



RESOURCE AND PATIENT MANAGEMENT SYSTEM

# Immunization Interface Management

(BYIM)

## User Manual

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## Preface

This user manual contains complete information about the Resource and Patient Management System (RPMS) Immunization Interface Management (BYIM) application, also known as Immunization Data Exchange. This manual:

- Introduces Immunization Interface Management (IIMM) and describes the functions and capabilities, for exchanging immunization data between a site's RPMS system and its state immunization registry.
- Provides specific instructions for using IIMM options.

Provides guidance and instructions for automating the immunization data exchange process between a local site and state immunization registry.

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## Document Version History

Version	Date	Notes
1.0	August 2005	Initial version
1.01	June 2008	Added new menu options (EXP, NO, SET), and new section on automating the immunization data exchange process.
2.0	April 2010	<p>Added the ability to expand age groups included in export to include 65 and older or all ages; the ability to exit (^) the manual export process; the ability to sort the NO MATCH report by patient name, date of birth, or import file date, and include a reason for each No Match; new statistical report for the number of children and immunizations in both the export and import processes, including the VFC status.</p> <p>Retitled manual from Immunization Data Exchange to Immunization Interface Management (IIMM)</p>

## 1.0 Introduction

Immunization, an established prevention practice, contributes to individual and community health by preventing infectious diseases in children and adults. Over the past decade, both the number of vaccines and the complexity of vaccine regimens have increased dramatically. Patients seek and obtain care and vaccinations from a number of health care resources, including county health departments, private providers and hospitals, and multiple Indian Health Service (IHS) Direct/Tribal/Urban (I/T/U) facilities.

The value and accuracy of vaccine forecasting and reporting features of the Resource and Patient Management System (RPMS) Immunization System application are dependent on complete and accurate vaccination histories in the local RPMS database. Although vaccination history is available to a local site (usually via a paper record), outside immunization information is not always entered into the local RPMS database.

Lack of access to or knowledge of full immunization information directly affects patient care, leading to inappropriate vaccination (incorrect dose timing or over-immunization) and misuse of vaccines, which are a valuable and costly resource.

The Centers for Disease Control and Prevention (CDC) has assisted in the development and use of vaccination registries at the state level. The RPMS Immunization Interface Management (namespace: BYIM) application improves patient care by enabling the exchange of vaccination data with state immunization registries.

### 1.1 About the Immunization Data Format

The data format used to exchange immunization information between a local site's RPMS and its State registry is the healthcare industry standard, Health Level Seven (HL7) Version 2.4. The HL7 standard dictates both content and format of the data to be exchanged. For more information, go to the HL7 Web site: [www.hl7.org](http://www.hl7.org).

Sending HL7 messages to the state for inclusion in the state's immunization database meets the new requirements to share vaccination information with the state registry. More importantly at the local level, vaccines administered and reported to the state—but unknown to the local sites—are now sent back to the local site for inclusion in the local RPMS database.

## 1.2 Immunization Interchange Management Menu

The Immunization Interface Management Menu (IIMM) provides a set of options that enable the user to prepare RPMS immunization data for export to the state registry and to import state immunization data in to RPMS.

### To Access the Immunization Interface Management Menu:

- At the RPMS core menu prompt, type **BYIM** and press the Enter key.

The IIMM is displayed; for example,

```

IZDE  Start Immunization Data Export
IZS   Check Immunization Data Export Status
IZIM  Import Immunizations from State Registry
IZAD  Add Immunizations from State Registry
EXP   Show Immunizations Exported for a Patient
NO    Children for whom there is no match in RPMS
SET   Immunization Data Exchange Parameters
IZFS  File Statistics Report
TEST  Create TEST Export File

Select Immunization Interchange Management Menu Option:
    
```

Figure 1-1: IIMM options

The following table describes each of the IIMM options.

Option	Description
<b>IZDE</b>	The Start Immunization Data Export menu option enables you to extract patient immunization data from RPMS, create an HL7 data export file, and place the file in a secure directory.
<b>IZS</b>	The Check Immunization Data Export Status menu option enables you to check the progress of the IZDE process.
<b>IZIM</b>	The Import Immunizations from State Registry menu option enables you to extract the immunization data from the state HL7 data import file and place the data in an RPMS holding area.
<b>IZAD</b>	The Add Immunizations from State Registry menu option enables you to add the patient immunization data from the state to the RPMS database.
<b>EXP</b>	The Show Immunizations Exported for a Patient menu option enables you to print a report that lists all immunizations sent to the state registry for an individual patient to comply with HIPAA regulations.
<b>IZFS</b>	The File Statistics Report menu option enables you to generate a report that lists statistics related to patients and immunizations exported or imported for each file.

---

<b>Option</b>	<b>Description</b>
<b>NO</b>	The Children for whom there is no match in RPMS menu option enables you to view a list the names and dates of birth (DOBs) of those patients for which the IZIM process found no match in the RPMS database.
<b>SET</b>	The Immunization Data Exchange Parameters menu option enables you to specify the pathname locations of the HL7 immunization export file and the state HL7 import file, and to activate the automation of the IZIM process and the IZAD process.
<b>TEST</b>	The Create TEST Export File menu option enables you to create a small file of real patients that will be used for initial data exchange testing between a site and its state immunization registry.

### 1.3 Immunization Interface Management Process

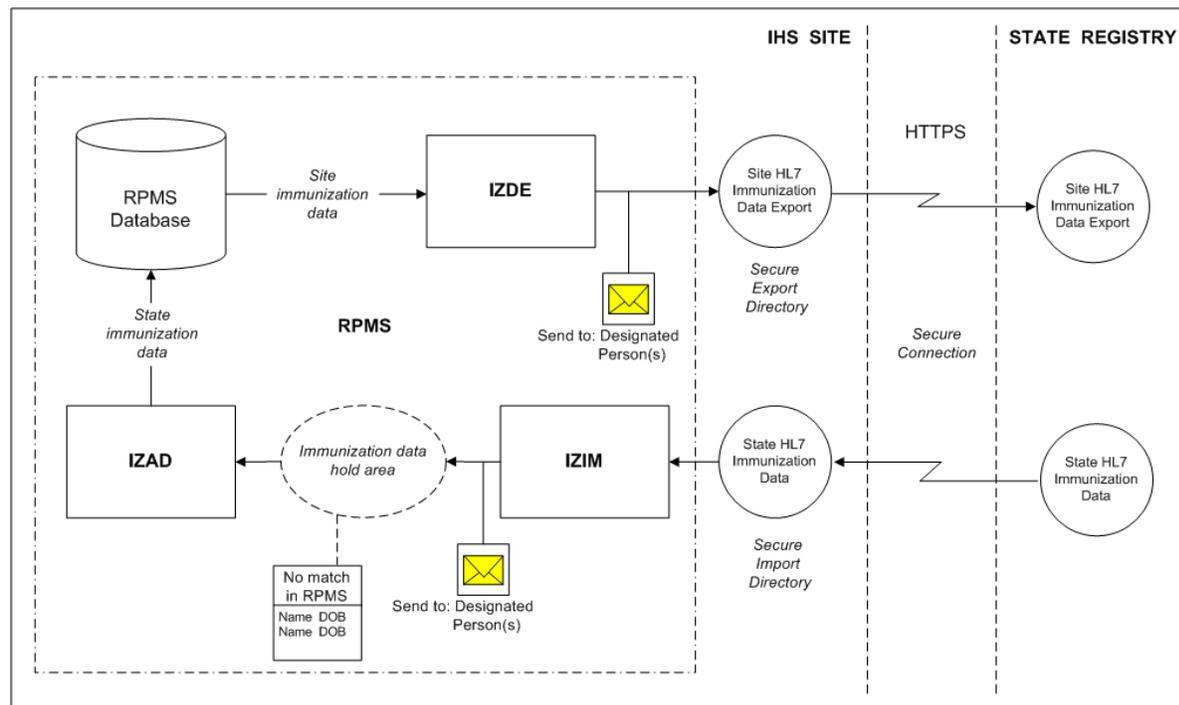


Figure 1-2: Immunization data exchange process

As shown above:

1. IZDE extracts immunization data from RPMS for a given date range, creates an HL7 immunization data export file, puts it in the site’s secure export directory, and sends an email notification that the HL7 data export is ready.
2. Using an HTTPS connection, Information Technology (IT) staff sends the data export file to the State Registry, gets the state HL7 immunization file, and puts it in the site’s secure import directory. If the HL7 Communications Bridge is installed and operating, the transfer of HL7 immunization data files between the local site and the state registry is automatic.
3. IZIM extracts the data from the state HL7 immunization file, finds matching patients in RPMS, places the data in a holding area, and sends an email notification that the immunization data has been imported to RPMS. Any nonmatching patients are written to a list.
4. IZAD adds the state immunization data in the holding area to the RPMS database.

