

Introduction

The objective of the Adverse Reaction Tracking (ART) package, is to collect, track, and report patient allergy and adverse reaction data. This is accomplished via the four major functional areas of the package.

1. Data Entry options - ART has two options where a user can enter data.
 - a. Enter/Edit Patient Reaction Data - This option allows the clinical users (i.e., doctors, nurses, other clinicians and clerks) to enter data.
 - b. Verify Patient Reaction Data - This option allows the designated verifiers (e.g., clinical pharmacists) to verify the correctness of data entered by the clinical users. This option does NOT perform evaluation of suspected Adverse Drug Reactions (ADRs) as described in Section 5.a.(2).(d) of Directive 10-92-070.
2. Reporting options - These options report the patient causative agent data to the user via a print option. Also, this data is made available to other software applications via a data extract utility.
3. Enter/Edit Site File Configurable Menu - This menu allows the various site configurable files to be modified to allow ART to better meet the needs of each individual site.
4. Adverse Drug Reaction (ADR) options - These options support implementation of Directive 10-92-070. They allow for the evaluation of a suspected ADR by a qualified individual (e.g., clinical pharmacist, clinical pharmacologist) other than the attending physician, as specified in Section 5.a.(2).(d) of Directive 10-92-070. This component also generates the reports needed by the Food and Drug Administration (FDA).

ART needs VA FileMan v21+, Kernel v8.0+, MAS v5.3+, and National Drug File v3.0+ to function properly. It will generate progress notes if the Progress Notes package version 2.5 is installed as well as patch GMRP*2.5*32.

There are four major users of the software.

1. Clinical users - These are the doctors, nurses, other clinicians (e.g., therapists), and clerks entering the data. They are required to enter data pertinent for a particular allergy/adverse reaction. If the allergy/adverse reaction was observed at the site, data pertaining to any possible legal action

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could be tracked. This data would then be made available to users of any service utilizing the reporting functionality, thus avoiding any errors in care. Two other data elements that are tracked are the date/time the patient chart was marked and the date/time the patient ID band was marked indicating the patient's reaction to the particular allergen. Automated mail bulletins are sent to the appropriate users when the date/time a patient chart marked data field has not been recorded.

2. Verifiers - These are users designated by the site who verify the accuracy of the data. The verifiers must have the GMRA-ALLERGY VERIFY security key. The verifiers may be clinical pharmacists, dietitians, and other clinical personnel. Automated mail bulletins will be sent to the verifiers when an allergy/adverse reaction has been entered and signed off (completed) by a user. Verification may be important in observed instances of adverse drug reactions where a Quality Assurance investigation may be conducted. In general, it is a good principle to have someone verify all of the data entered.
3. Pharmacy and Therapeutics (P&T) Committee Users - These users are members of the hospital's P&T Committee and are assigned the P&T Committee Menu option. They use the information to review ADRs in the hospital, classify them as significant reactions and determine whether they are related to particular drugs, and depending on the severity of the ADR may report it to the FDA. A printed copy of the form used to report ADRs to the FDA can be generated by the software. Automated mail bulletins will be sent to the P&T Committee users when an observed drug reaction is entered into the system.
4. Software developers - Developers utilize the data extract utility within their specific DHCP application to display ART data.

Implementation and Maintenance

There are several important considerations for the Application Coordinator (ADPAC) or IRM support person to consider following installation of this software. They include editing site parameters, assigning menus to users and assigning security keys.

Site Parameters

The Enter/Edit Site Configurable Files [GMRA SITE FILE MENU] has five options the site can use to customize and maintain their use of the software:

- 1 Edit Allergy File
- 2 Enter/Edit Signs/Symptoms Data
- 3 Enter/Edit Site Parameters
- 4 Sign/Symptoms List
- 5 Allergies File List

Edit Allergy File [GMRA ALLERGY FILE EDIT]

The software provides nationally recognized allergies/adverse reactions. The Edit Allergy File allows the site to add locally defined allergies/adverse reactions to the GMR Allergies file (#120.82). Also, there is the ability to associate a synonym (e.g., abbreviation) with a nationally distributed entry.

Example:

Select Enter/Edit Site Configurable Files Option: 1 Edit Allergy File

Select a LOCAL ALLERGY/ADVERSE REACTION: TEST REACTION

Are you adding 'TEST REACTION' as a new GMR ALLERGIES (the 114TH)? Y (Yes)

GMR ALLERGIES ALLERGY TYPE: ??

This field contains the type(s) for this allergy/adverse reaction . The user can enter the type(s) separated by commas, or the following codes: D=Drug, F=Food, O=Other. If codes are used, do not use commas to separate multiple codes. Examples of valid entries are: DRUG or DRUG, FOOD or D or DF or OTHER.

GMR ALLERGIES ALLERGY TYPE: O

NAME: TEST REACTION// <ret>

Select SYNONYM: ??

This is a synonym for a particular allergy.

Select SYNONYM: TEST

Are you adding 'TEST' as a new SYNONYM (the 1ST for this GMR ALLERGIES)? Y (Yes)

Select SYNONYM:

- 1 Drug
- 2 Food
- 3 Other

Select the type(s) for this reaction: 3// <ret>

Select DRUG INGREDIENT: ??

This is one of the drug ingredients that make up this causative agent.

Choose from:

1,1,1 TRICHLOROETHANE
2-AMINO-2-METHYL-1-PROPANOL
2-PHENYLBENZIMIDAZOLE-5-SULFONIC ACID
4-DILAURATE
ABSORPTION BASE
ACACIA
ACACIA POWDER
ACEBUTOLOL
ACEBUTOLOL HYDROCHLORIDE
ACEMANNAN
ACETAMIDE MEA
ACETAMINOPHEN
ACETANILIDE
ACETATE
ACETAZOLAMIDE
ACETAZOLAMIDE SODIUM

ACETIC ACID
ACETIC ACID, GLACIAL
ACETOHEXAMIDE
ACETOHYDROXAMIC ACID
ACETONE

'^' TO STOP: ^

Select DRUG INGREDIENT: <ret>

Select VA DRUG CLASSES: ??

One of the VA Drug Classes that make up this reactant.

Choose from:

AA000 INTRODUCTION
AD000 ANTIDOTES, DETERRENTS AND POISON CONTROL
AD100 ALCOHOL DETERRENTS
AD200 CYANIDE ANTIDOTES
AD300 HEAVY METAL ANTAGONISTS
AD400 ANTIDOTES, DETERRENTS, AND POISON CONTROL EXCHANGE RESINS
AD900 ANTIDOTES/DETERRENTS, OTHER
AH000 ANTIHISTAMINES
AH100 ANTIHISTAMINES, PHENOTHIAZINE
AH200 ANTIHISTAMINES, ETHANOLAMINE
AH300 ANTIHISTAMINES, ETHYLENEDIAMINE
AH400 ANTIHISTAMINES, ALKYLAMINE
AH500 ANTIHISTAMINES, PIPERAZINE
AH600 ANTIHISTAMINES, BUTYROPHENONE
AH700 ANTIHISTAMINES, PIPERIDINE
AH900 ANTIHISTAMINES, OTHER
AM000 ANTIMICROBIALS
AM050 PENICILLINS
AM051 PENICILLIN-G RELATED PENICILLINS
AM052 PENICILLINS, AMINO DERIVATIVES
AM053 PENICILLINASE-RESISTANT PENICILLINS

'^' TO STOP: ^

Select VA DRUG CLASSES: <ret>

Select a LOCAL ALLERGY/ADVERSE REACTION: <RET>

Enter/Edit Signs/Symptoms Data [GMRA REACTION FILE EDIT]

The software provides nationally used signs/symptoms in the Sign/Symptoms file (#120.83), but may not include all possible signs/symptoms used at a site. With the Enter/Edit Signs/Symptoms Data option, the site can add new signs/symptoms to File #120.83. In the Enter/Edit Site Parameters [GMRA SITE FILE] option the site has the capability of changing the top ten signs/symptoms displayed to the user in the Enter/Edit Patient Reaction Data and Verify Patient Reaction Data options.

Example:

```
Select Enter/Edit Site Configurable Files Option:    2  Enter/Edit Signs/Symptoms
Data
```

```
Select a LOCAL SIGN/SYMP TOM:    TEST SIGN/SYMP TOM
```

```
Are you adding 'TEST SIGN/SYMP TOM' as a new SIGN/SYMP TOMS (the 155TH)?    Y
(Yes)
```

```
NAME: TEST SIGN/SYMP TOM//    <ret>
```

```
Select SYNONYM:    ??
```

This field indicates a synonym for this entry.

```
Select SYNONYM:    TEST
```

```
Are you adding 'TEST' as a new SYNONYM (the 1ST for this SIGN/SYMP TOMS)?    Y
(Yes)
```

```
Select SYNONYM:    <ret>
```

```
Select a LOCAL SIGN/SYMP TOM:    <ret>
```

Enter/Edit Site Parameters [GMRA SITE FILE]

The Enter/Edit Site Parameters option allows site configuration for multiple divisions at the site. The software provides a generic site configuration entry called HOSPITAL. The site can customize this entry to fit its needs. These parameters are stored in the GMR Allergy Site Parameters file (#120.84).

The site can configure the following:

1. The list of the ten most common signs/symptoms the user will see.
2. The autoverification of data. Autoverification is the process by which the software automatically changes the status of the data to verified when the user who entered the data signs off (completes) on it. The site can determine which of the types of reactions are to be autoverified and which are to follow the normal verification procedure. There are three parameters used to autoverify data; Autoverify Food/Drug/Other, Autoverify Observed/Historical and Autoverify Logical Operator. The verification of data is important. Minimally, all drug reactions will need verification. Depending on the site, food and other allergies may also need to be verified. The users who will verify the data must have the GMRA-ALLERGY VERIFY security key.
3. Whether the originator of the data should provide comments.
4. Whether the site documents the marking of a patient's ID band or chart to indicate the presence of an allergy/adverse reaction. There are four parameters with regards to this documentation; Mark ID Band, Flag Method of Notification, Alert ID Band/Chart Mark, and Send Chart Mark Bulletin for New Admissions.
5. FDA reporting data. The site can choose to require the user to enter FDA data at the time a reaction is entered. Also, the site may edit the reporter information that will appear on the FDA Adverse Reaction reports.
6. Whether to allow comments to be added to the reaction data that is entered in error. This allows the user to indicate why the data is incorrect.

Example:

```
Select Enter/Edit Site Configurable Files Option:    3  Enter/Edit Site
Parameters
Select GMR ALLERGY SITE PARAMETERS NAME:    ??
HOSPITAL
```

This field is the name of this set of parameters. The name of the base set that is sent out is "HOSPITAL". The code will work more efficiently

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if the name of the base set of parameters is not changed from "HOSPITAL".
Select GMR ALLERGY SITE PARAMETERS NAME: **HOSPITAL**
NAME: HOSPITAL// (No editing)
Select DIVISION: HINES // ?
Answer with DIVISION:
HINES

You may enter a new DIVISION, if you wish
Answer with INSTITUTION NAME, or STATION NUMBER
Do you want the entire 1033-Entry INSTITUTION List? **N**

Select DIVISION: HINES// **<ret>**

The following are the ten most common signs/symptoms:

- | | |
|--------------------------|--------------|
| 1. ANXIETY | 6. CONFUSION |
| 2. ITCHING,WATERING EYES | 7. HIVES |
| 3. HYPOTENSION | 8. DRY MOUTH |
| 4. DROWSINESS | 9. DRY NOSE |
| 5. NAUSEA,VOMITING | 10. RASH |

Enter the number of the sign/symptom that you would like to edit: **??**
ENTER THE CORRECT NUMBER (1-10) OF THE SIGN/SYMPTOM TO BE EDITED
Enter the number of the sign/symptom that you would like to edit: **6**
REACTION: CONFUSION// **??**

One of the ten most commonly selected reactions.

Choose from:

AGITATION	NATIONAL SIGN/SYMPTOM
AGRANULOCYTOSIS	NATIONAL SIGN/SYMPTOM
ALOPECIA	NATIONAL SIGN/SYMPTOM
ANAPHYLAXIS	NATIONAL SIGN/SYMPTOM
ANEMIA	NATIONAL SIGN/SYMPTOM
ANOREXIA	NATIONAL SIGN/SYMPTOM
ANXIETY	NATIONAL SIGN/SYMPTOM
APNEA	NATIONAL SIGN/SYMPTOM
APPETITE,INCREASED	NATIONAL SIGN/SYMPTOM
ARRHYTHMIA	NATIONAL SIGN/SYMPTOM
ASTHENIA	NATIONAL SIGN/SYMPTOM
ASTHMA	NATIONAL SIGN/SYMPTOM
ATAXIA	NATIONAL SIGN/SYMPTOM
ATHETOSIS	NATIONAL SIGN/SYMPTOM
BRACHYCARDIA	NATIONAL SIGN/SYMPTOM
BREAST ENGORGEMENT	NATIONAL SIGN/SYMPTOM
BRONCHOSPASM	NATIONAL SIGN/SYMPTOM
CARDIAC ARREST	NATIONAL SIGN/SYMPTOM
CHEST PAIN	NATIONAL SIGN/SYMPTOM
CHILLS	NATIONAL SIGN/SYMPTOM
COMA	NATIONAL SIGN/SYMPTOM

'^' TO STOP: ^

REACTION: CONFUSION// **AGITATION** NATIONAL SIGN/SYMPTOM

The following are the ten most common signs/symptoms:

- | | |
|--------------------------|--------------|
| 1. ANXIETY | 6. AGITATION |
| 2. ITCHING,WATERING EYES | 7. HIVES |
| 3. HYPOTENSION | 8. DRY MOUTH |

- 4. DROWSINESS
- 5. NAUSEA,VOMITING
- 9. DRY NOSE
- 10. RASH

Enter the number of the sign/symptom that you would like to edit: **<ret>**

AUTOVERIFY FOOD/DRUG/OTHER: **??**

This field determines which types of allergies a site wants autoverified at the user sign off.

