



RESOURCE AND PATIENT MANAGEMENT SYSTEM

Data Warehouse Export System (BDW)

User Manual

Version 1.0
January 2006

Office of Information Technology
Albuquerque, New Mexico

PREFACE

This manual is the user manual for the IHS/RPMS Data Warehouse Export System, version 1.0.

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1.0 Introduction

The Data Warehouse Export System is an RPMS (Resource and Patient Management System) software application designed for local export of registration and visit data to the IHS National Data Warehouse.

The National Patient Information Reporting System (NPIRS) is a designated organizational unit within the Information Technology Support Center, Division of Information Resources (DIR), Indian Health Service, located in Albuquerque, New Mexico and has been in existence since 1986. The purpose of NPIRS is to provide a broad range of clinical and administrative information to managers at all levels of the Indian health system to allow them to better manage individual patients, local facilities, regional and national programs and to allow IHS Management to provide legislatively required reports to the Administration and Congress. The National Data Warehouse (NDW) project was initiated to upgrade NPIRS to a new, state-of-the-art, enterprise-wide data warehouse environment, to better serve the needs of its users.

This application will allow local RPMS systems to export data to NPIRS' new NDW structure. The data to be exported includes demographic data; third-party eligibility information; patient-based clinical data (e.g., health factors); and encounter-based clinical data (e.g., purpose of visit, procedures, medications, laboratory test results, radiological results). This export will provide for the export of modifications in these data so that the NDW will be able to maintain historical records of changes in these data so information about past as well as current circumstances can be retrieved.

The data is exported via HL7 standard messages. For each registration and visit record that is exported an HL7 message is generated and sent to the NDW.

The chapters included in the manual cover the main components of this system:

- Introduction
- Taxonomy Setup
- Initial back loading of Registration and Visit data to the Data Warehouse
- Regular exports to the Data Warehouse

2.0 Overview of Menu Options

The Data Warehouse Export System is menu-controlled. The options available from the main menu are shown on the following page. A brief description of each of the main options follows.

```
*****
**          Data Warehouse Export          **
*****
                        Version 1.0

                        SELLS HOSPITAL

GDW   Generate Data Warehouse Export Records
RERX  Re-Run a Previously Run Data Warehouse Export
DLOG  Display Log Entry
DWSR  Data Warehouse Export Summary Report
DWER  List PCC Visits Not Exported
RSET  Reset Failed Log Entry
PURG  Purge Log Entries
DRE   Export to Data Warehouse for a Date Range
PRA   Create Patient Reg Update Audit File
VAR   Create Visit Audit Report

Select Data Warehouse Export Menu Option:
```

Figure 2-1: Main Menu for Data Warehouse Export System

2.1 Generate Data Warehouse Export Records (GDW)

This option is used to perform the regular monthly or weekly exports to the Data Warehouse. During the export process commands are passed to the HL7 message generator to create registration and PCC visit HL7 messages. Once all messages are created an output file will automatically be created and written to the export directory. The process of generating the HL7 messages may take several minutes to an hour to complete after this option is executed. You will not see the output file in the export directory until the HL7 message generation has completed even though you have been brought back to your menu. A log entry is then created in the BDW Data Warehouse Export Log file.

2.2 Re-Run a Previously Run Data Warehouse Export (RERX)

This option should be used if an export done previously never made it to the Data Warehouse.

2.3 Display Log Entry (DLOG)

The Data Warehouse Export Log file is a historical record of the exports done. The DLOG report option allows the PCC Manager to review various items contained in the export tlog file after a GDW was executed.

2.4 Data Warehouse Export Summary Report (DWSR)

The SUM option provides a summary of all the visits processed during the export by visit type, service category, location, date, clinic and primary provider discipline. This report should be queued to print after every export and then kept for future reference.

2.5 List PCC Visits Not Exported (DWER)

Certain visits will not be exported due to missing required data elements. The required data elements are: Patient, visit type, service category and location of encounter. In addition, DEMO,PATIENT visits are not exported. To see a list of all visits that were not exported use this option.

2.6 Reset Failed Log Entry (RSET)

This option will be used by the site manager or area office personnel when an export aborts. This option resets the log entry.

2.7 Purge Log Entries (PURG)

This option purges or deletes the visit pointers from the log file. Once this has been completed, the purged log entry cannot be rerun using the RERX. This option does not delete visits, but rather the log of the visits that were sent during a particular transmission.