## 1.4 Automating the Immunization Data Exchange Process

The HL7 Communications Bridge, a non-RPMS application, enables an automated two-way exchange of immunization data between IHS and the state. All IHS sites can download this bridge; however, it can only be utilized in states whose registries support secure data exchange via an HTTPS connection. It is strongly recommended that the HL7 Communications Bridge be installed at the same time as the Immunization Data Exchange software.

When your site is ready to automate the transmission of immunization data files between the site and the state registry, see Section 6.0 for instructions to set up the IZDE, IZAD, and IZIM processes to run automatically.

## 2.0 Before You Begin

Before using any IIMM option, the site manager or other authorized person must do the following:

- Set up the site parameters that specify:
  - Directory pathnames of the export and import directories that hold the HL7 immunization data files at the local site
  - Ages to include in the immunization data export file
- Set up the BYIM Export/Import Group in MailMan for notifications.

## 2.1 Setting Site Parameters

Before you begin using the IIMM options, set the following site parameters:

- **Path for Outbound Messages** to specify the pathname location of the site's HL7 immunization data export files
- **Path for Inbound Messages** to specify the pathname location of the HL7 immunization data files from the state registry
- **Ages to Export** to specify the immunization data age groups to include in the data export files. Age range group choices are
  - 18 years and under
  - Under 19 years and over 64 years
  - All ages

### Considerations:

- To be Health Insurance Portability and Accountability Act (HIPAA) compliant, the HL7 immunization data file directories *must* be located in a *Secure Area*.
- If your site is using the HL7 Communications Bridge to transmit HL7 immunization data files between the local site and the state registry, the HL7 immunization data file directories must be the same directories that the HL7 Bridge uses.

### To set site parameters:

1. At the "Immunization Interchange Management Menu Option" prompt, type **SET** and press the Enter key.
2. At the "Select SITE for Data Exchange Parameters" prompt, type the site name and press the Enter key.

3. At the “Path for Outbound Messages” prompt, type the full pathname location for the HL7 immunization data export files and press the Enter key.
4. At the “Path for Inbound Messages” prompt, type the full pathname location for the HL7 immunization data files from the state registry, and press the Enter key.
5. Press the Enter key at the prompts until you reach the “Ages to Export” prompt.
4. At the “Ages to Export” prompt, press the Enter key to accept the default, 18 (years) and under, or type two question marks (??)and press the Enter key to display all of the options.
  - 0 to include ages 18 years and under (default)
  - 1 to include ages under 19 years and over 64 years
  - 2 to include all ages

Type the number corresponding to the age groups you want to include and press the Enter key.

```

Select Immunization Interchange Management Menu Option: SET <Enter>
Immunization Data Exchange Parameters Entering the site parameters

ADD Data Exchange Parameter Site
Select SITE for Data Exchange Parameters: CHINLE HOSP// <ENTER>          NAVAJO
      CHINLE          01                      AZ          010101
      ...OK? Yes// <Enter> (Yes) Choosing the facility

UPDATE Data Exchange Parameters for CHINLE HOSP

PATH FOR OUTBOUND MESSAGES: /local/hl7immunizationDataExport/ <Enter>
      Replace Set the location of files to be sent to SIIS
PATH FOR INBOUND MESSAGES: /local/hl7immunizationDataImport/ <Enter>
      Replace Set the location for files from SIIS
AUTO IMPORT IMMUNIZATIONS: NO// <ENTER>
AUTO ADD IMMUNIZATIONS: NO// <ENTER>
AGES TO EXPORT.....: 18 AND UNDER// ??

      Choose from:
      0          18 AND UNDER
      1          UNDER 19 AND OVER 64
      2          ALL AGES
AGES TO EXPORT.....: 18 AND UNDER//
    
```

Figure 2-1: Example of setting parameters initially for outbound/inbound HL7 immunization files and the ages to export

## 2.2 Setting Up the BYIM EXPORT/IMPORT GROUP in MailMan

The site manager or other authorized person needs to set up the **BYIM EXPORT/IMPORT GROUP** in MailMan by adding the email addresses of those individuals who should be notified whenever the following occurs:

- An HL7 immunization data export file is ready to be sent to the state registry.
- Immunization data from the state registry is ready to be added to the RPMS database.

Members of this mail group should include the following:

- IT person tasked with monitoring/transmitting the immunization data files between the site and the state registry
- Clinical IZ staff member, who performs the activities related to the IZDE, IZIM, and IZAD IIMM options.

## 3.0 Getting Started

### 3.1 If this is a new installation of BYIM

If you decide that you want to “test the system” before creating the initial immunization data export file, use the TEST option and follow these instructions.

#### Step 1: Create a test immunization data export file.(TEST)

1. At the “RPMS Main Menu” prompt, select **Immunization Interchange Management Menu** and press the Enter key.
2. At the “Select Immunization Interchange Management Menu Option” prompt, type **TEST** and press the Enter key.
3. At the “Proceed with TEST export?” prompt, type **YES** and press the Enter key.
4. At the “Requested Start Time” prompt, press Enter to create the file now.

The system creates an export file of immunizations for 10 patients, 18 years of age or under. When the process is complete, the system displays the following:

- The number of immunizations that were evaluated
- The name and location of the export file

For example:

```
Select Immunization Interchange Management Menu Option: TEST <Enter> Create
TEST Export File

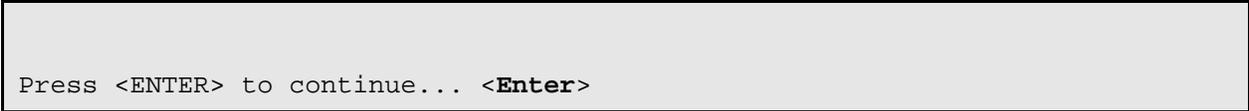
TEST export option
An export file will be created for 10 patients
18 years of age or under.

Proceed with TEST export? NO// YES <Enter>  ///////////////
Requested Start Time: NOW// <Enter> (JAN 14, 2009@09:44:47)

123 immunizations for 10 Children 0-19
were evaluated in 0 minutes, 0 seconds.

The file 'izdata20090114test.dat' will now be created in the
'c:\' directory. This may take several minutes.

It can be retrieved from this directory for transfer
to the State registry.
```



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

Figure 3-1: Example of a test immunization data export file

**Step 2: Transmit the data file to the state registry and then transmit the registry data file to your site.**

- MailMan sends an email notification to those names listed in the BYIM Export/Import Group that an immunization data file is in the Outbound Messages directory, ready to be sent to the state registry.
- The data file of HL7 immunization data is transmitted from the Outbound Messages directory at your site to the state registry.
- When ready, the response file from the state registry is transmitted to the Inbound Messages directory at your site.

**Step 3: Extract the HL7 immunization data from the state registry file.**

Go to Section 4.4.1, “Extracting State Immunization Data (IZIM)” and follow the instructions.

**Step 4: Check for patients with no match in RPMS.**

This step is optional for testing the system. To check for no matches, go to Section 4.4.2, “Checking for Patients with No Match in RPMS (NO),” and follow the instructions.

**Step 5: Add state immunization data to RPMS**

Go to Section 4.4.3, “Adding State Immunization data to RPMS (IZAD),” and follow the instructions.

## 3.2 If Your Site Is Automating the Immunization Data Exchange Process

When the decision is made to automate the exchange of immunization data between your site and your state registry, go to Section 6.0, “Automating Immunization Data Exchange,” which provides information and instructions.

## 4.0 Immunization Data Exchange Process

### 4.1 Immunization Data Exchange Task Summary

The following table provides a summary of the tasks for creating and exporting the immunization data from RPMS and importing and adding the state immunization data to RPMS.

Step	Action	For details, see Section
1	Extract immunization data from RPMS and create HL7 immunization data export file.	4.2
2	Send the site's HL7 immunization data export file to the state registry and get the state's HL7 immunization data file.	4.3
3	Extract the immunization data from the state's HL7 immunization import file and place the data in a holding area.	4.4.1
4	Check for patients with no match in RPMS.	4.4.2
5	Add the state immunization data for patients to the RPMS database.	4.4.3

### 4.2 Creating an HL7 Immunization Data Export File

Sites export data for the following reasons:

- To make vaccine information available to other providers the patient may utilize
- To establish “ownership” of patients in order to get vaccine updates from the registry

Extracting immunization data from RPMS and creating an HL7 immunization data export file is the first step of the data exchange between your site and the state registry.