Choose from:

- 0 NO AUTOVERIFY
- 1 AUTOVERIFY DRUG ONLY
- 2 AUTOVERIFY FOOD ONLY
- 3 AUTOVERIFY DRUG/FOOD
- 4 AUTOVERIFY OTHER ONLY
- 5 AUTOVERIFY DRUG/OTHER
- 6 AUTOVERIFY FOOD/OTHER
- 7 AUTOVERIFY ALL

AUTOVERIFY FOOD/DRUG/OTHER: **<ret>**

AUTOVERIFY OBSERVED/HISTORICAL: **??**

This field is configurable by the site to allow autoverification of observed or historical allergies.

Choose from:

- 0 NO AUTOVERIFY
- 1 AUTOVERIFY HISTORICAL ONLY
- 2 AUTOVERIFY OBSERVED ONLY
- 3 AUTOVERIFY BOTH

AUTOVERIFY OBSERVED/HISTORICAL: **<ret>**

AUTOVERIFY LOGICAL OPERATOR: **??**

This field will determine how the Autoverify Food/Drug/Other and Autoverify Observed/Historical parameters relate to each other. OR means that the reaction will be autoverified if it meets the criteria of one of the two parameters, while AND means the reaction will be autoverified only if it meets the criteria of both parameters. If this field is left null, the OR condition will be used.

For example, if you want to verify only observed drug reactions, you would set the Autoverify Food/Drug/Other parameter to AUTOVERIFY FOOD/OTHER and the Autoverify Observed/Historical to AUTOVERIFY HISTORICAL ONLY , and the

Autoverify Logical Operator to OR. This means that a reaction that has a type of Food/Other OR is Historical will be autoverified, thus leaving observed drug reactions to be verified.

Another example would be if you wanted to verify all observed reactions and all drug reactions whether observed or historical. The parameters should be set accordingly: Autoverify Food/Drug/Other to AUTOVERIFY FOOD/OTHER, Autoverify Observed/Historical to AUTOVERIFY HISTORICAL ONLY and

Autoverify Logical Operator to AND. In this case to be autoverified, a reaction has to have a type of Food/Other AND it must be Historical, all other reactions will need to be verified.

Choose from:

- ! OR
- & AND

AUTOVERIFY LOGICAL OPERATOR: **<ret>**

REQUIRE ORIGINATOR COMMENTS: **??**

This field indicates whether the originator will be required to enter comments for an allergy.

Choose from:

- 0 NO
- 1 YES

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REQUIRE ORIGINATOR COMMENTS: <ret>

MARK ID BAND FLAG: NO// ??

This field is an indicator to denote whether the site wants to document if the patient ID band should be marked for a certain allergy.

The system will assume the site wants to document the marking of inpatient ID bands. If this field is answered NO, the site does not want to document the marking of inpatient ID bands.

Choose from:

0 NO
1 YES

MARK ID BAND FLAG: NO// <ret>

METHOD OF NOTIFICATION: BULLETIN// ??

This field tells ART if or how the users should be notified for chart or ID band markings. There are three methods. The first method is the use of BULLETINS, which is the current way ART works. The second method is the use of OE/RR Teams. If this method is used, then you will need to set up different teams for each ward and also assign printers to these teams. The third method is to turn off the function.

Choose from:

0 BULLETIN
1 OE/RR TEAMS
2 NO NOTIFICATION

METHOD OF NOTIFICATION: BULLETIN// <ret>

ALERT ID BAND/CHART MARK: NO// ??

This field is to let the system know if you want to issue alerts if the fields have not been answered in the Enter/Edit Patient Reaction Data portion of the system. If the field is answered yes(1) or is null then, the system will continue to issue the alerts. If this field is no(0), then the system will not issue alerts for this record.

Choose from:

1 YES
0 NO

ALERT ID BAND/CHART MARK: NO// <ret>

SEND CHART MARK BULLETIN FOR NEW ADMISSIONS: ??

This is to indicate if the site wants to send chart mark bulletin for a new admission.

Choose from:

1 YES
0 NO

SEND CHART MARK BULLETIN FOR NEW ADMISSIONS: <ret>

FDA DATA REQUIRED: ??

This field will indicate whether the entry of FDA Data should be required during the Enter/Edit Patient Reaction Data. If this field is answered "YES", then the user must enter the FDA Data at the time of entering a reaction. If this field is left null or answered "NO", then the FDA Data entry will not be required during the Enter/Edit Patient Reaction Data option.

Choose from:

y YES
n NO

FDA DATA REQUIRED: <ret>

ENABLE COMMENTS FIELD FOR REACTIONS THAT ARE ENTERED IN ERROR: ??

Permit users to indicate why a reaction was Entered in Error.

Choose from:

1 YES
0 NO

ENABLE COMMENTS FIELD FOR REACTIONS THAT ARE ENTERED IN ERROR: <ret>

REPORTER NAME:
ADDRESS:
CITY:
STATE:
ZIP:
PHONE:
OCCUPATION:

Do you want to edit Reporter Information shown above? No// <ret> (No)

Reporter information will appear on FDA reports generated by the software. This information may be left blank. The user will be prompted for the reporter information when creating an FDA report.

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Sign/Symptoms List [GMRA PRINT SIGN/SYMPTOMS LIST]

The Sign/Symptoms List option prints a listing of all or selected signs/symptoms with the national or local classification and synonym (when there is one) of each sign/symptom. This option is meant to be a useful tool for the ADPAC to maintain the Sign/Symptoms file (#120.83).

Select Enter/Edit Site Configurable Files Option: 4 Sign/Symptoms List
START WITH NAME: FIRST// <ret>
DEVICE: (Enter a printer name for a hard copy or <ret> to bring the output to your screen)

Example:

SIGN/SYMPTOMS LIST		FEB 5,1996	08:44	PAGE 1
NAME	Nat'l/Local	SYNONYM		
AGITATION	National			
AGRANULOCYTOSIS	National			
ALOPECIA	National			
ANAPHYLAXIS	National			
ANEMIA	National			
ANOREXIA	National			
ANXIETY	National			
APNEA	National			
APPETITE, INCREASED	National			
ARRHYTHMIA	National			
ASTHENIA	National			
ASTHMA	National			
ATAXIA	National			
ATHETOSIS	National			
BRACHYCARDIA	National			
BREAST ENGORGEMENT	National			
BRONCHOSPASM	National			
CARDIAC ARREST	National			
CHEST PAIN	National			
CHILLS	National			
CHOKING	Local	GASP		
COMA	National			
...				

Allergies File List

[GMRA PRINT ALLERGIES LIST]

This option prints a captioned list of all entries in the GMR Allergies file (#120.82). The list is sorted alphabetically by NAME. The user may list all entries by accepting the default answer "FIRST" to the "START WITH NAME" prompt or may select a subset to print. The list contains the allergy name, type, whether it is a nationally distributed entry, synonyms if any, VA Drug Class if applicable, and drug ingredients if applicable. This option is meant to be a helpful tool for the ADPAC to maintain the GMR Allergies file.

```
Select Enter/Edit Site Configurable Files Option: 5 Allergies File List
START WITH NAME: FIRST// <ret>
DEVICE: (Enter a printer name for a hard copy or <ret> to bring the output to
your screen)
```

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Example:

GMR ALLERGIES LIST	FEB 5,1996 08:44	PAGE 1
NAME: ADHESIVE TAPE NATIONAL ALLERGY: NATIONAL ALLERGY	ALLERGY TYPE: OTHER	
NAME: ALCOHOL NATIONAL ALLERGY: NATIONAL ALLERGY DRUG INGREDIENT: ALCOHOL	ALLERGY TYPE: DRUG, FOOD	
NAME: ANIMAL HAIR NATIONAL ALLERGY: NATIONAL ALLERGY	ALLERGY TYPE: OTHER	
NAME: ANISE OIL NATIONAL ALLERGY: NATIONAL ALLERGY DRUG INGREDIENT: ANISE OIL	ALLERGY TYPE: DRUG, FOOD	
NAME: ANTIRABIES SERUM NATIONAL ALLERGY: NATIONAL ALLERGY VA DRUG CLASSES: IM400 DRUG INGREDIENT: ANTIRABIES SERUM	ALLERGY TYPE: DRUG, FOOD	
NAME: ASCORBIC ACID NATIONAL ALLERGY: NATIONAL ALLERGY VA DRUG CLASSES: VT400 DRUG INGREDIENT: ASCORBIC ACID	ALLERGY TYPE: DRUG, FOOD	
NAME: ASPARTAME NATIONAL ALLERGY: NATIONAL ALLERGY SYNONYM: NUTRA SWEET DRUG INGREDIENT: ASPARTAME	ALLERGY TYPE: DRUG, FOOD	
NAME: ASPIRIN NATIONAL ALLERGY: NATIONAL ALLERGY VA DRUG CLASSES: MS101 DRUG INGREDIENT: ASPIRIN	ALLERGY TYPE: DRUG, FOOD	
NAME: AUROTHIOGLUCOSE (SESAME OIL) NATIONAL ALLERGY: NATIONAL ALLERGY SYNONYM: SOLGANAL VA DRUG CLASSES: MS106 DRUG INGREDIENT: AUROTHIOGLUCOSE DRUG INGREDIENT: SESAME OIL	ALLERGY TYPE: DRUG, FOOD	
...		

Menu Assignment

Assign menus to the users. See the Option Delegation portion of the Security chapter in this manual to determine how the package's menus should be assigned.

Security Key Assignment

Assign security keys when necessary. See the Security Keys portion of the Security chapter of this manual to determine how the package's keys should be assigned.

Mail Group Membership

The software installation process checks for the existence of the necessary package mail groups. If they do not exist, they are created at the time of software installation. The site should review the mail group membership and update it if necessary. The mail group names are as follows:

1. GMRA MARK CHART
2. GMRA P&T COMMITTEE FDA
3. GMRA VERIFY DRUG ALLERGY
4. GMRA VERIFY FOOD ALLERGY
5. GMRA VERIFY OTHER ALLERGY

Bulletins List

The following bulletins are created:

1. GMRA ENTERED IN ERROR
2. GMRA MARK CHART
3. GMRA P&T COMMITTEE FDA
4. GMRA SIGNS/SYMPTOMS UPDATE
5. GMRA VERIFY ALLERGY

There are no Forms, Help Frames or Window Objects exported with this version.

Implementation and Maintenance

Security

Security Keys

GMRA-ALLERGY VERIFY: This key should be given to personnel (e.g., clinical pharmacists) who verify allergy/adverse reactions.

GMRA-SUPERVISOR: This key should be given to personnel (e.g., ART package ADPAC) who may need to override the package security in order to edit the data.

File Security

File / Field #	File/Field Name	Access					
		DD	RD	WR	DEL	LAYGO	AUDIT
120.8	Patient Allergies	@		@	@	@	@
120.82	GMR Allergies	@			@		@
2	National Allergy			^	^		
120.83	Sign/Symptoms	@			@		@
1	National Sign/Symptoms			^	^		
120.84	GMR Allergy Site Parameters	@	@	@	@	@	@
120.85	Adverse Reaction Reporting	@		@	@	@	@
120.86	Adverse Reaction Assessment	@	@	@	@	@	@
120.87	GMRA Document	@		@	@	@	@

Option Delegation

Security is partially controlled by the delegation of one of six menus: GMRAMGR, GMRA SITE FILE MENU, GMRA USER MENU, GMRA CLINICIAN MENU, GMRA VERIFIER MENU, and GMRA P&T MENU. IRM personnel and the ART Application Coordinator and their designees should be given the GMRAMGR MENU option. Clinical users (e.g., nurses) of ART should be given the GMRA CLINICIAN MENU option. Clerks should be given the GMRA USER MENU option. Verifiers (e.g. clinical pharmacists) should be given the GMRA VERIFIER MENU option, and P&T Committee Members should be given the GMRA P&T MENU option.

Privacy Act Statement

In accordance with Office of Personnel Management and VA policies, this information is to be furnished for use only as authorized. It will not be reproduced or used for any other purpose. Any output must be secured in a storage system

Security

adequate to insure against disclosure to unauthorized parties. Disposal will be by burning, shredding, or other treatment to destroy their legibility.