2.8 Export to Data Warehouse for a Date Range (DRE)

This option can be used to send all visits in a date range to the Data Warehouse. This option should only be used if you are requested by the Data Warehouse to resubmit data from a certain time period.

2.9 Create Patient Reg Update Audit File (PRA)

If you wish to send a patient registration audit report to double check the data sent by the HL7 program execute this option prior to running GDV. This will create a second file of registration data to be used to check against the data sent via GDV.

2.10 Create Visit Audit Report (VAR)

If you wish to send a visit audit report to double check the data sent by the HL7 program execute this option prior to running GDV. This will create a second file of registration data to be used to check against the data sent via GDV.

3.0 Getting Started: System Setup

This section will describe the steps that need to be followed to set up and use the Data Warehouse Export System.

1. Install the Data Warehouse (BDW) software version 1.0
2. Install GIS v3.1 patch 12.
3. Confirm that the Autopurge (INH) option has been scheduled to run nightly.
4. Set up and check taxonomies.

3.1 Taxonomy Check and Setup

Taxonomies are used to find data items in PCC in order to determine if a patient or visit meets the criteria for which the software is looking.

To ensure comparable data within the agency as well as to external organizations, as much indicator logic as possible is based on standard national codes. These codes include ICD-9, CPT, LOINC and national IHS standard code sets (e.g., Health Factors, patient education codes, etc.).

For terminology that is not standardized across each facility, such as lab tests or medications, RPMS uses taxonomies that can be populated by each individual facility with its own codes.

Several taxonomies must be populated with facility-defined values for the Data Warehouse software to find data within PCC for export. Many of these taxonomies may already be in use at your facility for the Diabetes Management Audit or for GPRA.

New taxonomies specific to the Data Warehouse software are created when the software is installed, but they are not populated with any data.

3.1.1 What is a Taxonomy?

Taxonomies are groupings of functionally related data elements, such as specific codes, code ranges, or terms, that are used by various RPMS applications to find data items in PCC to determine if a patient meets a certain criteria.

For data elements like diagnoses and procedures, the taxonomy simply identifies the standard codes that a program should look for.

For other types of data elements, including medications and lab tests, taxonomies are used to mitigate the variations in terminology that exist in RPMS tables from one facility to another.

For example, one site's Lab table might contain the term *Glucose Test* while another site's table may contain the term *Glucose* for the same test. PCC programs have no means for dealing with variations in spelling, spacing, and punctuation. Rather than attempting to find all potential spellings of a particular lab test, the application would look for a pre-defined taxonomy name that is installed at every facility. The *contents* of the taxonomy are determined by the facility. In this example, the application would use the "DM AUDIT GLUCOSE TESTS TAXONOMY." The individual facility will enter all varieties of spelling and punctuation for Glucose Tests used at that particular facility.

Codes and terms contained in a taxonomy are referred to as members of the taxonomy.

3.1.2 Site-Defined Taxonomies Used by the Data Warehouse Export

The site will need to review the taxonomies that need to be defined by the site and make sure that all appropriate entries exist or are entered. The table below can be used as a checklist.

NOTE: To provide accurate counts, you must include ALL test names that have been used by your facility since 1999, even if these codes are currently inactive. Some indicators search for tests as far back as 10 years.

NOTE: Many of the taxonomies used by this export have already been established and populated, by other RPMS applications (e.g., Diabetes Management, CRS). These taxonomies should **all be reviewed** for completeness.

Taxonomy Name	Description	Members
APCH FECAL OCCULT BLOOD	All Fecal Occult Blood Lab Tests	Occult Blood Fecal Occult Blood
BDW PAP SMEAR LAB TESTS	All Pap Smear tests	Pap Smear
DM AUDIT HDL TAX	All HDL Cholesterol Lab Tests – NOTE: do not include Lipid Panels in this taxonomy	HDL