#### 4.2.1 Data Export Filename Format

The filename format of HL7 immunization data export is as follows:

- **izdatayyyymmdd.dat**

where

**izdata** identifies the type of data as immunization data

*yyyy* = four-character year of file creation

*mm* = two-character month of file creation

*dd* = two-character day of file creation

For example: izdata20061023.dat

## 4.2.2 Extracting/Creating the Immunization Data Export (IZDE)

The IIMM option IZDE, Start Immunization Data Export, extracts immunization data from your site's RPMS database and creates an HL7 data export file (izdata) of the extracted data. The data export file is placed in the secure directory specified by the Path for Outbound Messages site parameter.

### Considerations:

- The export date range start date defaults to the day of the last export (if using point-of-care data entry, which will catch any patient and vaccines since the last export). However, if vaccines are entered by data entry staff and there is a delay, you will want to change this date to account for the three-day to three-week delay.
- The first time you perform this task, it may take it may take a long time to complete (1–2 hours or even longer at large sites).
- When in doubt, go back and be overly inclusive. Sending the same data does not cause problems.
- If necessary, you can exit IZDE at the last prompt, "Requested Start Time," by typing a caret (^).

### To extract the immunization data and create the HL7 data export file:

1. At the "RPMS Main Menu" prompt, select **Immunization Interchange Management Menu** and press the Enter key.
2. At the "Select Immunization Interchange Management Menu Option" prompt, type **IZDE** and press the Enter key.

A message appears, indicating that this process may take several minutes.

3. At the "Do you want to proceed?" prompt, type **Y** (yes) and press the Enter key.

The following information is displayed:

- Date of the last export
  - Date-of-birth date for the children 19 and under for the last export.
4. At the “Export Immunizations starting on [today’s date]” prompt, do one of the following:
- Press the Enter key to accept the default export date, which is the current date
  - Enter a start date in *mm/dd/yyyy* format and press the Enter key

Specifying a start date allows you to go back to an earlier date, if there is doubt whether all past export files were properly transmitted, as well as to capture all children/vaccines from the specified date forward. Sending duplicate information does not create problems locally or at the state level, because both sides have de-duplication processes.

The process of extracting the immunization data from RPMS begins. The dots and slashes appearing on screen represent finding patient immunizations in the RPMS database and extracting the data.

5. At the “Requested Start Time” prompt, press the Enter key to accept the default start time, Now.

The export file, *izdatayyyymmdd.dat*, is created and placed in the directory specified by the Path for Outbound Messages site parameter.

A message indicates that this process may take several minutes.

```
Select Immunization Interchange Management Menu Option: IZDE <Enter> Start
Immunization Data Export

Evaluation of immunizations of children 0-19 for export
to the State Immunization registry may take several minutes.

Do you want to proceed? NO// Y <Enter> YES

The last Immunization export ran on JAN 24,2005
Children 19 and under were born after JAN 24,1986

This export will include all children who have had a visit
since the last export ran or after the date you specify below.

You can enter another date if you want to run
the export for another date range.

Last Immunization export ran on JAN 24,2005
Children 19 and under were born after JAN 24,1986
Export Immunizations starting on JAN 24,2005: JAN 24,2005// 01/01/2004
<Enter>.
```



- If the number decreases, IZ has found all the patients/vaccinations and is now converting the data into HL7 format.

When the conversion is complete, the following message is displayed:

```
The Immunization data export file is ready for transmission to the
state immunization registry.
```

Figure 4-3: Conversion complete message

The export file (izdatayyyymmdd.dat) is now available in a secure directory of the local site's computer system.

## 4.3 Transmitting HL7 Immunization Data

Transmitting HL7 immunization data files between the site and the state registry can be done manually or automatically.

**Note:** Please check with both your site's IT person and your state immunization registry contact to verify the means of data exchange.

### 4.3.1 Transmitting HL7 Immunization Data Manually

Because the HL7 immunization data files are located in secure directories, manual transmission of HL7 immunization data can only be done by someone with the appropriate security clearance (usually an IT person) at your site.

The authorized person connects to the state registry via the internet using a state registry supplied username and password, and either uploads the data file located in the site's export directory to the state registry or downloads the data file from the state registry to the local site's import directory.

**Note:** The login information used by IT personnel to access the state registry system is usually person-specific. If personnel changes occur, the new IT person must contact the state registry to receive new access codes to avoid potential data security issues.

### 4.3.2 Transmitting HL7 Immunization Data Automatically

Transmitting the HL7 Immunization data files between the site and the state registry automatically requires the HL7 Communications Bridge. This third-party software must be installed and configured at your site by an authorized IT person.

When installed, the HL7 Communications Bridge enables an automated two-way exchange of immunization data between your site and the state immunization registry.

#### **Considerations:**

- Both your site and your state immunization registry must be set up to handle electronic file transfers.
- Your site has an account with your state immunization registry.
- The local site's export/import directories must be located in a secure area.
- If your site is using the HL7 Communication Bridge, the directories specified by the Path for Outbound Messages and Inbound Messages parameters *must be the same* as the export/import directories used by the HL7 Communications Bridge.

## 4.4 Importing Immunization Data to RPMS

Importing data from the state registry is the second part of this bidirectional data exchange. Sites import immunization data to “discover” vaccines that their patients have received from other providers and facilities.

This information impacts the individual patient's care and the local site's approach to care for that patient. For example, if the imported vaccination information changes the patient's immunization status to “up-to-date,” then

- A No Due Letter would be sent to the patient
- The patient would not be listed on the PHN work list, saving time and possibly a home visit
- The patient would now be in the numerator of the reports, raising the immunization rate

If the imported vaccination information verifies that the patient is clearly living far from the local service unit or is getting primary care from a different provider, the information may help the facility change the patient's status to Inactive (due to Moved Or Going Elsewhere [MOGE]), affecting both the numerator and denominator of the reports.

This section provides detailed instructions for importing data from the state registry to the local site.

#### 4.4.1 Extracting State Immunization Data (IZIM)

The Immunization Data Exchange Import Immunizations from State Registry (IZIM) menu option has the following capabilities:

- Locates the state immunization data file in the directory specified by the Path for Inbound Messages parameter.
- Extracts the HL7 data from the state immunization file and translates the messages to RPMS format.
- Checks for patient matches in RPMS and writes nonmatching patients to a list.
- Includes the following statistics related to the data imported from the state:
  - Number of state patients that matched patients in RPMS
  - Number of state shots new to RPMS
  - Number of patients that had new shots added from the state
- Places the extracted state immunization data in a holding area.

##### **Considerations:**

- You must know the correct name of the state immunization file.
- The first time you perform this task, or if the state file is very large, the process may take some time to complete.

##### **To extract the immunization data from the State HL7 data file:**

1. At the “RPMS Main Menu” prompt, select **Immunization Interchange Management** and press the Enter key.
2. At the “Select Immunization Interchange Management Menu Option” prompt, type **IZIM** and press the Enter key.
3. At the “Enter the name of the file from the State Registry” prompt, type the name of the state output file and press the Enter key.
4. At the “Do you want to proceed?” prompt, type **Y** and press the Enter key.

The process of extracting the HL7 immunization data from the state registry file begins. The dots and slashes appearing on screen represent patient vaccination data being extracted, then matched and placed in a holding area.

```
Select Immunization Interchange Management Menu Option: IZIM <Enter> Import
Immunizations from State Registry

The file from the State Registry must be in the drive/directory:
    HIPAA-compliant directory
Enter the name of the file from the State Registry: state_output.dat <Enter>

Import of immunizations of children 0-19 from the State Immunization
registry may take several minutes.

Do you want to proceed? NO// Y <Enter> YES

Please do not
interrupt.....
.....
.....
////////////////////////////////////
////////////////////////////////////
////////////////////////////////////
////////////////////////////////////
////////////////////////////////////
```

Figure 4-4: Example of extracting immunization data from the state registry file (IZIM)

#### 4.4.2 Checking for Patients with No Match in RPMS (NO)

If the imported state immunization data includes any patients with no matches in RPMS, IZIM writes the patient name and date of birth to a list.