Electronic Signature

The software does not prompt for or store a user's electronic signature. However, the software does have a programming interface with the Progress Notes package and that package does prompt for an electronic signature when a progress note is generated.

Routine Descriptions

GMRACMR	List by location of Unmarked ID Band/Charts mark report
GMRACMR1	List by location of Unmarked ID Band/Charts mark report
GMRACMR2	List by location of Unmarked ID Band/Charts mark report
GMRACMR3	List by location of Unmarked ID Band/Charts mark report
GMRACMR4	List by location of Unmarked ID Band/Charts mark report
GMRACMR5	List by location of Unmarked ID Band/Charts mark report
GMRADDEL	Deletes a reaction from the database
GMRADGMV	Allergy Patient movement events - Sends a Mark Chart bulletin on a new admission
GMRADPT	Supported utility to extract ART data
GMRADSP0	Display Adverse Reaction
GMRADSP1	Display Adverse Reaction
GMRADSP2	Prints Patient Reaction
GMRADSP3	Prints Patient Reaction
GMRADSP4	Patient's allergies printout
GMRADSP5	Listing of allergies not signed off
GMRADSP6	Listing of allergies not entered in error
GMRADSP7	Gathers inpatient data values
GMRADSP8	Display Adverse Reaction data
GMRAEAB	Sends a bulletin for reaction entered in error
GMRAEER0	Enter a record in error
GMRAEF	Print FDA exception report
GMRAEF1	Print FDA exception report
GMRAEF2	Print FDA exception report
GMRAFDA	FDA report completion system
GMRAFDA1	Select patient and printer for reports printout
GMRAFDA3	Print FDA reports, within a data range
GMRAFN1	Print FDA Part 1 Medwatch Form
GMRAFN2	Print FDA Part 2 Medwatch Form
GMRAFN3	Print FDA Part 3 Medwatch Form
GMRAFN4	Print FDA Part 4 Medwatch Form
GMRAFN5	Print FDA Part 5 Medwatch Form
GMRAFUT0	Updates Package's configurable parameters
GMRAHLP0	Help modules
GMRAHUT0	Help utility for allergy files
GMRAKILL	Kill variable utilities
GMRALAB0	Gathers and displays Lab test data for a patient
GMRALAB1	Gathers and displays Lab test data for a patient
GMRAMAN	Manufacturers report completion system
GMRAMCB	Mark Chart and ID Band field edit
GMRAMCB1	Mark Chart and ID Band field edit
GMRAMCU0	ID band/chart marking utilities

Routine Descriptions

GMRANKA	Allergy/adverse reaction patient NKA driver
GMRAOR	Utilities for OE/RR interface
GMRAOR0	Utilities for OE/RR interface
GMRAOR1	Utilities for OE/RR interface
GMRAOR2	Utilities for OE/RR interface
GMRAOR3	Receives HL7 message from OE/RR and stores data in ART.
GMRAOR4	Receives HL7 message from OE/RR and stores data in ART.
GMRAOR5	Receives HL7 message from OE/RR and stores data in ART.
GMRAOR6	Receives HL7 message from OE/RR and stores data in ART.
GMRAOR7	Receives HL7 message from OE/RR and stores data in ART.
GMRAOR8	Receives HL7 message from OE/RR and stores data in ART.
GMRAPAT	Selects a patient
GMRAPED0	Verifier edit of a drug reaction
GMRAPED1	Edit the Drug Class field
GMRAPED3	Validate entry for the Causative Agent field (#.02) in file 120.8
GMRAPEE0	Entered in error check
GMRAPEH0	Edit reaction data for a historical allergy
GMRAPEL0	Edit the likelihood of a reaction using the FDA algorithm
GMRAPEM0	Allergy/adverse reaction patient edit driver
GMRAPEM1	Change of observed data to historical storage
GMRAPEM2	Change of observed data to historical storage
GMRAPEM3	Allergy/adverse reaction patient edit driver
GMRAPEM4	Edit of data to historical storage
GMRAPEO0	Edit observed Allergy/Adverse Reaction
GMRAPER0	Reactions selection routine
GMRAPER1	Delete Sign/Symptoms from patient data
GMRAPER2	Edit Observed Data
GMRAPES0	Select patient allergy to edit
GMRAPES1	Select patient allergy to edit
GMRAPET0	Generate a Progress Note
GMRAPEV0	Verify an Allergy/Adverse Reaction
GMRAPFT	Print FDA reaction by date entered/tracked
GMRAPHR0	Display all pharmacy data for a patient
GMRAPHR1	Select all pharmacy data for a patient
GMRAPHR2	Select all pharmacy data for a patient
GMRAPL	Print allergy list by location and date range
GMRAPNA	Print patients not asked about allergies
GMRAPST1	Print listing of fatal reactions
GMRAPST2	Print summary listing of outcomes
GMRAPST3	Print frequency of distribution over date range by reaction
GMRAPST4	Print frequency of distribution over date range by drug class
GMRAPST5	Print total number of reported reactions
GMRAPST6	Prints the P&T Committee ADR Outcome Report
GMRAPST7	Prints the P&T Committee ADR Report

GMRAPT	P&T committee completion system data
GMRAPTB	Send a bulletin to the P&T Committee for Entered in Error Reactions
GMRAPU	Print unverified allergy list by location
GMRAPVDE	Edit data for an allergy (post verification)
GMRARAD	Radiology\ART Interface Routine
GMRARAD0	Radiology\ART Interface Routine (cont.)
GMRARAD1	Radiology\ART Interface Routine (cont.)
GMRAREP	Complete reporter information
GMRAROBS	Observed reaction data edit
GMRASEN2	Send ID band/chart mark to bulletin/team
GMRASEND	Send ID band/chart mark to bulletin/team
GMRASIG1	Allergy/adverse reaction patient sign off
GMRASIGN	Allergy/adverse reaction patient sign off
GMRAU85	Utilities for File 120.85 (Adverse Reaction Reporting)
GMRAU851	Utilities for File 120.85 (Adverse Reaction Reporting)
GMRAUIX0	Cross references for File 120.8 (Patient Allergies)
GMRAUIX1	Cross references utility for "ASGN" and "AVER" xrefs
GMRAUTL	Utilities Routines
GMRAUTL1	Utilities Routines
GMRAVAB	Sends a bulletin to verifiers indicating a reaction needs verification
GMRAVAM0	Driver for the verify patient reaction data option
GMRAVFY	Verify and sign off an agent
GMRAWORD	Formats word processing text to appear on reports
GMRAXENV	Environment check routine
GMRAXNKA	No Known Allergies Conversion. Part of the post init process
GMRAXPRES	Pre-init routine
GMRAXPST	Post-init routine

Routine Descriptions

File List

List

NUMBER	NAME	GLOBAL NAME	DESCRIPTION
120.8	PATIENT ALLERGIES	^GMR(120.8,	Contains patient allergy/adverse reaction information. No data exported with this file.
120.82	GMR ALLERGIES	^GMRD(120.82,	Contains a listing of allergies from which user can select. Data comes with the file, but will be added only if no data exists in the file.
120.83	SIGN/SYMPTOMS	^GMRD(120.83,	A listing of possible allergic reactions. Data comes with the file, but will be added only if no data exists in the file.
120.84	GMR ALLERGY SITE PARAMETERS	^GMRD(120.84 ,	Site configurable features for the package. Data comes with the file, but will be added only if no data exists in the file.
120.85	ADVERSE REACTION REPORTING	^GMR(120.85,	This file contains all the data for an Observed Drug reaction. No data exported with this file.
120.86	ADVERSE REACTION ASSESSMENT	^GMR(120.86,	This new file is a listing of all the patients who have been asked about allergies/adverse reactions (ADRs). It contains a pointer to File 2 (PATIENT) and a flag to indicate if the patient has or does not have an Allergy/ADR. No data exported with this file.
120.87	GMRA DOCUMENT	^GMRD(120.87,	This new file contains the name and text of documents that can be displayed to the user. Currently, there is only one entry in the file, REFERENCE CARD. Data comes with this file and will overwrite any previous data.

File List

Templates

TYPE	NAME	FILE #	DESCRIPTION
Input	None		
Print	GMRA PRINT AUTOVERIFIED	120.8	This print template is used to print out autoverified reactions over a date range. It is run from the List Autoverified Reaction Data [GMRA PRINT AUTOVERIFIED DATA] option
	GMRA PRT AUTO HDR	120.8	This print template is used to add the header for the GMRA PRINT AUTOVERIFIED print template.
	GMRA PRINT FILE 120.83	120.83	This print template prints a list of signs/symptoms in the Sign/Symptoms file (#120.83). It is called from the Sign/Symptoms List [GMRA PRINT SIGN/SYMPTOMS LIST] option.
Sort	GMRA SORT AUTOVERIFIED	120.8	This sort template sorts the data to be printed by the GMRA PRINT AUTOVERIFIED print template.

Protocols

Name	Description
GMRA ENTERED IN ERROR	This protocol will be invoked whenever a reaction is Entered in Error.
GMRA MEDWATCH DATA COMPLETE	This protocol will be activated whenever a reaction has a MEDWatch form entered.
GMRA RECEIVE	This protocol is invoked when a Health Level Seven (HL7) message is received from the OE/RR package.
GMRA SIGN-OFF ON DATA	This protocol will be activated whenever a reaction is Signed (completed).
GMRA VERIFY DATA	This protocol will be activated whenever a reaction is Verified.
GMRADGPM MARK CHART	This protocol will hang off of the DGPM MOVEMENT EVENTS protocol and for a new admission will send a bulletin to mark that patient's chart for all active allergies.
GMRAOR ALLERGY ENTER/EDIT	This protocol will allow the user to enter/edit patient allergy/adverse reaction data.

File Diagram

File/Package: ADVERSE REACTION TRACKING

FILE (#) POINTER FIELD	POINTER TYPE	(#) FILE POINTER FIELD	FILE POINTED TO
L=Laygo *=Truncated	S=File not in set m=Multiple	N=Normal Ref. v=Variable Pointer	C=Xref.

ADVERSE REACTION REP (#120.85) RELATED REACTION (N)->		120.8 PATIENT A* PATIENT v GMR ALLERGY	-> PATIENT -> DRUG -> DRUG INGREDIENTS -> NATIONAL DRUG -> VA DRUG CLASS -> GMR ALLERGIES
		ORIGINATOR VERIFIER USER ENTERING * m DRUG I:DRUG I* m DRUG C:VA DRU* m REACTI:REACTI* REACTI:ENTERE* CHART :USER E* ID BAN:USER E*	-> NEW PERSON -> NEW PERSON -> NEW PERSON -> DRUG INGREDIENTS -> VA DRUG CLASS -> SIGN/SYMPTOMS -> NEW PERSON -> NEW PERSON -> NEW PERSON

PATIENT ALLERGIES (#120.8) GMR ALLERGY v(N L)->		120.82 GMR ALLE* m VA DRU:VA DRU* m DRUG I:DRUG I* COMMEN:USER E*	-> VA DRUG CLASS -> DRUG INGREDIENTS -> NEW PERSON

PATIENT ALLERGIES (#120.81) REACTIONS:REACTION ... (N)-> GMR ALLERGY SITE PAR (#120.841) TOP 10 RE:REACTION* .. (N C)-> ADVERSE REACTION REP (#120.8502) REACTIONS (N C)->		120.83 SIGN/SYM*	

		120.84 GMR ALLE* REPORTER STATE m TOP 10:REACTI* m DIVISI:DIVISI*	-> STATE -> SIGN/SYMPTOMS -> INSTITUTION

		120.85 ADVERSE * PATIENT RELATED REACTI* OBSERVER REPORTING USER REPORTER STATE MFR STATE m REACTI:REACTI* REACTI:ENTERE*	-> PATIENT -> PATIENT ALLERGI* -> NEW PERSON -> NEW PERSON -> STATE -> STATE -> SIGN/SYMPTOMS -> NEW PERSON