Taxonomy Name	Description	Members
DM AUDIT HGB A1C TAX	All HGB A1C lab tests.	Hgb A1C, A1C, HbA1c, Hemoglobin A1C, Glycosylated hemoglobinHgb, Glycohemoglobin A1c
DM AUDIT LDL CHOLESTEROL TAX	All LDL Cholesterol Lab Tests – NOTE: do not include Lipid Panels	LDL, LDL-C
DM AUDIT MICROALBUMINURIA TAX	All Microalbuminuria Lab Tests.	Microalbuminuria Micral Microalbuminuria, Urine A/C Ratio, AC Ratio, ACR, Microalbumin/ Creatinine Ratio, Microalbumin Random
DM AUDIT TRIGLYCERIDE TAX	All Triglyceride Lab Tests – NOTE: do not include Lipid Panels	Triglyceride
DM AUDIT URINE PROTEIN TAX	All Urine Protein Lab Tests.	Urine Protein, Urine Protein Screen
DM AUDIT GLUCOSE TESTS TAX	All Glucose tests.	
BDW PSA TESTS TAX	All PSA tests.	
DM AUDIT ACE INHIBITORS	All ACE Inhibitor Drugs	Obtain the list of drugs from the pharmacist.
DM AUDIT DIET EDUC TOPICS	All DM diet education topics used at your site.	DM-DIET, DM-NUTRITION

3.1.3 Taxonomy Setup

The menu options to set up the above listed taxonomies can be found in the PCC Management Reports RPMS module. Only certain users have access to these options. You need to find out what users at facility have access to do this. See your site manager.

4.0 Regular Exporting of Data to the Warehouse

When the initial back loading of data to the warehouse has been completed a site will begin regular monthly or weekly exports to the data warehouse. Each option used is described in detail in this section of the manual. The normal process would be the following:

1. If a site opts to do so they can generate an audit file for the registration data and then an audit file for the visit data. This step is optional. The options used to generate these audit files are:
 - a. Create Patient Reg Update Audit File (PRA). See Section 4.8 for details on using this option.
 - b. Create Encounter Audit Report (DVAR) See Section 4.9 for details on using this option.
2. Generate the data warehouse export records. The option used to generate the data warehouse transaction file is called GDW - Generate Data Warehouse Export Records. See Section 4.1 for details on using this option)
3. On most sites the exported files will be automatically ftp'ed to the national data warehouse. If a site is outside the IHS network or has opted not to have the data automatically ftp'ed they will need to manually ftp the extract files to the warehouse.

4.1 Generate Data Warehouse Export Records

This option is used to generate the data warehouse export records. This option will generate transactions (HL7 messages) for each patient edited or added to the system since the last time the export was run and will also export all visits added or modified since the last export and up to seven days ago. The seven day lag time is provide ample time for visits to be as complete as possible prior to export. This minimizes the need to send a visit more than once. For each patient registration edit or add an HL7 A31 message is generated, for each visit an HL7 A08 message is generated.

When you choose option GDW it will loop through all registration records and visits to be exported and then the processing stops and returns you to your menu. At this point, even though you have been brought back to a menu, the generation of the HL7 messages is still processing in the background. The process just executed simply sends commands to the HL7 message generator. The HL7 background processors are busy generating an HL7 message for each registration record and visit record. You will receive a mailman message through the local RPMS Mailman system when that process has completed. When that process has completed you will see a file in the export directory called: asufacyymmddhhmmss.BDW, where asufac is the Area-

Service Unit-Facility code of the site you are logged exporting from and yymmddhhmmss is a date/time stamp. The extension BDW identifies this as a data warehouse export file. An example of a filename is: 808101040526080422.BDW.

The system is configured to automatically ftp this file to the National Data Warehouse. If your site is outside of the IHS network or this auto-ftp fails you or your site manager will have to ftp this file to the National Data Warehouse. The National Data Warehouse team will provide you with information on how and where to send the file.

After the messages have been generated and sent to the warehouse the national data warehouse will send an email message confirming receipt of the file. If you do not have auto-ftp set up you will need to manually ftp the file to the national data warehouse using instructions that will be provided by the National data warehouse team. After it has been successfully transferred the file can be archived. It is suggested that you maintain at least a years worth of files before deleting them in the event a file is lost or needs to be resent to the warehouse.

The GDW option should be run on a reasonably fixed schedule, usually on a monthly basis. When GDW is executed, the following dialog occurs. For the purposes of demonstration, the execution of the GDW option is not queued in this example. This option can be queued to run in the background. It is recommended that you run this after normal working hours when the system is not is heavy use.

To Generate Data Warehouse Export Records, follow these steps:

1. Type **GDW** at the “Select Data Warehouse Export Menu Option:” prompt.
2. Type **YES** at the “Do you want to continue?” prompt.
3. Type **YES** or **NO** at the “Do you want to Queue this to run at a later time?” prompt.