If a list of no matches in RPMS is generated, review the information. If necessary, contact your state registry person and local patient registration staff to discuss and resolve the issues of the listed patients.

When the IZIM process completes, you can check for unmatched patients, using the **Children for whom there is no match in RPMS (NO)** menu option. You can sort the No Match report by patient name, date of birth, or import file date. The listing includes the reason for not matching.

##### To check for patients with no match in RPMS:

1. At the “Immunization Interchange Management Menu Option” prompt, type **NO** and press the Enter key.
2. At the “Report sequence” prompt, type one of the following:
  - **1** to sort the report by **Patient Name**
  - **2** to sort the report by patient’s **Date of Birth**
  - **3** to sort the report by **Import File Date**
3. At the “Device” prompt, press the Enter key to view the report on the screen or type the name of the printer to print a hard copy.

For example:

```
Select Immunization Interchange Management Menu Option: NO <Enter> Children
for whom there is no match in RPMS

By selecting options 1-3, you can review the NO list by patient name, date
of birth or import file date.
NOTE: The reason for not matching will also be included in this report.

      Select sequence for NO MATCH report

      Select one of the following:

          1      Patient Name
          2      Date of Birth
          3      Import File Date

Report sequence: 1 <Enter> Patient Name

DEVICE: HOME// <Enter>

Patients for whom there is no matching patient in RPMS: (TOTAL: 2)

#  PATIENT NAME                DOB      IMP DATE SEX
1  DOE,JOHN BOY                2890519  20080512 M (NAME MISMATCH)
2  DOE,JANE GIRL               2890516  20080512 F (NAME MISMATCH)
```

Figure 4-5: Example of displaying children for whom there is no match in RPMS (NO)

#### 4.4.3 Adding State Immunization data to RPMS (IZAD)

The **IZAD, Add Immunizations from State Registry**, menu option gives a clinical person well versed in vaccines the opportunity to review vaccines before adding them to the RPMS database. This provides a checkpoint to ensure that the system is working properly and would not be adding erroneous data.

IZAD displays the list of child patients from youngest-to-oldest (birth to 18 years). You may add a single vaccine, all vaccines for a single patient, or all the vaccines for all patients. For a list of vaccine equivalents that the software uses to match immunizations during de-duplication, see **Error! Reference source not found.**

#### Considerations:

- Before you begin, you may want to open a second RPMS session and look at each patient in the Immunization System (BI) application before adding the vaccination data. After you add the vaccination(s) to a patient's record, look at changes to that patient's immunization record. This will provide you with significant information about when and where this patient is getting vaccinated.

By watching this process carefully, you may discover data entry errors, such as an incorrect date or location, which may require some data correction actions. In such cases, you would want to work with the state registry staff to correct these errors on the state registry side, so that errors will not be propagated to multiple providers and facilities.

- The IZAD screen lists the patients by date of birth (DOB = *yyyymmdd*), from youngest to oldest.

**To add immunizations to the RPMS database:**

1. At the “Select Immunization Interchange Management Menu Option” prompt, type **IZAD** and press the Enter key.

The next screen is your working screen. The total number of immunizations is displayed in parentheses above the display of immunization records.

State Registry Immunizations Jan 24, 2005 19:18:55					Page: 1 of 29
(488) Immunizations from the State Registry					
NUM RECEIVED	DOB	NAME	IMMUNIZATION	DATE	
1	20040726	PEACHES,CODY WEST	HEP B PED (8)	08/19/2004	
2	20040121	YAZZIE,DERRICK MASON	PNEUM-CONJ (100)	03/22/2004	
3	20040121	YAZZIE,DERRICK MASON	PNEUM-CONJ (100)	06/01/2004	
4	20031122	ABRIL,JULIAN MATTHEW	PNEUM-CONJ (100)	03/29/2004	
5	20031121	LUPE,SHANIA	MMR (3)	11/22/2004	
6	20031121	LUPE,SHANIA	PEDVAXHIB (49)	11/22/2004	
7	20031010	FINLEY,FENELLA JADE	MMR (3)	10/25/2004	
8	20031010	FINLEY,FENELLA JADE	DTaP (20)	10/25/2004	
9	20031010	FINLEY,FENELLA JADE	HIBTITER (47)	10/25/2004	
10	20031010	FINLEY,FENELLA JADE	PNEUM-CONJ (100)	10/25/2004	
11	20031003	JAMES,URIAH ASHLEY	MMR (3)	12/03/2004	
12	20031003	JAMES,URIAH ASHLEY	VARICELLA (21)	12/03/2004	
13	20031003	JAMES,URIAH ASHLEY	PEDVAXHIB (49)	07/28/2004	
14	20031003	JAMES,URIAH ASHLEY	PEDVAXHIB (49)	12/03/2004	

Enter ?? for more actions  
 ADD Add immunizations from State Reg.  
 Select Action: Next Screen// **A <Enter>** Add immunizations from State Reg.  
 Select Immunization(s) to add to RPMS: (1-488):

Figure 4-6: Example of Immunization data from the state registry display (IZAD)

Each immunization entry includes the following information:

Column	Description
<b>NUM</b>	The number you use to select the immunization record.
<b>DOB</b>	DOB of the patient
<b>NAME</b>	Name of the patient
<b>IMMUNIZATION</b>	Vaccine name and corresponding HL7 code in parentheses
<b>DATE RECEIVED</b>	Date of the immunization

2. At the “Select Action: Next Screen” prompt, do one of the following:
  - If the list is longer than a single screen, press the Enter key to view the next screen of immunizations
  - Type **A** and press the Enter key
3. At the “Select Immunization(s) to add to RPMS” prompt, type the number range for the patient immunizations you want to add to the RPMS database and press the Enter key. You may add any of the following:
  - A single immunization for a patient. For example, select #4 to add the immunization for Julian Boy Doe.
  - All vaccines for a single patient. For example select #7-10 to add all four immunizations for Mary Girl Demo.
  - All the vaccines displayed on the current screen; for example, select #1-14 to add all the immunizations displayed on the current screen output
  - All vaccines for all patients. For example, select #1-488 to add all of the immunizations to the RPMS database.

The selected immunizations are added to the corresponding patient’s record in the RPMS database, which can then be viewed in the Immunization System or in the Health Summary.

4. When finished, type **Q** and press the Enter key to return to Immunization Data Exchange menu.

#### 4.4.4 Troubleshooting Immunization Data Not Added to RPMS

Occasionally, a patient immunization will not be added to the RPMS database and remains visible on the IZAD screen list, usually with a note stating that the immunization was not added because the immunization date is earlier than the patient’s DOB.

Most often this is a patient registration error, where a local site has an incorrect DOB. In this case, contact your patient registration staff and have them verify with the parent/patient the correct DOB, and correct it in RPMS. Once this is done, these immunizations can be added to the RPMS database by rerunning IZAD.

## 5.0 Immunization Interface Management Administration Functions

### 5.1 Reporting Immunizations Exported for a Patient (EXP)

Providing a record of the information that a local facility sent to another health entity demonstrates HIPAA compliance.

The Show Immunizations Exported for a Patient (EXP) option enables facilities to comply with HIPAA regulations by printing a report that lists all immunizations sent to the registry for an individual patient.

**Note:** This report can be generated only for patients who have had information exported previously to their state immunization registry.

**To generate a list of immunizations exported to the state registry for a patient:**

1. At the “Select Immunization Interchange Management Menu Option” prompt, type **EXP** and press the Enter key.
2. At the “Enter Name, HRN, or DOB,” type the patient name (last name first), a Health Record Number (HRN) or a Date of Birth (DOB) and press the Enter key.

For example:

```
Select Immunization Interchange Management Menu Option: EXP <Enter>
Enter Name, HRN, or DOB: PATIENT, A <Enter>

Immunization Export summary for:
PATIENT,A          DOB: 05/12/1930  HRN: 748526

  Export Date  Immunization          Admin Date
  -----
  08/25/2006   TD (ADULT)            03/01/1988
  08/27/2006   TD (ADULT)            03/01/1988
  08/28/2006   TD (ADULT)            03/01/1988
  08/29/2006   TD (ADULT)            03/01/1988
```

Figure 5-1: Example of report of immunizations exported to the state registry for a patient (EXP)

## 5.2 Generating a File Statistics Report (IZIF)

After the import and export of immunization data files has been automated at your site, use the **File Statistics Report (IZFS)** menu option to monitor the HL7 Communications Bridge. The report lists the following information:

- File name, date, and type (Import or Export)
- The following statistics:
  - Number of patients
  - Number of immunizations
  - Number of no patient matches
  - Number of new immunizations
  - Number of added immunizations

### To generate and display a File Statistics report:

At the “Select Immunization Interchange Management Menu Option” prompt, type **IZFS** and press the Enter key.