		120.86 ADVERSE * NAME ASSESSING USER	-> PATIENT -> NEW PERSON

File List

Exported Options

Options Not on a Menu

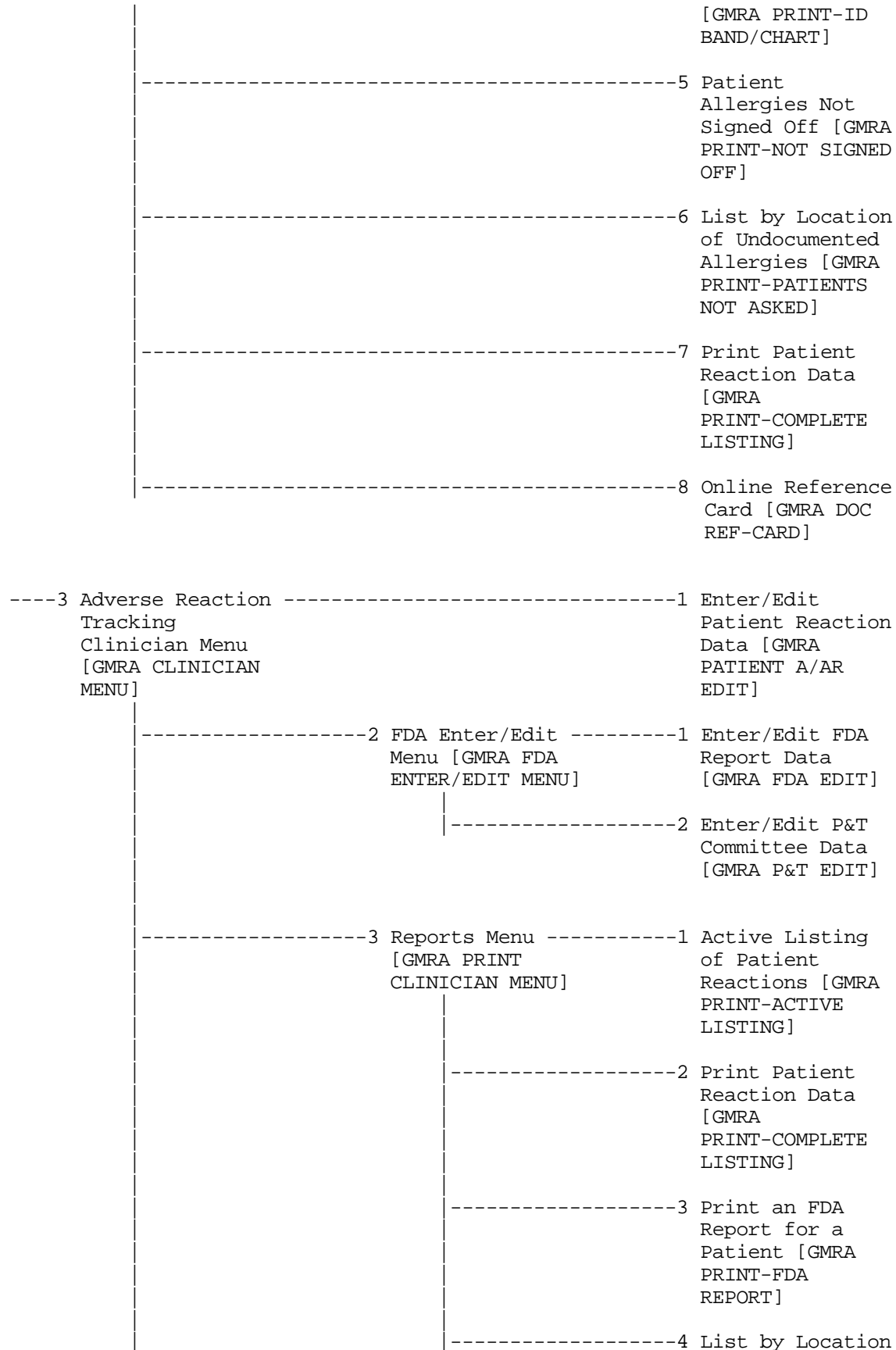
List by Location Not Verified Reaction (Task) [GMRA TASK A/AR NV] is an option meant to be tasked for a daily run.

Menu Options

Adverse Reaction Tracking (GMRAMGR)

-----1	Enter/Edit Site Configurable Files [GMRA SITE FILE MENU]	-----1 Edit Allergy File [GMRA ALLERGY FILE EDIT]
		-----2 Enter/Edit Signs/Symptoms Data [GMRA REACTION FILE EDIT]
		-----3 Enter/Edit Site Parameters [GMRA SITE FILE]
		-----4 Sign/Symptoms List [GMRA PRINT SIGN/SYMPTOMS LIST]
		-----5 Allergies File List [GMRA PRINT ALLERGIES LIST]
-----2	Adverse Reaction Tracking User Menu [GMRA USER MENU]	-----1 Enter/Edit Patient Reaction Data [GMRA USER E/E PAT REC DATA]
		-----2 Active Listing of Patient Reactions [GMRA PRINT-ACTIVE LISTING]
		-----3 Edit Chart and ID Band [GMRA MARK CHART]
		-----4 List by Location of Unmarked ID Bands/Charts

Exported Options



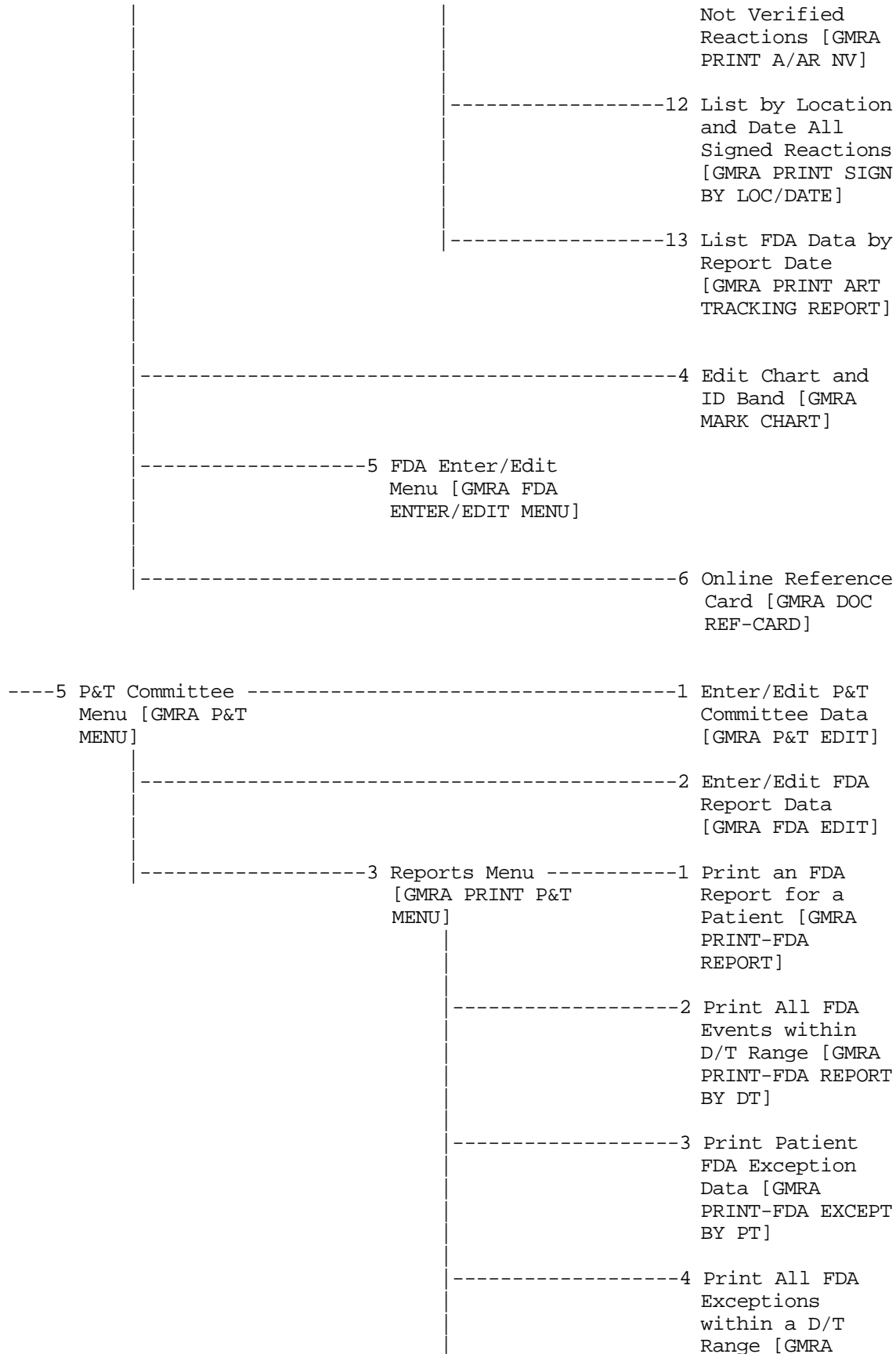
Exported Options

			of Unmarked ID Bands/Charts [GMRA PRINT-ID BAND/CHART]	
		-----5	Patient Allergies Not Signed Off [GMRA PRINT-NOT SIGNED OFF]	
		-----6	List by Location of Undocumented Allergies [GMRA PRINT-PATIENTS NOT ASKED]	
		-----7	List by Location Not Verified Reactions [GMRA PRINT A/AR NV]	
		-----8	List by Location and Date All Signed Reactions [GMRA PRINT SIGN BY LOC/DATE]	
		-----9	List FDA Data by Report Date [GMRA PRINT ART TRACKING REPORT]	
		-----4	Edit Chart and ID Band [GMRA MARK CHART]	
		-----5	Online Reference Card [GMRA DOC REF-CARD]	
-----4	Adverse Reaction Tracking Verifier Menu [GMRA VERIFIER MENU]	-----1	Enter/Edit Patient Reaction Data [GMRA PATIENT A/AR EDIT]	
		-----2	Verify Patient Reaction Data [GMRA PATIENT A/AR VERIFY] **LOCKED: GMRA-ALLERGY VERIFY**	
	-----3	Reports Menu [GMRA PRINT VERIFIER MENU]	-----1	Active Listing of Patient Reactions [GMRA

Exported Options

	PRINT-ACTIVE LISTING]
-----2	Print Patient Reaction Data [GMRA PRINT-COMplete LISTING]
-----3	Print an FDA Report for a Patient [GMRA PRINT-FDA REPORT]
-----4	Print All FDA Events within D/T Range [GMRA PRINT-FDA REPORT BY DT]
-----5	Print Patient FDA Exception Data [GMRA PRINT-FDA EXCEPT BY PT]
-----6	Print All FDA Exceptions within a D/T Range [GMRA PRINT-EXCEPT BY DATE]
-----7	List by Location of Unmarked ID Bands/Charts [GMRA PRINT-ID BAND/CHART]
-----8	Patient Allergies Not Signed Off [GMRA PRINT-NOT SIGNED OFF]
-----9	List by Location of Undocumented Allergies [GMRA PRINT-PATIENTS NOT ASKED]
-----10	List Autoverified Reaction Data [GMRA PRINT AUTOVERIFIED DATA]
-----11	List by Location

Exported Options



Exported Options

- PRINT-EXCEPT BY
DATE]
- 5 Patient
Allergies Not
Signed Off [GMRA
PRINT-NOT SIGNED
OFF]
- 6 Print Patient
Reaction Data
[GMRA
PRINT-COMPLETE
LISTING]
- 7 Active Listing
of Patient
Reactions [GMRA
PRINT-ACTIVE
LISTING]
- 8 List by Location
of Undocumented
Allergies [GMRA
PRINT-PATIENTS
NOT ASKED]
- 9 List
Autoverified
Reaction Data
[GMRA PRINT
AUTOVERIFIED
DATA]
- 10 List by Location
Not Verified
Reactions [GMRA
PRINT A/AR NV]
- 11 List by Location
and Date All
Signed Reactions
[GMRA PRINT SIGN
BY LOC/DATE]
- 12 List FDA Data by
Report Date
[GMRA PRINT ART
TRACKING REPORT]
- 13 List of Fatal
Reaction over a
Date Range [GMRA
PRINT LIST FATAL
REACTION]
- 14 Print Summary of
Outcomes [GMRA
PRINT SUM OF
OUTCOME]

Exported Options

- 15 Frequency
Distribution of
Causative Agents
[GMRA PRINT
FREQUENCY
REACTION]

- 16 Frequency
Distribution of
Drug Classes
[GMRA PRINT
FREQUENCY DR CL]

- 17 Total Reported
Reactions Over a
Date Range [GMRA
PRINT REPORTED
REACTIONS]

- 18 P&T Committee
ADR Outcome
Report [GMRA
PRINT ADR
OUTCOME]

- 19 P&T Committee
ADR Report [GMRA
PRINT ADR
REPORT]

Exported Options

Cross References

Patient Allergies (#120.8)

1. The ADRG01 MUMPS cross reference of the Patient (.01) field, ADRG22 cross reference of the Entered in Error (22) field, ADRG2 cross reference of the Drug Ingredient (.01) subfield of the Drug Ingredients (2) field, and ADRG3 cross reference of the VA Drug Class (.01) subfield of the Drug Classes (3) field all set either the "APC" or "API" cross references.

The "APC" cross reference has two data fields, Patient (.01) field and the VA Drug Class (.01) subfield of the Drug Classes (3) field, as subscripts. This cross reference is also influenced by the Entered in Error (22) field. The structure of the "APC" cross references is as follows

```
^GMR(120.8,"APC",DATA(120.8,.01),DATA(120.803,.01),DA(1),DA)=""
where DATA(X,Y) is the value of the field Y for file/subfile X,
  DA(1) is the entry in file 120.8
  DA is the entry in the 120.803 subfile.
```

The following chart helps to describe under what conditions this cross reference is set/killed.