Note: It is strongly suggested that you queue this to run after normal working hours when the system is not in heavy use.

```
*****
**                               Data Warehouse Export                               **
*****
                               Version 1.0

                               CIMARRON HOSPITAL

GDW   Generate Data Warehouse Export Records
RERX  Re-Run a Previously Run Data Warehouse Export
DLOG  Display Log Entry
DWSR  Data Warehouse Export Summary Report
DWER  List PCC Encounters Not Exported
RSET  Reset Failed Log Entry
PURG  Purge Log Entries
DRE   Export to Data Warehouse for a Date Range
PRA   Create Patient Reg Update Audit File
DVAR  Create Encounter Audit Report
BLM   Backload Data Menu ...

Select Data Warehouse Export Menu Option: GDW  Generate Data Warehouse Export
Records

Checking for Taxonomies to support the Data Warehouse Extract...

All okay.

This routine will generate IHS Data Warehouse HL7 messages
for visits posted between a specified range of dates.  You may "^" out at any
prompt and will be ask to confirm your entries prior to generating
transactions.

Last run was for JAN 13,2005 through JAN 28,2005.

The inclusive dates for this run are JAN 29,2005 through APR 16,2005.
The location for this run is CIMARRON HOSPITAL.

Do you want to continue? N// YES
Generating New Log entry..
Do you want to QUEUE this to run at a later time? N// NO

Checking GIS Background Jobs....
Generating Registration HL7 messages (1)

Generating transactions.  Counting encounters.  (13)

11 HL7 Messages were generated.
Updating log entry.
Deleting cross-reference entries. (13)

RUN TIME (H.M.S): 0.0.15
```

Figure 4-1: Generating Data Warehouse Export Records

4.2 Re-Run a Previously Run Data Warehouse Export

The Rerun Previously Run Data Warehouse Export (RERX) option is available for use if a given transmission is lost, damaged, or destroyed and the file must be re-created and re-sent to the Data Warehouse. This should rarely, if ever, occur. This option serves as a backup function that allows for regenerating the patient registration and visit HL7 messages that had been previously compiled when the GDW option was executed. If a log entry for a particular date range has been purged, then the RERX option cannot be executed. The Purge function will delete all the visit pointers designating which information was sent at a specific time.

To use the RERX option, follow these steps:

1. Type **RERX** at the “Select Data Warehouse Export Menu Option:” prompt.
2. Type the beginning date of the transaction log at the “Select BDW Data Warehouse Export Log Beginning Date:” prompt. If you don’t know this date, type a question mark (?) and then press the Enter key to view a list of the previous transactions.
3. Type **YES** or **NO** at the “Do you want to regenerate the transactions for this run?” prompt. If the date range displayed is incorrect, type **NO** to return to the main Data Warehouse menu.
4. Type **YES** or **NO** at the “Do you want to Queue this to run at a later time?” prompt.

```

*****
**                               Data Warehouse Export                               **
*****
                               Version 1.0

                               CIMARRON HOSPITAL

GDW   Generate Data Warehouse Export Records
RERX  Re-Run a Previously Run Data Warehouse Export
DLOG  Display Log Entry
DWSR  Data Warehouse Export Summary Report
DWER  List PCC Encounters Not Exported
RSET  Reset Failed Log Entry
PURG  Purge Log Entries
DRE   Export to Data Warehouse for a Date Range
PRA   Create Patient Reg Update Audit File
DVAR  Create Encounter Audit Report
BLM   Backload Data Menu ...

Select Data Warehouse Export Menu Option: RERX  Re-Run a previously Run Data
Warehouse Export

Checking for Taxonomies to support the Data Warehouse Extract...

All okay.

Select BDW DATA WAREHOUSE EXPORT LOG BEGINNING DATE: 3 1-1-2005

Log entry 3 was for date range JAN 1,2005 through
APR 20,2005 and generated 80 transactions from 85 visits.

This routine will re-generate the Data Warehouse Records.
Do you want to regenerate the transactions for this run? N// YES
Do you want to QUEUE this to run at a later time? N// NO

Checking GIS Background Jobs...
Generating transactions.  Counting encounters.  (85)

80 HL7 Messages were generated.
Updating log entry.

RUN TIME (H.M.S): 0.0.2
Resetting VISIT specific data in Log file.  (85)
Resetting VISIT TX Flags.  (85)

