinued renewal.

Stop Date/Time	The date and time an order is to expire.
Stop Order Notices	A list of patient medications that are about to expire and may require action.
Syringe	Type of IV that uses a syringe rather than a bottle or bag. The method of infusion for a syringe-type IV may be continuous or intermittent.
Syringe Size	The syringe size is the capacity or volume of a particular syringe. The size of a syringe is usually measured in number of cubic centimeters (ccs).
TPN	Total Parenteral Nutrition. The intravenous administration of the total nutrient requirements of the patient. The term TPN is also used to mean the solution compounded to provide those requirements.
Units per Dose	The number of Units (tablets, capsules, etc.) to be dispensed as a Dose for an order. Fractional numbers will be accepted.
VA Drug Class Code	A drug classification system used by VA that separates drugs into different categories based upon their characteristics. IV cost reports can be run for VA Drug Class Codes.
VDL	Virtual Due List. This is a Graphical User Interface (GUI) application used by the nurses when administering medications.
WARD GROUP File	File #57.5. This file contains the name of the ward group, and the wards included in that group. The grouping is necessary for the pick list to be run for specific carts and ward groups.
Ward Group Name	An arbitrarily chosen name used to group wards for the pick list and medication cart.
WARD LOCATION File	File #42. This file contains all of the facility ward locations and their related data, i.e., Operating beds, Bedsection, etc. The wards are created/edited using the *Ward Definition* option of the Automatic Data Transmission (ADT) module.

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