Patient Allergies Field Values			Xref
Patient	VA Drug Class	Entered in Error	Value
Null	Null	Null	killed
Null	Null	1	killed
Null	Some value	Null	killed
Null	Some Value	1	killed
Some Value	Null	Null	killed
Some Value	Null	1	killed
Some Value	Some value	Null	set
Some Value	Some Value	1	killed

The "API" cross reference has two data fields, Patient (.01) field and the Drug Ingredient (.01) subfield of the Drug Ingredients (2) field, as subscripts. This cross reference is also influenced by the Entered in Error (22) field. The structure of the "API" cross references is:

```
^GMR(120.8,"API",DATA(120.8,.01),DATA(120.802,.01),DA(1),DA)=""
where DATA(X,Y) is the value of the field Y for file/subfile X,
  DA(1) is the entry in file 120.8,
  DA is the entry in the 120.802 subfile.
```

Cross References

The following chart helps to describe how this cross reference is set/killed.

Patient Allergies Field Values				Xref
Patient	Drug Ingredient	Entered in Error		Value
Null	Null	Null		killed
Null	Null	1		killed
Null	Some value	Null		killed
Null	Some Value	1		killed
Some Value	Null	Null		killed
Some Value	Null	1		killed
Some Value	Some value	Null		set
Some Value	Some Value	1		killed

- The AVER0 MUMPS cross reference of the Verified (19) field, AVER1 cross reference of the Patient (.01) field, and AVER2 cross reference of the Entered in Error (22) field all set the "AVER" cross reference. This cross reference is a list of patient allergies that need to be verified. The structure of this cross reference is:

`^GMR(120.8,"AVER",DFN,DA)=""`
 where DFN is the value of Patient (.01) field,
 DA is the entry in file 120.8

The following chart helps to describe how this cross reference is set/killed.

Patient Allergies Field Values				Xref
Patient	Verified	Entered in Error		Value
Null	Null	Null		killed
Null	Null	1		killed
Null	0	Null		killed
Null	0	1		killed
Null	1	Null		killed
Null	1	1		killed
Some Value	Null	Null		killed
Some Value	Null	1		killed
Some Value	0	Null		set
Some Value	0	1		killed
Some Value	1	Null		killed
Some Value	1	1		killed

- The ASGN MUMPS cross reference of the Originator Sign Off (15) field and the ASGN1 cross reference of the Entered in Error (22) field both set the "ASGN" cross reference. This cross reference is a list of patient allergies that have not been signed off (completed) by the originator. The structure of this cross reference is:

`^GMR(120.8,"ASGN",DA)=""`
 where DA is the entry in File 120.8

The following chart helps to describe how this cross reference is set/killed.

Patient Allergies Field Values			Xref
Originator	Sign Off	Entered in Error	Value
Null		Null	killed
Null		1	killed
0		Null	set
0		1	killed
1		Null	killed
1		1	killed

4. The "V" cross reference is a regular cross reference based on the Verification Date/Time (20) field.
5. The "AODT" cross reference is a regular cross reference that allows the system to find all the patient data based on the Origination Date/Time.
6. The "B" cross reference is a regular cross reference based on the Patient (.01) field.
7. The "C" cross reference is a regular cross reference based on the Reactant (.02) field.
8. The "A" cross reference is a reverse Date/Time cross reference based on the Date/Time (.01) field within the Chart Marked multiple.
9. The "A" cross reference is a reverse Date/Time cross reference based on the Date/Time (.01) field within the ID Band Marked multiple.

Cross References

GMR Allergies (#120.82)

1. The "B" cross reference is a regular cross reference based on the Name (.01) field.
2. The "C" cross reference is a regular cross reference based on the Allergy Type (1) field.
3. The "D" cross reference is a regular cross reference based on the Synonym (3) field and the multiple (.01) field.
4. The "SOUND" cross reference is a soundex cross reference based on the Name (.01) field.

Sign/Symptoms (#120.83)

1. The "B" cross reference is a regular cross reference based on the Name (.01) field.
2. The "D" cross reference is a regular cross reference based on the Synonym (2) multiple (.01) field.

GMR Allergy Site Parameters (#120.84)

1. The "B" cross reference is a regular cross reference based on the Name (.01) field.
2. The "SITE" cross reference is a regular cross reference based on the Division (6) multiple (.01) field.

Adverse Reaction Reporting (#120.85)

1. The "B" cross reference is a regular cross reference based on the Name (.01) field.
2. The "C" cross reference is a regular cross reference based on Related Reaction pointer (.03) field.
3. The "D" cross reference is a regular cross reference based on the Patient pointer (.02) field.
4. The "ARDT" cross reference is a regular cross reference based on the Date Reported (1.1) field.

Adverse Reaction Assessment (#120.86)

1. The "B" cross reference is a regular cross reference based on the Name (.01) field.

GMRA Document (#120.87)

1. The "B" cross reference is a regular cross reference based on the NAME (.01) field.

Cross References

Archiving and Purging

Archiving only needs to be done to the Patient Allergies (#120.8) file. Because of the importance of this data, it should be retained as long as the corresponding Patient (#2) file record exists. Software to perform archiving of this data will be made available in a later release.

No purging capabilities are provided with this version.

Resource Requirements

The disk requirements are estimated as follows:

<u>Globals</u>	<u>Type of Data</u>	<u>Size</u>
GMRD(120.82, GMRD(120.83, GMRD(120.84, GMRD(120.87,	Static data for ART	40K
GMR(120.8, GMR(120.85, GMR(120.86,	Patient data for ART Observed, FDA Patient NKA data	0.4K per Allergy entry 0.4K per Reaction 0.01K per Patient

Archiving and Purging

Callable Routines

GMRADPT GMRADPT extracts data from the Patient Allergies (120.8) file for a specified patient based on the criteria specified in the GMRA input parameter. The data will be returned in a local array.

Input:

DFN The internal entry number in the Patient file for the patient whose allergy data needs to be extracted.

GMRA This is an optional three-piece variable that will determine which kinds of allergy data will be returned by the extract. The default values which will be used are shown in the discussion of each piece. Consider the variable GMRA with the format $P1^P2^P3$ where

P1 can have the value 0, 1, or 2 where

0 means extract all allergies and adverse reactions

1 means extract allergies only

2 means extract adverse reactions only

A record stored in the Patient Allergies file is either an adverse drug reaction, or it is a true allergy. **Every allergy is an adverse reaction, but not every adverse reaction is an allergy.** This determination is made by the verifier of the allergy data. The default value for this piece is 0.

P2 can have the value 0, 1, or 2 where

0 means extract all verified and non-verified records

1 means extract verified records only

2 means extract non-verified records only

A record can either be verified by some allergy verifier, or it has not yet been verified. In the case that the site is using autoverification, the record is automatically verified at the time the originator of the record signs off (completes) on it. No record can be extracted before it has been signed off (completed) by the originator, as it is not part of the medical record. The default value for this piece is 0.

Callable Routines

P3 is a three-character string, where each character can have the value of 0 or 1. Consider P3 represented as XYZ where X, Y and Z are the three different characters. Then the following is what each of these characters represents:

X determines whether to extract records with the type of Other. If X=0 then records with the type Other will not be extracted, and if X=1 then they will be extracted.

Y determines whether to extract records with the type of Food. If Y=0 then records with the type Food will not be extracted, and if Y=1 then they will be extracted.

Z determines whether to extract records with the type of Drug. If Z=0 then records with the type Drug will not be extracted, and if Z=1 then they will be extracted.

A record has a type associated with it. The three types are Food, Drug and Other. This variable will help to determine which of these types of records will be extracted, and which types will not be extracted. The default value for this piece is 111.

Output:

GMRAL This variable is an array of the patient's data extracted by this utility based on the criteria specified in the optional GMRA variable. The format of this variable is:

```
GMRAL=(1,0,NULL)
GMRAL(DA)=A^B^C^D^E^F^G^H
GMRAL(DA,"S",COUNT)=I
```

Where

GMRAL is 1 if patient has Adverse Reaction.
is 0 if patient has no known Adverse Reaction.
null if patient has not been asked about Adverse Reaction.

DA is the internal entry number of the record in the Patient Allergies (120.8) file.

A is the patient's DFN (from input variables).

B is the name of the allergen.

***C** is the type of the allergen where D=Drug, F=Food, and O=Other.

D is a flag denoting if the allergy has been verified where 1=verified and 0=non-verified.

E is a flag denoting whether the allergy is a true allergy, or if it is an adverse reaction where 1=adverse reaction and 0=true allergy.

**F is both the external and internal representation of the allergy Mechanism. It is stored in the format External";"Internal.

Mechanism	
External	Internal
-----	-----
Allergy	0
Pharmacologic	2
Unknown	U

G is the type of the reaction in the form of "F", "D", or "O" or a combination of the three types.

Types	
Internal	External format
-----	-----
D	is a drug reaction.
DF	is a drug/food reaction
DFO	is a drug/food/other reaction
DO	is a drug/other reaction
F	is a food reaction
FO	is a food/other reaction
O	is a other reaction

H is both the external and internal representation of the Adverse Reaction Mechanism. It is stored in the format External";"Internal.

Mechanism	
External	Internal
-----	-----
Allergy	A
Pharmacologic	P
Unknown	U

I is both the external and internal representation of the allergy Signs/Symptoms. Each of the Signs/Symptoms will be stored on it's own "S" node in the following format.

Callable Routines

External";Internal pointer to Signs/Symptoms file (120.83). If the pointer equals the "OTHER REACTION" then the free text stored in the patient file will be stored in the external representation.

COUNT is the order which the Signs/Symptoms are stored in the GMRAL(DA,"S",COUNT) Array. Count is a positive whole number.

*** NOTE: This piece will no longer be supported after 9/1/97. Please use piece G.**

**** NOTE: This piece will no longer be supported after 9/1/97. Please use piece H.**

External Relations

ART v4.0 needs the following packages to be installed prior to its installation:
Kernel V. 8.0+, VA FileMan V. 21+, MAS V. 5.3+, and National Drug File V. 3+.

The following Data Base Integration Agreements exist between ART and other DHCP packages.

```
892      NAME: GMTSLRCE
CUSTODIAL PACKAGE: HEALTH SUMMARY           Salt Lake City
SUBSCRIBING PACKAGE: ADVERSE REACTION T     Chicago
      USAGE: Private           APPROVED: APPROVED
      STATUS: Active           EXPIRES:
      DURATION: Till Otherwise Agr  VERSION:
      FILE:                   ROOT:
      DESCRIPTION:           TYPE: Routine
The Adverse Reaction Tracking (ART) package uses a call to XTRCT^GMTSLRCE
to extract lab results. A check is made for the existence of the routine
i.e., $T(GMTSLRCE^GMTSLRCE).
```

```
ROUTINE: GMTSLRCE
COMPONENT: XTRCT
VARIABLES: LRDFN      Input
                    IFN of patient in Lab Data (63) file.
      SEX            Input
                    Sex of patient, where F=female and
                    M=male.
      GMTS1         Input
                    Inverse end date of search for lab data.
      GMTS2         Input
                    Inverse start date of search for lab
                    data.
      MAX           Input
                    Maximum number of lab orders to be
                    extracted.
      RETURN_GLO   Output
                    The following global will be returned:
```

```
@REF@("LRC", $J, IDT, SQN) = CDT^SPC^TST^RSL^FLG^UNT^LO^HI
where: REF = "^UTILITY" if Health Summary
V1.2, or "^TMP" if Health Summary
V2.5+. IDT = Inverse collection
date/time. SQN = Print order sequence
number from file 60.
CDT = Collection date and time.
SPC = Specimen for lab order in an
external printable form.
TST = Lab test ordered in a
external printable form.
RSL = Numeric result of test.
FLG = Reference flag (H,*H,L,*L).
UNT = Unit of measure (external
format).
LO = Reference/Therapeutic Lower
```

External Relations

bound.
HI0= Reference/Therapeutic Upper
bound.

486 NAME: PSJEEU0
CUSTODIAL PACKAGE: INPATIENT MEDICATI Birmingham
SUBSCRIBING PACKAGE: ADVERSE REACTION T Chicago
 USAGE: Controlled Subscri APPROVED: APPROVED
 STATUS: Active EXPIRES:
 DURATION: Till Otherwise Agr VERSION:
 FILE: ROOT:
 DESCRIPTION: TYPE: Routine

ROUTINE: PSJEEU0
COMPONENT: ENHS
VARIABLES: DFN

Input

Internal entry number of the patient in
the PATIENT file (2) for which orders are
to be returned.

PSJEDT Input

Internal VA Fileman date (opt). If PSJEDT
is null, all Inpatient orders active on
or after the current date/time are
returned. If PSJEDT contains a date, all
Inpatient orders active on or after that
date are returned.