```

Figure 4-2: Using the RERX option

4.3 Display Log Entry

After you run an export you can display information about what transactions were generated and sent to the National Data Warehouse. The Data Warehouse Log file is a historical record of the exports generated. The DLOG report option allows the user to review various items contained in a transmission log file after a GDW was executed. The following information is contained in the log file and may be reviewed using the DLOG report option:

- the sequence number of the data warehouse export
- the date range of the export
- the beginning and ending times for the generation
- total run time
- the run location (i.e. where the export was done)
- Export type: regular or date range export
- Transmission status
- A total count of the number of Registration HL7 message plus Visit messages exported
- The number of registration HL7 messages sent
- The number of encounters (visits) processed. This is the number of visits that were flagged for export. Some will not be exported. The 3 most common reasons a visit will not be exported are:
 - It is a visit for a DEMO,PATIENT
 - The visit has zero dependent entries. These are not really visits because there is no data appended to it. An example of this would be a patient checked in and a visit created but then the patient left without ever seeing a provider. No pcc form is entered for these visits. The visit will eventually be deleted.
 - The visit was added and deleted since the last export.
- The total number of visits exported.
- The number of encounters skipped due to the 3 reasons listed above. In addition, if a visit has a missing mandatory piece of information (patient, location of encounter) it will produce an error and will not be exported. These errors very rarely occur and are usually due to a system failure during the creation of a visit.
- The number deleted encounters skipped. These are the visits that were added and deleted since the last export. If a visit was added and never sent to the warehouse and then deleted there is no reason to send a delete visit message.
- The number of visits skipped due to having zero dependent entries.
- The number of visits skipped due to having NO patient entered.
- The number of visits skipped due to having no location of encounter entered.

- The number of visits skipped due to having a missing visit type.
- The number of visits skipped due to having a missing service category.
- The number of visits skipped because they were a visit for a patient whose name starts with “DEMO,PATIENT”

Note: If the value for any of the above record counts is zero the line referring to that count will not display.

To display the Data Warehouse export log entry, follow these steps:

1. Type **DLOG** at the “Select Data Warehouse Export Menu Option:” prompt.
2. Type the log number or the beginning date of the transaction log of interest at the “Select BDW Data Warehouse Export Log Beginning Date:” prompt. If you don’t know the date, type a question mark (?) and then press the Enter key to view a list of the export logs.
3. You may print the entry or browse the output on the screen. Type **P** (Print Output) or **B** (Browse Output on Screen) at the “Do you want to:” prompt. If you select print, you will be prompted to select an output device.

```

*****
**                               Data Warehouse Export                               **
*****
                               Version 1.0

                               CIMARRON HOSPITAL

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DLOG  Display Log Entry
DWSR  Data Warehouse Export Summary Report
DWER  List PCC Encounters Not Exported
RSET  Reset Failed Log Entry
PURG  Purge Log Entries
DRE   Export to Data Warehouse for a Date Range
PRA   Create Patient Reg Update Audit File
DVAR  Create Encounter Audit Report
BLM   Backload Data Menu ...

Select Data Warehouse Export Menu Option: DLOG

Select BDW DATA WAREHOUSE EXPORT LOG BEGINNING DATE: 1-29-2005

    Select one of the following:

        B      BROWSE Output on Screen
        P      PRINT Output to Printer

Do you want to: B// PRINT Output to Printer
DEVICE: HOME// Virtual

                               DATA WAREHOUSE EXPORT LOG REPORT
Information for Log Entry 5 Beginning Date: Jan 29, 2005

        Number:      5
        Beginning Date: Apr 29, 2005
        Ending Date:  Apr 16, 2005
        Run Start Date/Time: Apr 23, 2005@15:41:57
        Run Stop Date/Time:  Apr 23, 2005@15:42:11
        Run Time:      0.0.15
        Run Location:  CIMARRON HOSPITAL
        Export Type:   REGULAR EXPORT
        Transmission Status: SUCCESSFULLY COMPLETED

Total Number of Registration + Encounter Messages Exported: 11
Number of Registration Messages Sent: 1
Total Number of Encounters Processed: 13
Total Number of Encounters Exported: 10
Number of Encounters skipped: 3
Deleted Encounters skipped: 3

To list the visits that were skipped, use option DWER.

```

Figure 4-3: Displaying the Data Warehouse export log entry

4.4 Data Warehouse Export Summary Report

The DWSR option provides a summary of all the visits processed during the data transmission by visit date, visit type, service category, and location and other variables. It also displays a copy of the “trailer report” passed to the data warehouse. This report should be queued to print after every data transmission file is generated and then kept for future reference.