For example,

```

Select Immunization Interchange Management Menu Option:  IZFS <Enter>  File
Statistics Report

File Status Report                                Report Date: 10/30/2008

File          IMP/EXP          Type      Pat-   Imuni-   NO Pat   New      Imms
Date          Type      ients  zations Match  Imms     Added
-----
izdata20081016.dat  10/16/2008  IMPORT    7      79      1
    
```

Figure 5-2: Example of the File Statistics report (IZFS)

## 5.3 Setting Immunization Data Exchange Parameters (SET)

Use the Immunization Data Exchange Parameters (SET) option to do the following:

- Specify/change the pathname locations of the HL7 immunization data export file and import file.
- Automate the Import Immunizations from State Registry (IZIM) menu option.
- Automate the Add Immunizations from State Registry (IZAD) menu option.
- Select/change the age groups from RPMS included for the export: 0–18, under 19 and over 64, or all ages.

These site-specific parameters are set by the site manager or other authorized person.

The following table provides descriptions and valid values for the Immunization Data Exchange site parameters.

Parameter	Description/Values
<b>Path For Outbound Messages</b>	The local directory in which the site's HL7 immunization data files are located. If the HL7 Communications Bridge is being used to transfer these files to the state registry, the location specified here must be the same as the location monitored by the bridge. <b>Important:</b> This directory must be in a <i>secure</i> area of the site's local computer.
Valid Value:	Windows-based: <i>drive:\pathname</i> Unix-based: <i>/pathname</i>
<b>Path For Inbound Messages</b>	The local directory in which the state's HL7 immunization data files are located. If the HL7 Communications Bridge is being used to transfer the state immunization files to the site, the location specified here must be the same as the location used by the bridge. <b>Important:</b> This directory must be in a <i>secure</i> area of the site's local computer.
Valid Value:	Windows-based: <i>drive:\pathname</i> Unix-based: <i>/pathname</i>
<b>Auto Import Immunizations</b>	When set to YES, the Import Immunizations to RPMS (IZIM) function runs automatically, extracting the patient immunization data received from the state registry to a hold area in RPMS. <b>Note:</b> To work correctly, the TaskMan option, BYIM IZ AUTO IMPORT, must be scheduled.
Valid Values:	NO (the default) or YES
<b>Auto Add Immunizations</b>	When set to YES, the Add Immunizations to RPMS (IZAD) function runs automatically after IZIM completes processing, adding all patient immunization data received from the state registry to the RPMS database.
Valid Values:	NO (the default) or YES

Parameter	Description/Values
<b>Ages to Export</b>	Enter the code to specify the age groups to include in the immunization export.
Valid Values:	0 = 18 and under (the default) 1 = under 19 and over 64 2 = all ages

**To set data exchange site parameters, follow these steps:**

5. At the “Immunization Interchange Management Menu Option” prompt, type **SET** and press the Enter key.
6. At the “Select SITE for Data Exchange Parameters” prompt, type the site name and press the Enter key.
7. Set the desired Data Exchange parameters.
  - To bypass a parameter, press the Enter key at its prompt.
  - To display the age groups for Ages to Export parameter, type two question marks (??) at the prompt. Then type the number corresponding to the age groups at the prompt and press the Enter key.

```

Select Immunization Interchange Management Menu Option: SET <ENTER>
Immunization Data E exchange Parameters Entering the site parameters

ADD Data Exchange Parameter Site
Select SITE for Data Exchange Parameters: CHINLE HOSP// <ENTER>          NAVAJO
      CHINLE      01          AZ          010101
      ...OK? Yes// <ENTER> (Yes) Choosing the facility

UPDATE Data Exchange Parameters for CHINLE HOSP

PATH FOR OUTBOUND MESSAGES:
PATH FOR INBOUND MESSAGES:
AUTO IMPORT IMMUNIZATIONS: NO//
AUTO ADD IMMUNIZATIONS: NO//
AGES TO EXPORT.....: 18 AND UNDER// ?? <ENTER>  displays all options

  Choose from:
    0      18 AND UNDER
    1      UNDER 19 AND OVER 64
    2      ALL AGES
AGES TO EXPORT.....: 18 AND UNDER//
    
```

Figure 5-3: Example of the immunization data exchange parameters (SET)

## 6.0 Automating Immunization Data Exchange

When you are assured of the accuracy and integrity of the immunization data exchanged between your site and the state registry, the following RPMS Immunization Data Exchange options can be automated:

1. **IZDE** extracts the immunization data from RPMS, creates an HL7 data export file, and places the file in the export directory.
2. **IZIM** extracts the immunization data from the state HL7 data import file and places the data in an RPMS holding area.
3. **IZAD** adds all of the immunization data from the state file to the RPMS database.

Assuming that the HL7 Communications Bridge is operating, once the IZDE, IZIM, and IZAD functions are automated, the entire process will be fully automated.

The following sections provide guidance and instructions to automate the IZDE, IZIM, and IZAD Immunization Data Exchange functions.

### 6.1 Automating IZDE

The **Start Immunization Data Export (IZDE)** option, which extracts immunization data from RPMS, creates the HL7 immunization data export file and places it in the secure local directory, can be scheduled to run automatically.

Using TaskMan, your site manager or other authorized person will need to schedule the BYIM IZ AUTO EXPORT option and specify the time and frequency to run.

### 6.2 Automating IZIM

The Import Immunizations from State Registry (IZIM) option, which extracts the HL7 immunization data from the state registry file and puts the data in a local hold area, can be automated. The following table summarizes the steps required to automate the IZIM option.

Step	Action
1	In TaskMan, configure BYIM IZ AUTO IMPORT.
2	In RPMS, activate the Auto Import Immunizations site parameter.

## 6.2.1 Setting Up TaskMan

Using TaskMan, your site manager or other authorized person will need to schedule the BYIM IZ AUTO IMPORT option and specify the time and frequency to run.

After TaskMan has been configured to run the IZIM option, activate the Auto Import Immunizations site parameter in RPMS.

## 6.2.2 Activating the Auto Import Immunizations Parameter

**Note:** When the IZIM process is automated, periodically run the Children for whom there is no match in RPMS (NO) option to confirm that there are no unmatched patients.

**To set the Auto Import Immunization parameter to run IZIM automatically:**

1. At the “Immunization Interchange Management Menu Option” prompt, type **SET** and press the Enter key.
2. At the “Select SITE for Data Exchange Parameters” prompt, type the site name and press the Enter key.
3. Press the Enter key at the parameter prompts until you reach the “Auto Import Immunizations” prompt.
4. At the “Auto Import Immunizations” prompt, and type **YES** and press the Enter key.
5. Press Enter at the parameter prompts or type a caret (^) at the next prompt to return to the IIMM options.

```
Select Immunization Interchange Management Menu Option: SET <Enter>
Immunization Data E xchange Parameters Entering the site parameters

ADD Data Exchange Parameter Site
Select SITE for Data Exchange Parameters: CHINLE HOSP// <Enter>           NAVAJO
      CHINLE          01                AZ                010101
      ...OK? Yes// <Enter> (Yes) Choosing the facility

UPDATE Data Exchange Parameters for CHINLE HOSP

PATH FOR OUTBOUND MESSAGES: /local/hl7immunizationDataExport// <Enter>
PATH FOR INBOUND MESSAGES: /local/hl7immunizationDataImxport// <Enter>
AUTO IMPORT IMMUNIZATIONS: NO// YES <Enter> Yes to automatically import from
SIIS
AUTO ADD IMMUNIZATIONS: NO// <Enter>
AGES TO EXPORT.....: 18 AND UNDER// <Enter>
```

Figure 6-1: Example of setting the auto import parameter to run IZIM automatically

## 6.3 Automating IZAD

Initially, the IZAD option should be run manually so that the local clinical immunization person can review the state patient immunizations before adding the data to the RPMS database, thus ensuring that the exchange process is functioning properly. When it is determined that the immunization data exchange process is functioning without errors, this final step of adding the immunization data from the state into the RPMS database can be automated.