List a patient's IV and Unit Dose medications. The output
variables for this entry point are:

For each Unit Dose order:

$^{\wedge}$ UTILITY("PSG", \$J, S1) = P1^P2^P3^P4^P5^P6^P7^P8^P9

where:

S1 = The inverse of the start date/time of the order. If
this subscript already exists, .000001 is subtracted from
the date until it does not equal an existing subscript.
P1 = The start date/time of the order.
P2 = The stop date/time of the order.
P3 = The drug in the form of - pointer to the Primary Drug
file_:PS(50.3, _;_name of the primary drug.
P4 = The provider in the form of - pointer to the New Person
file_VA(200;_name of the provider.
P5 = The status of the order in the form of - status
code;_status name.
P6 = The dosage ordered for the order.
P7 = The med route of the order in the form of - pointer to
the med route file_:PS(51.2, ;_med route abbreviation;_med
route name.
P8 = The schedule of the order.
P9 = The schedule type of the order in the form of -
schedule type code;_schedule type name.

For each IV order:

$^{\wedge}$ UTILITY("PSIV", \$J, S1, 0) = P1^P2^P3^P4^P5^P6
 $^{\wedge}$ UTILITY("PSIV", \$J, S1, "A", S2) = P7^P8

^UTILITY("PSIV", \$J, S1, "S", S2) = P9^P10 where:

- S1 = The inverse of the start date/time of the order. If this subscript already exists, .000001 is subtracted from the date until it does not equal an existing subscript.
- S2 = A sequential number.
- P1 = The start date/time of the order.
- P2 = The stop date/time of the order.
- P3 = The provider in the form of - pointer to the New Person file_VA(200;_name of the provider).
- P4 = The status of the order in the form of - status code;_status name.
- P5 = The infusion rate of the order
- P6 = The schedule of the order. P7 = An additive of the order in the form of - pointer to the IV Additive file;_additive name.
- P8 = The strength of the additive in P7.
- P9 = A solution of the order in the form of - pointer to the IV Solutions file;_solution name.
- P10 = The volume of the solution in P9.

```

1449      NAME: CHANGE PACKAGE FILE ENTRY
CUSTODIAL PACKAGE: KERNEL                               San Francisco
SUBSCRIBING PACKAGE: ADVERSE REACTION T                Chicago
          USAGE: Private                               APPROVED: APPROVED
          STATUS: Active                               EXPIRES:
DURATION: Till Otherwise Agr  VERSION: 4
          FILE:                                       ROOT:
DESCRIPTION:                                         TYPE: Other
    
```

The Allergy Tracking System package is changing its name to Adverse Reaction Tracking when the next version (4.0) is released. The Expert Panel feels this is a more accurate name for what the package does. When Version 4.0 is installed, the environmental check routine will do a look-up (using a DBS call) on the 'C' cross-reference of the PACKAGE file (#9.4) to find the appropriate entry and change the .01 field value to 'ADVERSE REACTION TRACKING'. The package's namespace is GMRA.

Also, the PACKAGE file entry contains the old name and version number as data in the SHORT DESCRIPTION (#2) and DESCRIPTION (#3) fields. Leaving that data in the File 9.4 entry would confuse IRM support personnel. We request permission to edit these two fields, via FileMan, in the environment check routine at the time of installation.

ROUTINE:

```

151      NAME: PSNNGR
CUSTODIAL PACKAGE: NATIONAL DRUG FILE                   Birmingham
SUBSCRIBING PACKAGE: ADVERSE REACTION T                Chicago
          USAGE: Private                               APPROVED: APPROVED
          STATUS: Active                               EXPIRES:
DURATION: Till Otherwise Agr  VERSION:
          FILE:                                       ROOT:
DESCRIPTION:                                         TYPE: Routine
    
```

The Adverse Reaction Tracking (ART) package can use the PSNNGR utility from the National Drug File package. This utility will return all of the primary ingredients to an entry in the National Drug (50.6) file. The ART

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package will use the DISPRG entry point, if it exists, otherwise ART will call the routine from the top (i.e., D ^PSNNGR).

```
ROUTINE: PSNNGR
COMPONENT: PSNNGR
VARIABLES: PSNDA      Both
                Input/Output = Internal entry number in
                File 50.6.
                PSNID      Output
                VA generic name pointer_"A"_VA product
                name pointer
                TMP("PSN", Output
                ^TMP("PSN", $J, IFN)=PI
                where: IFN = internal entry number in
                File 50.416 of primary ingredient.
                PI = Primary ingredient name.
COMPONENT: DISPRG
VARIABLES: PSNDA      Input
                Internal entry number to File 50.6.
                PSNVPN     Input
                Internal entry number of the VA PRODUCT
                NAMES (#7) multiple in File 50.6.
                TMP("PSNDD Output
                ^TMP("PSNDD", $J, K)=DI
                where: K = internal entry number to the
                Drug Ingredients (#50.416) file
                DI = the NAME of the File 50.416
                entry
```

```
150      NAME: PSONGR
CUSTODIAL PACKAGE: NATIONAL DRUG FILE      Birmingham
SUBSCRIBING PACKAGE: ADVERSE REACTION T    Chicago
        USAGE: Private      APPROVED: APPROVED
        STATUS: Active      EXPIRES:
        DURATION: Till Otherwise Agr  VERSION:
        FILE:                ROOT:
        DESCRIPTION:        TYPE: Routine
The Adverse Reaction Tracking (ART) package can use the PSONGR utility
from the Outpatient Pharmacy package. This utility will return all of the
primary ingredients to an entry in the Drug (50) file.
```

```
ROUTINE: PSONGR
COMPONENT: PSONGR
VARIABLES: PSODA      Both
                Input/Output = Internal entry number in
                File 50.
                PSOID      Output
                VA generic name pointer_"A"_VA product
                name pointer
                TMP("PSO", Output
                ^TMP("PSO", $J, IFN)=PI
                where: IFN = internal entry number in
                file 50.416 of primary ingredient.
                PI = Primary ingredient name.
```

```

330      NAME: PSOHCSUM
CUSTODIAL PACKAGE: OUTPATIENT PHARMAC      Birmingham
SUBSCRIBING PACKAGE: ADVERSE REACTION T    Chicago
      USAGE: Private      APPROVED: APPROVED
      STATUS: Active      EXPIRES:
DURATION: Till Otherwise Agr  VERSION:
      FILE:      ROOT:
DESCRIPTION:      TYPE: Routine
The Adverse Reaction Tracking package V4.0 uses a call to ^PSOHCSUM to
extract data pertaining to outpatient prescriptions. A call to
^%ZOSF("TEST") is made to check for the existence of PSHOCSUM before it is
called. The version of Outpatient meds is checked using a KERNEL utility
($$VERSION^XPDUTL) to determine in which array the data will be returned.

```

```

ROUTINE: PSHOCSUM
COMPONENT: PSHOCSUM
VARIABLES: DFN      Input
                IFN of patient in Patient file.
                PSOBEGIN      Both
                The date/time to begin the search for
                prescriptions.
                @REF@("PSO  Output

```

```
@REF@("PSOO", $J, IFD, 0) = ID^FD^DR^PR^ST^RX^QT^RF^IF^CF^EX
```

```

where: REF = "^UTILITY" if OUTPATIENT
PHARMACY less than version 6, or
"^TMP" if OUTPATIENT PHARMACY
is version 6 or greater.
      IFD = Inverse last fill date of Rx.
      ID = Issue date of Rx.
      FD = Last fill date of Rx.
      DR = Drug in Rx. This variable has
format A;B where A is the internal
pointer and B is external printable form.
      PR = Provider. This variable has
format A;B where A is the internal
pointer and B is external printable form.
      ST = Status of Rx. This variable has
format A;B where A is the internal
representation and B is external pr intable
form.
      RX = Rx number.
      QT = Quantity of DRG in Rx.
      RF = Number of refills remaining.
      IF = IFN.of Rx in Prescription (52)
file.
      CF = Cost/Fill.
      EX = Expire/Cancel date of Rx.

```

```
@REF@("PSO  Output
```

```
@REF@("PSOO", $J, IFD, 1) = SIG
```

```

where: REF = "^UTILITY" if OUTPATIENT
PHARMACY less than version 6, or
"^TMP" if OUTPATIENT PHARMACY
is version 6 or greater.
      IFD = Inverse last fill date of Rx.
      SIG = Medication instruction for this

```

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Rx.

149 NAME: DBIA149-A
CUSTODIAL PACKAGE: PHARMACY Birmingham
SUBSCRIBING PACKAGE: ADVERSE REACTION T Chicago
USAGE: Private APPROVED: APPROVED
STATUS: Active EXPIRES:
DURATION: Till Otherwise Agr VERSION:
FILE: 50.416 ROOT: PS(50.416,
DESCRIPTION: TYPE: File
The Adverse Reaction Tracking (ART) package will point to the Drug Ingredient (50.416) file. Also, ART can do lookups on this file using the 'P' cross-reference. ART will do a direct global read on the NAME field (.01).

```
^PS(50.416,D0,0)
.01 NAME 0;1 Direct Global Read
.01 NAME 0;1 Pointed to
.01 NAME 0;1 Read w/Fileman
Use FileMan call to look-up
entry using the "P"
cross-reference.
```

ROUTINE:

617 NAME: DBIA149-B
CUSTODIAL PACKAGE: PHARMACY Birmingham
SUBSCRIBING PACKAGE: ADVERSE REACTION T Chicago
USAGE: Private APPROVED: APPROVED
STATUS: Active EXPIRES:
DURATION: Till Otherwise Agr VERSION:
FILE: 50.6 ROOT: PSNDF(
DESCRIPTION: TYPE: File
The Adverse Reaction Tracking (ART) package will point to the National Drug (50.6) file.

The ART package will do a direct global read of the VA DRUG CLASSIFICATION (3) field of the DOSAGE FORM subfield (2) multiple of the NATIONAL DRUG (50.6) file to get all the VA Drug Classes for an entry, e.g.,

```
D0=$O(^PSNDF(DA,2,D0)) ;loop through DOSAGE FORM subfield
Drug Class=$P(^PSNDF(DA,2,D0,0),"^",3)
```

The ART package can loop through the "B" and "T" cross-references. The "T" cross-reference is on the TRADE NAME field which is field #2 on the subfile 50.67.

```
^PSNDF(D0,2,D1,0)
3 VA DRUG CLASSIFICATI 0;3 Direct Global Read
^PSNDF(D0,2,D1)
Direct global read used to $ORDER through the DOSAGE FORM subfield.
^PSNDF('B',
Direct global read access to the "B" cross-reference will be used to
get the internal entry number of the entry.
^PSNDF('T',
Direct global read access to the "T" cross-reference will be used to
look up a drug by its TRADE NAME.
^PSNDF(D0,0)
.01 VA GENERIC NAME 0;1 Read w/Fileman
```

```
.01      VA GENERIC NAME      0;1      Pointed to
.01      VA GENERIC NAME      0;1      Direct Global Read
```

ROUTINE:

```
618      NAME: DBIA149-C
CUSTODIAL PACKAGE: PHARMACY                      Birmingham
SUBSCRIBING PACKAGE: ADVERSE REACTION T         Chicago
          USAGE: Private                          APPROVED: APPROVED
          STATUS: Active                          EXPIRES:
          DURATION: Till Otherwise Agr  VERSION:
          FILE: 50.605                            ROOT: PS(50.605,
DESCRIPTION:                                     TYPE: File
The Adverse Reaction Tracking (ART) package will point to the VA Drug
Class (50.605) file.
```

The ART package can do lookups on this file using the "C" cross-reference. The package can do a direct global read of the "C" cross-reference node.

The ART package will:

- a. Use the "B" cross-reference of the VA Drug Class (50.605) file to find the internal entry number (IEN) of a record, e. g.,
`IEN=$0(^PS(50.605,"B",Class_Code,""))`.
- b. Use a direct global read on the CLASSIFICATION CODE (.01) field in the VA Drug Class (50.605), e.g.,
`Class_code=$P(PS(50.605,IEN,0),"^")`.
- c. Use a direct global read on the CLASSIFICATION (1) field in the VA Drug Class (50.605), e. g.,
`Class=$P(^PS(50.605,IEN,0),"^",2)`.

```
^PS(50.605,D0,0)
.01      CLASSIFICATION CODE  0;1      Direct Global Read
1        CLASSIFICATION       0;2      Direct Global Read
.01      CLASSIFICATION CODE  0;1      Pointed to
.01      CLASSIFICATION CODE  0;1      Read w/Fileman
^PS(50.605,'B',
  Direct global read access to the "B" cross-reference will be used to
  determine the internal entry number for a record.
^PS(50.605,'C',
  Direct global read access to the "C" cross-reference will be used to
  lookup an entry by its CLASSIFICATION (#1) value.
```

ROUTINE:

```
619      NAME: DBIA149-D
CUSTODIAL PACKAGE: PHARMACY                      Birmingham
SUBSCRIBING PACKAGE: ADVERSE REACTION T         Chicago
          USAGE: Private                          APPROVED: APPROVED
          STATUS: Active                          EXPIRES:
          DURATION: Till Otherwise Agr  VERSION:
          FILE: 50                                ROOT: PSDRUG(
DESCRIPTION:                                     TYPE: File
The Adverse Reaction Tracking (ART) package will point to the Drug (50)
file.
```

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The ART package will:

- a. Use a direct global read on the GENERIC NAME (.01) field of the DRUG (50) file to get the Name of an entry, e.g.,
Name=\$P(^PSDRUG(DA,0),"^").
- b. Use a direct global read on the VA CLASSIFICATION (2) field of the DRUG (50) file to get the VA Drug Class of an entry, e.g.,
VA Class=\$P(^PSDRUG(DA,0),"^",2).
- c. Use a direct global read on the NATIONAL DRUG CLASS (25) field of the DRUG (50) file to get the VA Drug Class of an entry, e.g.,
Drug Class=\$P(^PSDRUG(DA,"ND"),"^",6).