To generate the Data Warehouse Export Summary report, follow these steps:

1. Type **DWSR** at the “Select Data Warehouse Export Menu Option:” prompt.
2. Type the beginning date of the transaction log at the “Select BDW Data Warehouse Export Log Beginning Date:” prompt.
3. Type the name of an output device at the “Device:” prompt.

The report will print or display (Figure 4-5).

```
*****
**                               Data Warehouse Export                               **
*****
                               Version 1.0

                               CIMARRON HOSPITAL

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DLOG  Display Log Entry
DWSR  Data Warehouse Export Summary Report
DWER  List PCC Encounters Not Exported
RSET  Reset Failed Log Entry
PURG  Purge Log Entries
DRE   Export to Data Warehouse for a Date Range
PRA   Create Patient Reg Update Audit File
DVAR  Create Encounter Audit Report
BLM   Backload Data Menu ...

Select Data Warehouse Export Menu Option: DWSR  Data Warehouse Export Summary
Re

*****      DATA WAREHOUSE EXPORT SUMMARY REPORT      *****

This report presents a summary of data for a single Data Warehouse
Export Log entry.

Select BDW DATA WAREHOUSE EXPORT LOG BEGINNING DATE: 1 11-12-2004

Log entry 1, was for date range NOV 12,2004 through
FEB 6,2005 and exported the following:
    Patient Registration updates:  4
                                PCC Encounters:  30
    Total transactions exported:  34
DEVICE: HOME// 0;P-OTHER80  Virtual
```

Figure 4-4: Running a Data Warehouse Export Summary report

Report Run Date: MAY 23, 2005

Page 1

DATA WAREHOUSE TRANSMISSION SUMMARY FOR CIMARRON HOSPITAL

Date Export Run: APR 19, 2005@17:05:20

This Data Warehouse Export was processed on APR 19, 2005@17:05:20 for Posting Dates NOV 12,2004 to FEB 6,2005. The following transactions were exported:

Patient Registration updates: 4
PCC Encounters: 30
Total transactions exported: 34

DATA WAREHOUSE RECORDS EXPORTED

Following is a breakdown of all encounters that generated DATA WAREHOUSE transactions by Visit Date, Type, Location, Service Category, Clinic and Primary Provider Discipline.

Total # of Hospitalization Encounters to this Facility that were exported: 1

By Visit Date:

JAN 01, 2000	1
FEB 07, 2000	1
JAN 10, 2003	2
MAY 01, 2003	1
MAR 30, 2004	3
OCT 30, 2004	1
NOV 29, 2004	1
DEC 05, 2004	1
DEC 16, 2004	1
DEC 31, 2004	1
JAN 02, 2005	3
JAN 04, 2005	1
JAN 10, 2005	1
JAN 19, 2005	1
JAN 20, 2005	3
JAN 24, 2005	1
JAN 25, 2005	1
JAN 28, 2005	3
FEB 04, 2005	3

By Type:

IHS	21
TRIBE-638 PROGRAM	7

Data Warehouse Transmission Summary Page 2

By Location:

CIMARRON HOSPITAL	30
-------------------	----

By Service Category:

AMBULATORY	24
EVENT (HISTORICAL)	5
HOSPITALIZATION	1

By Clinic Type:

NO CLINIC	12
-----------	----

GENERAL	7
MENTAL HEALTH	7
DIABETIC	1
GYNECOLOGY	1
OTHER	1
PHN CLINIC VISIT	1

By Provider Type (Primary Provider only):

MENTAL HEALTH TECHNICIAN	6
PHYSICIAN	6
HEALTH AIDE	2
PHN DRIVER/INTERPRETER	2
CHN/AIDES	1
OSTEOPATH	1

Number of encounters skipped:	13
Zero dep entry visits skipped:	5

To list the encounters that were skipped, use option DWER.