The Add Immunizations from the State Registry (IZAD) option can be automated by activating the Auto Add Immunizations parameter. When automated, IZAD runs after IZIM completes processing and adds *all* immunization data sent from the state registry to the RPMS database.

**Note:** After the IZAD process has been automated, it is recommended that you periodically run IZAD manually to check for any patient immunizations that were not added to the RPMS database.

### To set the Auto Add Immunization parameter to run IZAD automatically:

1. At the “Immunization Interchange Management Menu Option” prompt, type **SET** and press the Enter key.
2. At the “Select SITE for Data Exchange Parameters” prompt, type the site name and press the Enter key.
3. Press the Enter key at the prompts until you reach the “Auto Add Immunizations” prompt.
4. At the “Auto Add Immunizations” prompt, and type **YES** and press the Enter key.
5. Press Enter or type a caret (^) at the next prompt to return to the IIMM options.

```

Select Immunization Interchange Management Menu Option: SET <Enter>
Immunization Data E exchange Parameters Entering the site parameters

ADD Data Exchange Parameter Site
Select SITE for Data Exchange Parameters: CHINLE HOSP// <Enter>           NAVAJO
      CHINLE      01                AZ                010101
      ...OK? Yes// <Enter> (Yes) Choosing the facility

UPDATE Data Exchange Parameters for CHINLE HOSP

PATH FOR OUTBOUND MESSAGES: /local/hl7immunizationDataExport// <Enter>
PATH FOR INBOUND MESSAGES:/local/hl7immunizationDataImxport// <Enter>
AUTO IMPORT IMMUNIZATIONS: YES// <Enter>
AUTO ADD IMMUNIZATIONS: NO// YES <Enter> Yes to automatically add
immunizations to patients records
AGES TO EXPORT.....: 18 AND UNDER// <Enter>
    
```

Figure 6-2: Example of setting the Auto Add parameter to run IZAD automatically

## 7.0 Glossary

### Archiving

The storing of historical or little-used data off-line (often on tape).

### Banner

A line of text with a user's name and domain.

### Caret (^)

A circumflex, also known as a "hat," used in RPMS to exit from a particular activity or data entry sequence. This special control character is typed by pressing Shift+6 on the keyboard.

### Event Type

A message that signifies a particular event on the system (e.g., admit, discharge, etc.).

### File

A set of related records or entries treated as a single unit.

### HL7

The generally accepted standard for the exchange of certain specified types of medical information between applications. Health Level Seven (HL7) is both the name of the standards developing organization and the collection of protocols that the organization has developed and published. For more information, refer to the HL7 Web site: [www.hl7.org](http://www.hl7.org).

### HL7 Bridge

A software program (external to RPMS) that enables a two-way exchange of immunization data for children from birth to 19 years of age between facilities running RPMS and State immunization registries. It uses secured data exchange via HTTPS, to meet HIPAA data security requirements for exchange of information between IHS and Tribal facilities and State registries.

**HL7 Message**

An HL7 message consists of a set of message segments that contain the pertinent data for one patient, where each message segment is a group of elements, also known as data fields, which have been defined as logically belonging to the same category, for example, patient immunization.

**Menu**

A list of choices for computing activity. A menu is a type of option designed to identify a series of items (other options) for presentation to the user for selection. When displayed, menu-type options are preceded by the word “Select” and followed by the word “option” as in Select Menu Management option: (the menu’s select prompt).

**Option**

An entry in the Option file. As an item on a menu, an option provides an opportunity for users to select it, thereby invoking the associated computing activity. Options may also be scheduled to run in the background, noninteractively, by TaskMan.

## Appendix A: Vaccine Equivalents Table

The following table lists groups of vaccines and their equivalent vaccines, which the data exchange software will match during the unduplication process.

Please note that vaccines are often part of a group of related vaccines. Some of these vaccines are historical, for example OPV or DTP, and are no longer administered. However, they are part of the vaccine history and sometimes affect forecasting of future doses. Data exchange often exposes incorrect vaccine names or CVX codes (e.g., Hep B Adult instead of Hep B Pediatric, or one of the NOS codes).

The RPMS Immunization Package and State Immunization Information Systems (IIS) understand these vaccine groupings (listed in the table) and are able to account for them in their matching algorithm.

Vaccine	Vaccine Equivalents Used for De-duplication
3 MMR	4 M/R 5 MEASLES 6 RUBELLA 7 MUMPS 8 RUBELLA/MUMPS 94 MMRV
4 M/R	3 MMR 5 MEASLES 6 RUBELLA 38 RUBELLA/MUMPS 94 MMRV
5 MEASLES	3 MMR 4 M/R 94 MMRV
6 RUBELLA	3 MMR 4 M/R 38 RUBELLA/MUMPS 94 MMRV
7 MUMPS	7 MUMPS 38 RUBELLA/MUMPS 3 MMR 94 MMRV

Vaccine	Vaccine Equivalents Used for De-duplication
8 Hep B, Adolescent or Pediatric	42 HEP B, ADOLESCENT, HIGH RISK INFANT 43 HEP B, ADULT 44 HEP B, DIALYSIS 45 HEP B, NOS
9 TD (ADULT)	28 DT (PEDIATRIC) 35 TETANUS TOXOID 112 TETANUS TOXOID, NOS 113 TD (ADULT) PRESERVATIVE FREE 115 TDAP
10 IPV	89 Polio NOS
15 INFLUENZA, SPLIT (INCL. PURIFIED)	16 INFLUENZA, WHOLE 88 INFLUENZA, NOS
16 INFLUENZA, WHOLE	15 INFLUENZA, SPLIT (INCL. PURIFIED) 88 INFLUENZA, NOS
17 HIB, NOS	46 HIB (PRP-D) 47 HIB (HBOC) 48 HIB (PRP-T) 49 HIB (PRP-OMP) 51 HIB-HEP B
20 DTAP	106 DTAP, 5 PERTUSSIS ANTIGEN 107 DTAP, NOS
21 VARICELLA	121 ZOSTER
28 DT (PEDIATRIC)	9 TD (ADULT) 35 TETANUS TOXOID 20 DTAP 107 DTAP, NOS 106 DTAP, 5 PERTUSSIS ANTIGENS 112 TETANUS TOXOID, NOS 113 TD (ADULT) PRESERVATIVE FREE 115 TDAP
31 HEP A, PEDATRIC, NOS	83 HEP A, PED/ADOL, 2 DOSE 84 HEP A, PED/ADOL, 3 DOSE 85 HEP A, NOS 52 HEP A, ADULT 104 HEP A-HEP B

Vaccine	Vaccine Equivalents Used for De-duplication
32 MENINGOCOCCAL	103 MENINGOCOCCAL C CONJUGATE 108 MENINGOCOCCAL, NOS 114 MENINGOCOCCAL A,C, Y, W-135 DIPHTHERIA CONJUGATE
33 PNEUMOCOCCAL	100 PNEUMOCOCCAL CONJUGATE 109 PNEUMOCOCCAL, NOS
35 TETANUS TOXOID	9 TD (ADULT) 28 DT (PEDIATRIC) 112 TETANUS TOXOID, NOS 113 TD (ADULT) PRESERVATIVE FREE 115 TDAP
36 VZIG	117 VZIG-IND
38 RUBELLA/MUMPS	6 RUBELLA 3 MMR 4 M/R
42 HEP B, ADOLESCENT/HIGH RISK INFANT	43 HEP B, ADULT 44 HEP B, DIALYSIS 45 HEP B, NOS 8 HEP B, ADOLESCENT OR PEDIATRIC 104 Hep A-Hep B
43 HEP B, ADULT	8 HEP B, ADOLESCENT OR PEDIATRIC 42 HEP B, ADOLESCENT/HIGH RISK INFANT 44 HEP B, DIALYSIS 45 HEP B, NOS 104 Hep A-HepB
44 HEP B, DIALYSIS	8 HEP B, ADOLESCENT OR PEDIATRIC 43 HEP B, ADULT 45 HEP B, NOS 42 HEP B, ADOLESCENT/HIGH RISK INFANT 104 Hep A Hep B
45 HEP B, NOS	8 HEP B, ADOLESCENT OR PEDIATRIC 43 HEP B, ADULT 44 HEP B, DIALYSIS 104 Hep A Hep B