In each of these examples DA is an entry in the DRUG (50) file.

```
^PSDRUG(DA,0)
.01    GENERIC NAME           0;1    Direct Global Read
2      VA CLASSIFICATION      0;2    Direct Global Read
.01    GENERIC NAME           0;1    Pointed to
.01    GENERIC NAME           0;1    Read w/Fileman
^PSDRUG(DA,'ND')
25     NATIONAL DRUG CLASS   ND;6    Direct Global Read
```

ROUTINE:

```
453    NAME: DBIA453
CUSTODIAL PACKAGE: PROGRESS NOTES           Salt Lake City
SUBSCRIBING PACKAGE: ADVERSE REACTION T     Chicago
        USAGE: Private                      APPROVED: APPROVED
        STATUS: Active                      EXPIRES:
        DURATION: Till Otherwise Agr        VERSION:
        FILE: 121.2                         ROOT: GMR(121.2,
        DESCRIPTION:                        TYPE: File
```

The Adverse Reaction Tracking package (ART) needs to be able to check for the existence of the ALLERGY/ADVERSE REACTION entry in the B cross reference in the Generic Progress Notes Title (#121.2) file. The ART v4.0 post-init routine will change the .01 value of this File 121.2 entry to ADVERSE REACTION/ALLERGY. After ART v4.0 is installed, ART will check for the existence of the new value in the B cross reference of File 121.2.

Also, ART needs to do a direct global read of the second piece of the zero node of this File 121.2 entry to determine the PROGRESS NOTE TYPE value.

```
GLOBAL REFERENCE:
^GMR(121.2,'B',
```

Direct global read access to the "B" cross-reference will be used to determine the internal entry number for that record.

```
GLOBAL REFERENCE:
^GMR(121.2,D0,0)
.02    PROGRESS NOTE TYPE     0;2    Direct Global Read
.01    NAME                   0;1    Write w/Fileman
A "one time only" change to the .01 value of File 121.2.
```

```
454    NAME: DBIA453
CUSTODIAL PACKAGE: PROGRESS NOTES           Salt Lake City
SUBSCRIBING PACKAGE: ADVERSE REACTION T     Chicago
```

```

        USAGE: Private           APPROVED: APPROVED
        STATUS: Active           EXPIRES:
        DURATION: Till Otherwise Agr  VERSION:
        FILE: 121.1             ROOT: GMR(121.1,
        DESCRIPTION:           TYPE: File
The Adverse Reaction Tracking (ART) package needs to look at first piece
of the Generic Progress Notes Type (121.1) file to find the GENERAL NOTE
entry.
GLOBAL REFERENCE:
  ^GMR(121.1,D0,0)
  .01      PROGRESS NOTE TYPE    0;1      Direct Global Read
  Direct global access read to determine if entry is GENERAL NOTE.

```

ROUTINE:

```

455      NAME: GMRPART
CUSTODIAL PACKAGE: PROGRESS NOTES           Salt Lake City
SUBSCRIBING PACKAGE: ADVERSE REACTION T     Chicago
        USAGE: Private           APPROVED: APPROVED
        STATUS: Active           EXPIRES:
        DURATION: Till Otherwise Agr  VERSION:
        FILE: 121                ROOT: GMR(121,
        DESCRIPTION:           TYPE: Routine
The Adverse Reaction Tracking (ART) package will use the GMRPART utility
to generate a progress note with a title of ALLERGY/ADVERSE REACTION. ART
will pass the necessary data, by reference, to the GMRPART routine with
the exception of the text of the progress note which will exist in the TMP
global (^TMP("GMRP",$J,) at the time GMRPART is called.

```

```

ROUTINE: GMRPART
COMPONENT: PN
VARIABLES: GMRPDUZ      Input      The user's DUZ number (File #200).
           GMRPDFN      Input      The patient's internal entry number (File
           #2).
           GMRPDT       Input      The date/time (FileMan format) of the
           Progress Note.
           GMRPTTL      Input      The internal entry number of the Progress
           Note Title (File #121.2).
           LOC          Input      The internal entry number of the Hospital
           Location for the patient (File #44).
           TMP('GMRP'   Input      This temporary global contains the text
           of the Progress Note.
           GMRPIFN      Output     This variable is passed by reference. If
           GMRPIFN=-1, then no progress note was
           created. If GMRPIFN=0 then a progress
           note was created, but not signed.
The Progress Note utility call is:

```

```

$$$PN^GMRPART(GMRPDFN,GMRPDUZ,GMRPDT,GMRPTTL,LOC)

```

External Relations

1471 NAME: RAUTL3
CUSTODIAL PACKAGE: RADIOLOGY/NUCLEAR Chicago
SUBSCRIBING PACKAGE: ADVERSE REACTION T Chicago
 USAGE: Private APPROVED: APPROVED
 STATUS: Active EXPIRES:
 DURATION: Next Version VERSION:
 FILE: ROOT:
DESCRIPTION: TYPE: Routine
The Adverse Reaction Tracking (ART) package requests permission to call the ALLERGY^RAUTL3 entry point in the Rad/Nuc Med package if the version of the Rad/Nuc Med package is 4.0 or 4.5. In version 4.0 of the Rad/Nuc Med package this entry point updated the Contrast Medium Allergy field (.05) in the Rad/Nuc Med Patient file (70). That data is now stored in the ART package. With the recent release of Rad/Nuc Med v4.5 this entry point is merely a Quit command. It exists to provide ART with backward compatibility. We ask that the Rad/Nuc Med package keep this entry point through its version 4.5 after which Rad/Nuc Med can delete the entry point and ART will modify its code to no longer reference this routine entry point.

ROUTINE: RAUTL3
COMPONENT: ALLERGY
VARIABLES: DFN Input Patient internal entry number (File #2).
 YN Input YN = 'Y' if user is adding contrast media allergy
 YN = 'N' if user is entering a contrast media allergy in error.

1181 NAME: DGPM MOVEMENT EVENT
CUSTODIAL PACKAGE: REGISTRATION Albany
SUBSCRIBING PACKAGE: ADVERSE REACTION T Chicago
 The subscribing protocol is: GMRADGPM MARK CHART
 USAGE: Controlled Subscri APPROVED: APPROVED
 STATUS: Active EXPIRES:
 DURATION: Till Otherwise Agr VERSION:
 FILE: ROOT:
DESCRIPTION: TYPE: Other
This is the event invoked by the registration, discharge, or transfer of a patient. Actions from any application area that are dependent on this event may be added to this event upon approval of the DBIC.

ROUTINE:

1480 NAME: Global Read of zero node and AMV1 nodes in File 405
CUSTODIAL PACKAGE: REGISTRATION Albany
SUBSCRIBING PACKAGE: ADVERSE REACTION T Chicago
 USAGE: Private APPROVED: APPROVED
 STATUS: Active EXPIRES:
 DURATION: Till Otherwise Agr VERSION:
 FILE: 405 ROOT: DGPM(
DESCRIPTION: TYPE: File
The Adverse Reaction Tracking package requests permission to do a direct

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global read of the zero node of the PATIENT MOVEMENT file (#405) in order to read the DATE/TIME (#.01), WARD LOCATION (#.06) and DISCHARGE/CHECK-OUT MOVEMENT (#.17) fields. Also, we request permission to do a direct global read of the "AMV1" cross-reference nodes.

```
^DGPM(D0,0)
  .01    DATE/TIME           0;1    Direct Global Read
  .06    WARD LOCATION       0;6    Direct Global Read
  .17    DISCHARGE/CHECK-OUT 0;17   Direct Global Read
^DGPM('AMV1')
  Direct Global Read of this cross-reference.
```

ROUTINE:

```
1481    NAME: Check Out-Of-Service nodes on File 42
CUSTODIAL PACKAGE: REGISTRATION           Albany
SUBSCRIBING PACKAGE: ADVERSE REACTION T   Chicago
        USAGE: Private                   APPROVED: APPROVED
        STATUS: Active                    EXPIRES:
        DURATION: Till Otherwise Agr      VERSION:
        FILE: 42                          ROOT: DIC(42,
DESCRIPTION:                               TYPE: File
```

The Adverse Reaction Tracking package requests permission to do a direct global read of the "OOS" nodes (OUT-OF-SERVICE DATE) in the WARD LOCATION file (#42) in order to determine if a ward is out-of-service during a particular date/time range.

```
^DIC(42,D0,'OOS',D1,0)
  .06    IS ENTIRE WARD OUT O 0;6        Direct Global Read
  .04    RETURN TO SERVICE DA 0;4       Direct Global Read
^DIC(42,D0,'OOS','AINV',D1,D2)
```

This global reference is for the AINV cross reference which is set by the OUT-OF-SERVICE DATE(S) field. In this global reference:

```
D0 = ward location internal entry number (ien)
D1 = inverse value of the date being checked
D2 = the ien of the OUT-OF-SERVICE DATE(S) multiple
```

ROUTINE:

```
1477    NAME: Global Read of S node of File 44
CUSTODIAL PACKAGE: SCHEDULING             Albany
SUBSCRIBING PACKAGE: ADVERSE REACTION T   Chicago
        USAGE: Private                   APPROVED: APPROVED
        STATUS: Active                    EXPIRES:
        DURATION: Till Otherwise Agr      VERSION:
        FILE: 44                          ROOT: SC(
DESCRIPTION:                               TYPE: File
```

The Adverse Reaction Tracking package requests permission to do a direct global read of the "S" nodes of the Hospital Location file (#44) in order to get the PATIENT (#2) field value of the APPOINTMENT multiple (#1900).

```
^SC(D0,'S',D1,1,0)
  2      PATIENT             0;1    Direct Global Read
^SC(D0,'S',0)
  1900   APPOINTMENT        Direct Global Read
^SC(D0,'S',D1,0)
  .01    APPOINTMENT DATE/TIM 0;1    Direct Global Read
```

ROUTINE:

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1478 NAME: Global Read zero and CS nodes of File 409.5
CUSTODIAL PACKAGE: SCHEDULING Albany
SUBSCRIBING PACKAGE: ADVERSE REACTION T Chicago
USAGE: Private APPROVED: APPROVED
STATUS: Active EXPIRES:
DURATION: Till Otherwise Agr VERSION:
FILE: 409.5 ROOT: SDV(
DESCRIPTION: TYPE: File

The Adverse Reaction Tracking package requests permission to do a direct global read of the "CS" nodes in the Scheduling Visits file (#409.5) in order to get the ASSOCIATED CLINIC field (#3) value of the CLINIC STOP CODE (#10) multiple. Also, we wish to do a direct global read of the zero node in order to get to the PATIENT (#2) field value.

^SDV(D0,'CS',0)
10 CLINIC STOP CODE Direct Global Read
^SDV(D0,'CS'D1,0)
3 ASSOCIATED CLINIC 0;3 Direct Global Read
^SDV(D0,0)
2 PATIENT 0;2 Direct Global Read

ROUTINE:

1450 NAME: DELETE X-REF ON .01 FIELD OF FILE 120.8
CUSTODIAL PACKAGE: VA FILEMAN San Francisco
SUBSCRIBING PACKAGE: ADVERSE REACTION T Chicago
USAGE: Private APPROVED: APPROVED
STATUS: Active EXPIRES:
DURATION: Next Version VERSION: 4.0
FILE: 0 ROOT: DD(
DESCRIPTION: TYPE: File

With the release of Adverse Reaction Tracking v4.0, we would like to directly kill the "ANKA01" cross-reference on the .01 field of File 120.8. In our installation process, we will do the following:

^DD(120.8,.01,1,D0)
Direct global read/kill to loop through the cross-reference multiple of the .01 field of File 120.8 to find and kill the ANKA01 cross-reference. D0 is the cross-reference internal entry number.
^DD(120.8,.01,1,D0,0)
Direct global read of the second piece of the zero node to determine the cross-reference name. D0 is the internal entry number of the cross-reference.
^DD(120.8,0,'IX','ANKA01',120.8,.01)
Direct kill of this node.

ROUTINE:

1475 NAME: Global Read of S node in File 2
CUSTODIAL PACKAGE: SCHEDULING Albany
SUBSCRIBING PACKAGE: ADVERSE REACTION T Chicago
USAGE: Private APPROVED: APPROVED
STATUS: Active EXPIRES:
DURATION: Till Otherwise Agr VERSION:
FILE: 2 ROOT: DPT(

DESCRIPTION: TYPE: File
 The Adverse Reaction Tracking package requests permission to do a direct global read of the "S" nodes in the Patient file in order to get the STATUS field (#3) value for an APPOINTMENT (#1900) entry.