The following 'trailer report' was included with the export to the Data Warehouse:

EXPORT SITE: CIMARRON HOSPITAL
 DATE OF EXPORT: Feb 13, 2005
 TOTAL NUMBER OF ENCOUNTERSS EXPORTED: 30
 TOTAL NUMBER OF ADDS: 30
 TOTAL NUMBER OF MODS: 0
 TOTAL NUMBER OF DELETES: 0

1. Location of Encounter 500001

Type/Cat	TOTAL COUNT	ADDS	DELETES	CHANGES
6-TRIBE-638/A-AMBULATORY	7	7		
I-IHS/A-AMBULATORY	17	17		
I-IHS/E-EVENT (HISTORICAL	3	3		
I-IHS/H-HOSPITALIZATION	1	1		
0-OTHER/E-EVENT (HISTORICAL	2	2		

Data Warehouse Transmission Summary Page 3

COUNT BY DATE OF ENCOUNTERS

TYPE/CAT	MONTH/YR	TOTAL
6-TRIBE-638/A-AMBULATORY	Dec 2004	1
6-TRIBE-638/A-AMBULATORY	Jan 2005	6
I-IHS/A-AMBULATORY	Jan 2000	1
I-IHS/A-AMBULATORY	Jan 2003	2
I-IHS/A-AMBULATORY	May 2003	1
I-IHS/A-AMBULATORY	Mar 2004	2
I-IHS/A-AMBULATORY	Oct 2004	1
I-IHS/A-AMBULATORY	Nov 2004	1
I-IHS/A-AMBULATORY	Dec 2004	1
I-IHS/A-AMBULATORY	Jan 2005	7
I-IHS/A-AMBULATORY	Feb 2005	1
I-IHS/E-EVENT (HISTORICAL	Mar 2004	1
I-IHS/E-EVENT (HISTORICAL	Feb 2005	2

I - IHS/H-HOSPITALIZATION	Feb 2000	1
O-OTHER/E-EVENT (HISTORICAL	Dec 2004	1
O-OTHER/E-EVENT (HISTORICAL	Jan 2005	1

The Transmission Status for this Export is: SUCCESSFULLY COMPLETED

Figure 4-5: Sample Data Warehouse Export Summary report

4.5 List PCC Visits Not Exported

If you would like to see a list of visits that were flagged for export but did not get exported to the data warehouse you can produce a list using this option. The 3 most common reasons that visits will not export are:

1. The do not have any dependent entries. These are not truly visits as there was no data appended to them.
2. Deleted visits that were never sent before. This means that a visit was entered after the last export was run and deleted after the last export was run. Since the visit was never passed to the data warehouse there is no reason to send a delete visit command. The most common reason this happens is when pharmacy or lab creates a visit and then data entry merges that visit with another visit and the ancillary created visit is deleted.
3. Visits for an patient whose name starts with "DEMO,PATIENT".

To run a list of PCC visits not exported, follow these steps:

1. Type **DWER** at the "Select Data Warehouse Export Menu Option:" prompt.
2. Type the beginning date of the transaction log at the "Select BDW Data Warehouse Export Log Beginning Date:" prompt.
3. Type **A** (All locations), **S** (One SERVICE UNIT'S Locations/Facilities), or **O** (One Location/Facility) at the "Enter a code indicating what Locations/Facilities are of interest:" prompt.
4. Type the name of an output device at the "Device:" prompt.
5. The report will print or display (Figure 4-7).

```

*****
**              Data Warehouse Export              **
*****
                        Version 1.0

                        CIMARRON HOSPITAL

GDW   Generate Data Warehouse Export Records
RERX  Re-Run a Previously Run Data Warehouse Export
DLOG  Display Log Entry
DWSR  Data Warehouse Export Summary Report
DWER  List PCC Encounters Not Exported
RSET  Reset Failed Log Entry
PURG  Purge Log Entries
DRE   Export to Data Warehouse for a Date Range
PRA   Create Patient Reg Update Audit File
DVAR  Create Encounter Audit Report
BLM   Backload Data Menu ...

Select Data Warehouse Export Menu Option: DWER  List PCC Encounters Not
Exported

Data Warehouse Transmission Error Listing

Select BDW DATA WAREHOUSE EXPORT LOG BEGINNING DATE: 1  11-12-2004

      Select one of the following:

      A      ALL Locations/Facilities
      S      One SERVICE UNIT'S Locations/Facilities
      O      ONE Location/Facility

Enter a code indicating what LOCATIONS/FACILITIES are of interest: 0// ALL
Locations/Facilities
DEVICE: HOME// Virtual