Vaccine	Vaccine Equivalents Used for De-duplication
46 HIB (PRP-D)	17 HIB, NOS 47 HIB (HBOC) 48 HIB (PRP-T) 49 HIB (PRP-OMP)
49 HIB (PRP-OMP)	17 HIB, NOS 46 HIB (PRP-D) 47 HIB (HBOC) 48 HIB (PRP-T) 51 HIB-HEP B
52 HEP A, ADULT	83 HEP A, PED/ADOL, 2 DOSE 84 HEP A, PED/ADOL, 3 DOSE 31 HEP A, PEDIATRIC, NOS 85 HEP A, NOS 104 Hep A Hep B
62 HPV QUADRIVALENT	118 HPV, BIVALENT
74 ROTAVIRUS TETRAVALENT	116 ROTAVIRUS, PENTAVALENT 119 ROTAVIRUS, MONOVALENT 122 ROTAVIRUS, NOS
83 HEP A, PED/ADOL, 2 DOSE	52 HEP A, ADULT 83 HEP A, PED/ADOL, 2 DOSE 31 HEP A, PEDIATRIC, NOS 85 HEP A, NOS 104 Hep A Hep B
85 HEP A, NOS	52 HEP A, ADULT 83 HEP A, PED/ADOL, 2 DOSE 84 HEP A, PED/ADOL, 3 DOSE 31 HEP A, PEDIATRIC, NOS 104 Hep A Hep B
88 INFLUENZA, NOS	15 INFLUENZA, SPLIT (INCL. PURIFIED) 16 INFLUENZA, WHOLE
100 PNEUMOCOCCAL CONJUGATE	33 PNEUMOCOCCAL 109 PNEUMOCOCCAL, NOS
103 MENINGOCOCCAL C CONJUGATE	32 MENINGOCOCCAL 108 MENINGOCOCCAL, NOS 114 MENINGOCOCCAL A,C,Y,W-135 DIPHThERIA CONJ

Vaccine	Vaccine Equivalents Used for De-duplication
106 DTAP, 5 PERTUSSIS ANTIGENS	20 DTAP 107 DTAP, NOS
107 DTAP, NOS	20 DTAP 106 DTAP, 5 PERTUSSIS ANTIGEN
108 MENINGOCOCCAL, NOS	32 MENINGOCOCCAL 103 MENINGOCOCCAL C CONJUGATE 114 MENINGOCOCCAL A,C,Y,W-135 DIPHTHERIA CONJ
109 PNEUMOCOCCAL, NOS	33 PNEUMOCOCCAL 100 PNEUMOCOCCAL CONJUGATE
112 TETANUS TOXOID, NOS	9 TD (ADULT) 28 DT (PEDIATRIC) 35 TETANUS TOXOID 113 TD (ADULT) PRESERVATIVE FREE 115 TDAP
113 TD (ADULT) PRESERVATIVE FREE	9 TD (ADULT) 28 DT (PEDIATRIC) 35 TETANUS TOXOID 112 TETANUS TOXOID, NOS 115 TDAP
114 MENINGOCOCCAL A,C,Y,W-135 DIPHTHERIA CONJ	32 MENINGOCOCCAL 103 MENINGOCOCCAL C CONJUGATE 108 MENINGOCOCCAL, NOS
115 TDAP	9 TD (ADULT) 28 DT (PEDIATRIC) 35 TETANUS TOXOID 112 TETANUS TOXOID, NOS 113 TD (ADULT) PRESERVATIVE FREE
116 ROTAVIRUS, PENTAVALENT	74 ROTAVIRUS TETRAVALENT 119 ROTAVIRUS, MONOVALENT 122 ROTAVIRUS, NOS
117 VZIG-IND	36 VZIG
118 HPV, Bivalent	62 HPV QUADRIVALENT
119 ROTAVIRUS, MONOVALENT	74 ROTAVIRUS TETRAVALENT 116 ROTAVIRUS, PENTAVALENT 122 ROTAVIRUS, NOS

Vaccine	Vaccine Equivalents Used for De-duplication
121 ZOSTER	21 VARICELLA
122 ROTAVIRUS, NOS	74 ROTAVIRUS TETRAVALENT 116 ROTAVIRUS, PENTAVALENT 119 ROTAVIRUS, MONOVALENT
123 INFLUENZA, H5N1	15 INFLUENZA, SPLIT (INCL. PURIFIED) 16 INFLUENZA, WHOLE 88 INFLUENZA, NOS
130 DTaP-IPV	10 IPV 110 DTaP-Hep B-IPV 20 DTAP 50 DTAP-HIB 106 DTAP, 5 PERTUSSIS ANTIGENS 107 DTAP, NOS
110 DTaP-HepB-IPV	130 DTaP-IPV 120 DTaP-Hib-IPV
120 DTaP-Hib-IPV	130 DTaP-IPV 110 DTaP-HepB-IPV

## Appendix B: RPMS Rules of Behavior

The Resource and Patient Management (RPMS) system is a United States Department of Health and Human Services (HHS), Indian Health Service (IHS) information system that is *for official use only*. The RPMS system is subject to monitoring; therefore, no expectation of privacy shall be assumed. Individuals found performing unauthorized activities are subject to disciplinary action including criminal prosecution.

All users (Contractors and IHS Employees) of RPMS will be provided a copy of the Rules of Behavior (RoBs) and must acknowledge that they have received and read them prior to being granted access to a RPMS system, in accordance IHS policy.

- For a listing of general RoBs for all users, see the most recent edition of *IHS General User Security Handbook* (SOP 06-11a).
- For a listing of system administrators/managers rules, see the most recent edition of the *IHS Technical and Managerial Handbook* (SOP 06-11b).

Both documents are available at this IHS Web site: <http://security.ihs.gov/>

The RoBs listed in the following sections are specific to RPMS.

### All RPMS Users

In addition to these rules, each application may include additional RoBs that may be defined within the documentation of that application (e.g., PCC, Dental, Pharmacy).

### Access

#### RPMS Users Shall:

- Only use data for which you have been granted authorization.
- Only give information to personnel who have access authority and have a need to know.
- Always verify a caller's identification and job purpose with your supervisor or the entity provided as employer before providing any type of information system access, sensitive information, or non-public agency information.
- Be aware that personal use of information resources is authorized on a limited basis within the provisions *Indian Health Manual* Part 8, "Information Resources Management," Chapter 6, "Limited Personal Use of Information Technology Resources."

**RPMS Users Shall Not:**

- Retrieve information for someone who does not have authority to access the information.
- Access, research, or change any user account, file, directory, table, or record not required to perform your OFFICIAL duties.
- Store sensitive files on a PC hard drive, or portable devices or media, if access to the PC or files cannot be physically or technically limited.
- Exceed their authorized access limits in RPMS by changing information or searching databases beyond the responsibilities of their job or by divulging information to anyone not authorized to know that information.

**Information Accessibility**

RPMS shall restrict access to information based on the type and identity of the user. However, regardless of the type of user, access shall be restricted to the minimum level necessary to perform the job.

**RPMS Users Shall:**

- Access only those documents they created and those other documents to which they have a valid need-to-know and to which they have specifically granted access through an RPMS application based on their menus (job roles), keys, and FileMan access codes. Some users may be afforded additional privileges based on the function they perform such as system administrator or application administrator.
- Acquire a written preauthorization in accordance with IHS policies and procedures prior to interconnection to or transferring data from RPMS.

**Accountability****RPMS Users Shall:**

- Behave in an ethical, technically proficient, informed, and trustworthy manner.
- Logout of the system whenever they leave the vicinity of their PC.
- Be alert to threats and vulnerabilities in the security of the system.
- Report all security incidents to their local Information System Security Officer (ISSO)
- Differentiate tasks and functions to ensure that no one person has sole access to or control over important resources.

- Protect all sensitive data entrusted to them as part of their government employment.
- Abide by all Department and Agency policies and procedures and guidelines related to ethics, conduct, behavior, and IT information processes.

## Confidentiality

### **RPMS Users Shall:**

- Be aware of the sensitivity of electronic and hardcopy information, and protect it accordingly.
- Store hardcopy reports/storage media containing confidential information in a locked room or cabinet.
- Erase sensitive data on storage media, prior to reusing or disposing of the media.
- Protect all RPMS terminals from public viewing at all times.
- Abide by all HIPAA regulations to ensure patient confidentiality.

### **RPMS Users Shall Not:**

- Allow confidential information to remain on the PC screen when someone who is not authorized to that data is in the vicinity.
- Store sensitive files on a portable device or media without encrypting.

## Integrity

### **RPMS Users Shall:**

- Protect your system against viruses and similar malicious programs.
- Observe all software license agreements.
- Follow industry standard procedures for maintaining and managing RPMS hardware, operating system software, application software, and/or database software and database tables.
- Comply with all copyright regulations and license agreements associated with RPMS software.