GLOBAL REFERENCE:
 ^DPT(D0,'S',D1,0)
 3 STATUS 0;2 Direct Global Read
 GLOBAL REFERENCE:
 ^DPT(D0,'S',0)
 1900 APPOINTMENT Direct Global Read

1486 NAME: Global Read of I nodes in File 44
 CUSTODIAL PACKAGE: SCHEDULING Albany
 SUBSCRIBING PACKAGE: ADVERSE REACTION T Chicago
 USAGE: Private APPROVED: APPROVED
 STATUS: Active EXPIRES:
 DURATION: Till Otherwise Agr VERSION:
 FILE: 44 ROOT: SC(
 DESCRIPTION: TYPE: File

The Adverse Reaction Tracking package requests permission to do a direct global read of the "I" nodes in the HOSPITAL LOCATION file (#44) in order to get the INACTIVATE DATE (#2505) and the REACTIVATE DATE (#2506) field values.

GLOBAL REFERENCE:
 ^SC(D0,'I')
 2505 INACTIVATE DATE I;1 Direct Global Read
 2506 REACTIVATE DATE I;2 Direct Global Read

1479 NAME: Delete PACKAGE file entry
 CUSTODIAL PACKAGE: KERNEL San Francisco
 SUBSCRIBING PACKAGE: ADVERSE REACTION T Chicago
 USAGE: Private APPROVED: APPROVED
 STATUS: Active EXPIRES:
 DURATION: Till Otherwise Agr VERSION:
 FILE: ROOT:
 DESCRIPTION: TYPE: Other

The Allergy package is changing its name to ADVERSE REACTION TRACKING with version 4. The package's namespace is GMRA. Some sites have two entries in their PACKAGE file that have GMRA as the namespace. They are ALLERGY TRACKING SYSTEM and GEN. MED. REC. - ALLERGIES. The former is version 2.2 and the latter is version 3. Both are previous versions of the ADVERSE REACTION TRACKING package. The GEN. MED. REC. - ALLERGIES entry will be changed to ADVERSE REACTION TRACKING in the PACKAGE file (DBIA #1449). This DBIA allows the version 4 environment check routine to delete any other PACKAGE file entries that have the GMRA namespace.

When the unwanted entry has a lower internal entry number in the PACKAGE file it confuses the \$\$VERSION^XPDUTL utility which looks at the namespace cross-reference.

For example: W \$\$VERSION^XPDUTL("GMRA") can return the value 2.2 when it should return 4.

External Relations

1515 NAME: Set File Security for ART files
CUSTODIAL PACKAGE: VA FILEMAN San Francisco
SUBSCRIBING PACKAGE: ADVERSE REACTION T Chicago
 USAGE: Private APPROVED: APPROVED
 STATUS: Active EXPIRES:
 DURATION: Till Otherwise Agr VERSION:
 FILE: ROOT:
 DESCRIPTION: TYPE: File

The Adverse Reaction Tracking (ART) package uses the KIDS utility to export the package software. ART exports the file level security codes for its data dictionaries. Currently, KIDS will not change the file level security codes on the target system if they already exist. This DBIA allows ART to check the file level security nodes on the package's data dictionaries and change the target system's file level security to match the ones being exported. They are:

^DIC(120.8,0,"AUDIT") = @
^DIC(120.8,0,"DD") = @
^DIC(120.8,0,"DEL") = @
^DIC(120.8,0,"LAYGO") = @
^DIC(120.8,0,"WR") = @

^DIC(120.82,0,"AUDIT") = @
^DIC(120.82,0,"DD") = @
^DIC(120.82,0,"DEL") = @

^DIC(120.83,0,"AUDIT") = @
^DIC(120.83,0,"DD") = @
^DIC(120.83,0,"DEL") = @

^DIC(120.84,0,"AUDIT") = @
^DIC(120.84,0,"DD") = @
^DIC(120.84,0,"DEL") = @
^DIC(120.84,0,"LAYGO") = @
^DIC(120.84,0,"RD") = @
^DIC(120.84,0,"WR") = @

^DIC(120.85,0,"AUDIT") = @
^DIC(120.85,0,"DD") = @
^DIC(120.85,0,"DEL") = @
^DIC(120.85,0,"LAYGO") = @
^DIC(120.85,0,"WR") = @

^DIC(120.86,0,"AUDIT") = @
^DIC(120.86,0,"DD") = @
^DIC(120.86,0,"DEL") = @
^DIC(120.86,0,"LAYGO") = @
^DIC(120.86,0,"RD") = @
^DIC(120.86,0,"WR") = @

^DIC(120.87,0,"AUDIT") = @
^DIC(120.87,0,"DD") = @
^DIC(120.87,0,"DEL") = @
^DIC(120.87,0,"LAYGO") = @
^DIC(120.87,0,"WR") = @

GLOBAL REFERENCE:

^DIC(

1489 NAME: Look at File 100.21
CUSTODIAL PACKAGE: ORDER ENTRY/RESULT Salt Lake City
SUBSCRIBING PACKAGE: ADVERSE REACTION T Chicago
 USAGE: Private APPROVED: APPROVED
 STATUS: Active EXPIRES:
 DURATION: Till Otherwise Agr VERSION:
 FILE: 100.21 ROOT: OR(100.21,
DESCRIPTION: TYPE: File
The Adverse Reaction Tracking (ART) package requests permission to do
direct global reads in the OE/RR TEAM FILE (#100.21) through version 2.5
of CPRS (OE/RR). The ART package sends bulletins to the team members
associated with a patient.
GLOBAL REFERENCE:
 ^OR(100.21,D0,1,D1)
 Direct global read access to determine the existence of a team member
 entry.
GLOBAL REFERENCE:
 ^OR(100.21,D0,0)
 Direct global read access to determine the existence of a team entry.
GLOBAL REFERENCE:
 ^OR(100.21,'AB',D0,D1)
 Direct global read access of the AB cross reference to find the teams
 associated with a patient.

External Relations

SACC Exemptions

The SACC has granted the following exemptions:

1. Routines may exceed the 5K limit.
2. Use of the \$GET command with two arguments is permitted.
3. Use of reverse \$ORDER looping is permitted.
4. Use of the MERGE command is permitted.
5. Passing null values in a parameter list is permitted.
6. Use of \$TEXT on a line that does not contain a double semicolon (i.e., ;;) is permitted.

SACC Exemptions

Internal Relations

All options can be independently invoked.

Internal Relations

Package-wide Variables

There are no package-wide variables.

Package-wide Variables

How to Generate On-line Documentation

This section describes various methods by which users may generate ART technical documentation.

Question Marks

Entering question marks at the "Select ... Option:" prompt provide users with valuable technical information. For example, a single question mark (?) lists all options which can be accessed from the current option. Entering two question marks (??) lists all options accessible from the current one, showing the formal name and lock (if applicable) for each. Three question marks (???) display a brief description for each option in a menu while an option name preceded by a question mark (?OPTION) shows extended help, if available, for the option.

%INDEX

This utility analyzes routines to determine if they adhere to DHCP Programming Standards. The %INDEX output may include the following components: Compiled list of Errors and Warnings, Routine Listing, Local Variables, Global Variables, Naked Global References, Label References and External References.

To run the %INDEX utility (DO ^%INDEX) for the ART package, specify the namespace **GMRA*** when prompted for routine names.

Inquire to File Entries

This VA FileMan option provides the following information about a specified option: option name, menu text, option description, type of option. All fields that have a value will be displayed (e.g., Entry Action).

To secure information about the ART options, the user must specify the name of the options desired (File #19). The options exported with this package begin with the letters GMRA.

Print Options File

Use this VA FileMan option to generate ad hoc reports about options from the Option file (#19). The user may choose one, many or all ART options. The options exported with this package begin with the letters GMRA.

List File Attributes

This VA FileMan option allows the user to generate documentation pertaining to files and file structure. The ART file numbers 120.8-120.87. See the File List section of this manual for a specific listing.

Select the 'Standard' format to get the following data dictionary information for a specified file: file name and description, identifiers, cross-references, files pointed to by the file specified, files which point to the file specified, input templates, print templates and sort templates. In addition, the following applicable data is supplied for each field in the file: field name, number, title, global location, description, help prompt, cross-references, input transform, and date last edited.

Select the 'Global Map' format to generate an output which lists all cross-references for the file selected, global location of each field in the file, input templates, print templates and sort templates.

For a more exhaustive option listing and further information about other utilities which supply on-line technical information, please consult the DHCP Kernel Systems Manual.

Glossary

Adverse Reaction	Any condition precipitated by a drug which requires patient treatment, admission or transfer; prompts a specialty consultation; or causes injury or death. Every allergy is an adverse reaction, but every adverse reaction is not an allergy.
Adverse Reaction Only	Something that is an adverse reaction but not an allergy.
Adverse Reaction Tracking	The software package that stores and reports the patient allergy or adverse reaction data.
Allergy	A state of hypersensitivity induced by exposure to a certain agent.
Application	A system of computer programs and files that have been specifically developed to meet the requirements of a user or group of users. Examples of DHCP applications are the MAS and Nursing modules.
Application Coordinator	The person responsible for implementing a set of computer programs (application package) developed to support a specific functional area such as Nursing, MAS, etc.
ART	See Adverse Reaction Tracking.
Causative Agent	The name of the item which caused the patient to have a reaction (e.g., penicillin).
Date/Time Chart Marked	In ART, this field indicates when the patient's chart has been marked to indicate this allergy or adverse reaction.
Date/Time ID band marked	In ART, this field indicates when the patient ID band or bracelet has been marked to indicate this allergy or adverse reaction.
Date/Time MD Notified	A field in ART that indicates when the primary physician has been alerted about a patient allergy or adverse reaction.

Glossary

Dechallenge	Discontinuation/removal of allergen.
GMR Allergies File	A file of allergies/adverse reactions that are used by ART. The file number is 120.82.
GMRA MARK CHART bulletin	Warning that is generated when Date/Time Chart Marked field is left blank. This warning indicates that someone has to record this allergy or adverse reaction in the patient's chart.
GMRA MARK CHART mail group	This is the group of people who are charged with the responsibility to see that all data entered into ART gets recorded in the patient's chart.
GMRA VERIFY ALLERGY bulletin	Warning that an allergy or adverse reaction has been signed off (completed) by the originator and that it is ready for the verification process.
GMRA-VERIFY ALLERGY security key	Should be given to all verifiers in ART. Allows a verifier access to the verification process.
Historical	An allergy that has been stated by some source versus one that has actually been witnessed by some personnel at this facility.
Ingredient file	A file (#50.416) which contains generic drugs which are components of various drug products.
Likelihood	A measure of the probability that an allergy or adverse reaction was the cause of the patient problems indicated by the signs/symptoms. This field is calculated via an FDA algorithm.
Local Drug File	The list of medications used at a particular VA facility. This file is also sent out by the DHCP Pharmacy developers. The file number is 50.
Mechanism	In the context of ART, this is an indicator of whether the data for a patient is an adverse reaction only or an allergy. See also adverse reaction and allergy.

National Drug file	This file is a list of drug products available which includes specific information for each product. Information included for the products are trade name, NDC number, manufacturer, VA Drug Class code, dosage form, route of administration, strength and units, ingredients, ingredient strength and units, package code, package size, package type, VA product name and VA generic name.
Observed	An allergy or adverse reaction that has actually been witnessed by some personnel at this installation.
Patient Allergies File	The file where the patient allergy/adverse reaction data is stored in ART. The file number of this file is 120.8.
Rechallenge	Reintroduction of allergen after dechallenge.
Severity	This is an index of how the allergy/adverse reaction affected the patient.
Sign/Symptom	Something that could be subjectively or objectively measured that indicates an allergy or adverse reaction.
Top Ten Signs/Symptoms	A site configurable set of indicators of an allergy or adverse reaction that is used to expedite data entry of these indicators.
Treatment	This is some lab test or drug intervention that was performed as a result of an allergy or adverse reaction.
True Allergy	Something that is an allergy, which implies that it is also an adverse reaction.
VA Drug Classification System file	A file (#50.605) which contains the VA Drug Classification codes and their descriptions. Each drug product in the National Drug file is assigned a primary code which is part of the information stored for each drug product in the National Drug file.
Verification	The process of reviewing and approving the data entered by some clinical user. This process is done by a verifier.

Glossary

Verifier

A person who has the GMRA-VERIFY ALLERGY security key. This person can perform verification of patient data in ART.

Department of Veterans Affairs
Decentralized Hospital Computer Program

ADVERSE REACTION TRACKING TECHNICAL MANUAL

Version 4.0

March 1996

Hines IRM Field Office
Hines, Illinois

Preface

This manual was developed to assist the IRM Support personnel and IRM Field Office Customer Support personnel in understanding the component structures of the Adverse Reaction Tracking (ART) package. In addition, materials relating to security, resource requirements, and relationships to other DHCP packages are included. Familiarity with the M programming language and DHCP is assumed.

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