**RPMS Users Shall Not:**

- Violate Federal copyright laws.
- Install or use unauthorized software within the system libraries or folders
- Use freeware, shareware, or public domain software on/with the system without your manager's written permission and without scanning it for viruses first.

## System Logon

**RPMS Users Shall:**

- Have a unique User Identification/Account name and password.
- Be granted access based on authenticating the account name and password entered.
- Be locked out of an account after 5 successive failed login attempts within a specified time period (e.g., one hour).

## Passwords

**RPMS Users Shall:**

- Change passwords a minimum of every 90 days.
- Create passwords with a minimum of eight characters.
- If the system allows, use a combination of alpha, numeric characters for passwords, with at least one uppercase letter, one lower case letter, and one number. It is recommended, if possible, that a special character also be used in the password.
- Change vendor-supplied passwords immediately.
- Protect passwords by committing them to memory or store them in a safe place (do not store passwords in login scripts, or batch files.
- Change password immediately if password has been seen, guessed, or otherwise compromised; and report the compromise or suspected compromise to your ISSO.
- Keep user identifications (ID) and passwords confidential.

**RPMS Users Shall Not:**

- Use common words found in any dictionary as a password.

- Use obvious readable passwords or passwords that incorporate personal data elements (e.g., user's name, date of birth, address, telephone number, or social security number; names of children or spouses; favorite band, sports team, or automobile; or other personal attributes).
- Share passwords/IDs with anyone or accept the use of another's password/ID, even if offered.
- Reuse passwords. A new password must contain no more than five characters per 8 characters from the previous password.
- Post passwords.
- Keep a password list in an obvious place, such as under keyboards, in desk drawers, or in any other location where it might be disclosed.
- Give a password out over the phone.

## Backups

### **RPMS Users Shall:**

- Plan for contingencies such as physical disasters, loss of processing, and disclosure of information by preparing alternate work strategies and system recovery mechanisms.
- Make backups of systems and files on a regular, defined basis.
- If possible, store backups away from the system in a secure environment.

## Reporting

### **RPMS Users Shall:**

- Contact and inform their ISSO that they have identified an IT security incident and begin the reporting process by providing an IT Incident Reporting Form regarding this incident.
- Report security incidents as detailed in the *IHS Incident Handling Guide* (SOP 05-03).

### **RPMS Users Shall Not:**

- Assume that someone else has already reported an incident. The risk of an incident going unreported far outweighs the possibility that an incident gets reported more than once

## Session Timeouts

RPMS system implements system-based timeouts that back users out of a prompt after no more than 5 minutes of inactivity.

### **RPMS Users Shall:**

- Utilize a screen saver with password protection set to suspend operations at no greater than 10-minutes of inactivity. This will prevent inappropriate access and viewing of any material displayed on your screen after some period of inactivity.

## Hardware

### **RPMS Users Shall:**

- Avoid placing system equipment near obvious environmental hazards (e.g., water pipes).
- Keep an inventory of all system equipment.
- Keep records of maintenance/repairs performed on system equipment.

### **RPMS Users Shall Not:**

- Eat or drink near system equipment

## Awareness

### **RPMS Users Shall:**

- Participate in organization-wide security training as required.
- Read and adhere to security information pertaining to system hardware and software.
- Take the annual information security awareness.
- Read all applicable RPMS manuals for the applications used in their jobs.

## Remote Access

Each subscriber organization establishes its own policies for determining which employees may work at home or in other remote workplace locations. Any remote work arrangement should include policies that

- Are in writing.
- Provide authentication of the remote user through the use of ID and password or other acceptable technical means.

- Outline the work requirements and the security safeguards and procedures the employee is expected to follow.
- Ensure adequate storage of files, removal, and nonrecovery of temporary files created in processing sensitive data, virus protection, intrusion detection, and provides physical security for government equipment and sensitive data.
- Establish mechanisms to back up data created and/or stored at alternate work locations.

**Remote RPMS Users Shall:**

- Remotely access RPMS through a virtual private network (VPN) when ever possible. Use of direct dial in access must be justified and approved in writing and its use secured in accordance with industry best practices or government procedures.

**Remote RPMS Users Shall Not:**

- Disable any encryption established for network, internet, and Web browser communications.

## RPMS Developers

**RPMS Developers Users Shall:**

- Always be mindful of protecting the confidentiality, availability, and integrity of RPMS when writing or revising code.
- Always follow the IHS RPMS Programming Standards and Conventions (SAC) when developing for RPMS.
- Only access information or code within the namespaces for which they have been assigned as part of their duties.
- Remember that all RPMS code is the property of the U.S. Government, not the developer.
- Not access live production systems without obtaining appropriate written access, shall only retain that access for the shortest period possible to accomplish the task that requires the access.
- Observe separation of duties policies and procedures to the fullest extent possible.
- Document or comment all changes to any RPMS software at the time the change or update is made. Documentation shall include the programmer's initials, date of change and reason for the change.
- Use checksums or other integrity mechanism when releasing their certified applications to assure the integrity of the routines within their RPMS applications.

- Follow industry best standards for systems they are assigned to develop or maintain; abide by all Department and Agency policies and procedures.
- Document and implement security processes whenever available.

**RPMS Developers Shall Not:**

- Write any code that adversely impacts RPMS, such as backdoor access, “Easter eggs,” time bombs, or any other malicious code or make inappropriate comments within the code, manuals, or help frames.
- Grant any user or system administrator access to RPMS unless proper documentation is provided.
- Release any sensitive agency or patient information.

## Privileged Users

Personnel who have significant access to processes and data in RPMS, such as, system security administrators, systems administrators, and database administrators have added responsibilities to ensure the secure operation of RPMS.

**Privileged RPMS Users Shall:**

- Verify that any user requesting access to any RPMS system has completed the appropriate access request forms.
- Ensure that government personnel and contractor personnel understand and comply with license requirements. End users, supervisors, and functional managers are ultimately responsible for this compliance.
- Advise the system owner on matters concerning information technology security.
- Assist the system owner in developing security plans, risk assessments, and supporting documentation for the certification and accreditation process.
- Ensure that any changes to RPMS that affect contingency and disaster recovery plans are conveyed to the person responsible for maintaining continuity of operations plans.
- Ensure that adequate physical and administrative safeguards are operational within their areas of responsibility and that access to information and data is restricted to authorized personnel on a need to know basis.
- Verify that users have received appropriate security training before allowing access to RPMS.
- Implement applicable security access procedures and mechanisms, incorporate appropriate levels of system auditing, and review audit logs.

- Document and investigate known or suspected security incidents or violations and report them to the ISSO, CISO, and systems owner.
- Protect the supervisor, superuser, or system administrator passwords.
- Avoid instances where the same individual has responsibility for several functions (i.e., transaction entry and transaction approval).
- Watch for unscheduled, unusual, and unauthorized programs.
- Help train system users on the appropriate use and security of the system.
- Establish protective controls to ensure the accountability, integrity, confidentiality, and availability of the system.
- Replace passwords when a compromise is suspected. Delete user accounts as quickly as possible from the time that the user is no longer authorized system. Passwords forgotten by their owner should be replaced, not reissued.
- Terminate user accounts when a user transfers or has been terminated. If the user has authority to grant authorizations to others, review these other authorizations. Retrieve any devices used to gain access to the system or equipment. Cancel logon IDs and passwords, and delete or reassign related active and back up files.
- Use a suspend program to prevent an unauthorized user from logging on with the current user's ID if the system is left on and unattended.
- Verify the identity of the user when resetting passwords. This can be done either in person or having the user answer a question that can be compared to one in the administrator's database.
- Shall follow industry best standards for systems they are assigned to; abide by all Department and Agency policies and procedures.

**Privileged RPMS Users Shall Not:**

- Access any files, records, systems, etc., that are not explicitly needed to perform their duties
- Grant any user or system administrator access to RPMS unless proper documentation is provided
- Release any sensitive agency or patient information

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## Contact Information

If you have any questions or comments regarding this distribution, please contact OIT User Support (IHS) by:

**Phone:** 505-248-4371 or 888-830-7280 (toll free)

**Fax:** 505-248-4363

**Web:** <http://www.ihs.gov/GeneralWeb/HelpCenter/Helpdesk/index.cfm>

**Email:** [support@ihs.gov](mailto:support@ihs.gov)