```

Figure 4-6: Running a list of PCC visits not exported

May 24, 2005					Page 1
***** DATA WAREHOUSE EXPORT ERROR LISTING *****					
Log Entry: 1 Dates: Nov 12, 2004 to Feb 06, 2005					
ALL Locations/Facilities Included					
Name	HRN	Visit Date/Time	Location	ERROR	
JONES, LORI	123009	11/12/2004@12:00	CIMARRON H	100-DELETED VISIT NEVE	
GUMP, FOREST	989898	12/8/2004@12:00	CIMARRON H	102-ZERO DEPENDENT ENT	
SMITH, JOHNNY	989898	12/24/2004@12:00	CIMARRON H	102-ZERO DEPENDENT ENT	
FLINTSTONE, FRED	989898	12/30/2004@12:00	CIMARRON H	100-DELETED VISIT NEVE	
RUBBLE, BARNEY	989898	1/3/2005@12:00	CIMARRON H	100-DELETED VISIT NEVE	
FLINTSTONE, WILMA	989898	1/3/2005@12:00	CIMARRON H	102-ZERO DEPENDENT ENT	
FYFE, BARNEY	989898	1/6/2005@12:00	CIMARRON H	100-DELETED VISIT NEVE	
SMITH, ADDIE	198399	1/20/2005@12:00	CIMARRON H	102-ZERO DEPENDENT ENT	
JONES, ABBY	155600	1/20/2005@12:00	CIMARRON H	102-ZERO DEPENDENT ENT	

Figure 4-7: Sample list of PCC visits not exported

4.6 Purge Log Entries

Periodically you may choose to purge the log entries to free up space in the database. This option is provided to purge visit pointers from the Data Warehouse Log file when the file is no longer needed. The PURG option deletes pointers, not visits. Visit pointers and certain other data are stored in the Data Warehouse Log file for each visit processed. The amount of data stored rapidly increases in direct proportion to the amount of patient information added to the system each day. The file may eventually consume large portions of the data storage system. When a given data warehouse file has been transmitted and processed through the National Data Warehouse correctly, the visit data pointers can be purged from the log file, leaving only the summary data. It is recommended to keep the current and two previous fiscal year logs on the system, if possible. The purge option deletes pointers from the oldest log file to the newest. The system will prompt to purge each log file individually, one at a time. It is possible to purge all visit file pointers up to and including the most recent log file.

Caution: Purged Data Transmission Log files cannot be re-created; therefore, it is imperative that the PCC Manager not purge the file until obtaining confirmation that the transmitted file has been received and properly processed. Confirmation is received in the form of an email message from the National Data Warehouse team.

To purge log entries, follow these steps:

1. Type **PURG** at the “Select Data Warehouse Export Menu Option:” prompt.
2. The number of transaction files in log status will display.
3. Type **Y** or **N** at the “Do you want to continue?” prompt. If you type **N**, you will return to the main Data Warehouse Menu.
4. The system will prompt for purging, starting with the oldest file.
5. Type **Y** or **N** at the “Do you want to delete the VISIT pointers for this log entry?” prompt. Continue by typing **Y** or **N** at the prompts. Once you type a **NO**, processing will stop.

Remember that this option will not delete visits, only the pointers which designate which data was sent during a given GDW execution will be deleted.

After the pointers have been purged, it is no longer possible to determine which visit information was sent during this time period.

```

*****
**                               Data Warehouse Export                               **
*****
                               Version 1.0

                               CIMARRON HOSPITAL

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DVAR  Create Encounter Audit Report
BLM   Backload Data Menu ...

Select Data Warehouse Export Menu Option: PURG

There are 13 generations with visit data
Do you want to continue? (Y/N) N// Y
LOG ENTRY 1 WAS FOR JUL 1, 2004 THROUGH AUG 4, 2004 AND GENERATED 794
Transactions.
Do you want to delete the VISIT pointers for this log entry? (Y/N) N// Y

Done
THE VISIT POINTERS FOR DATA TRANSMISSION LOG FILE NUMBER 1 JUL 1 THROUGH
AUG 4, 1995 HAVE BEEN DELETED.

LOG ENTRY 2 WAS FOR AUG 6, 2004 THROUGH AUG 31, 2004
AND GENERATED 631 TRANSACTIONS.

Do you want to delete the VISIT pointers for this log entry? (Y/N) N// N
Once you type a NO processing stops.

```

Figure 4-8: Using the PURG option

4.7 Export to Data Warehouse for a Date Range

If requested to do so by the Data Warehouse team you can re-export all visits in a date range by using this menu option. This will export any visit with a visit date in the range you select to the data warehouse.

4.8 Create Patient Registration Update Audit File

This option is used to create and send a registration audit file. This is not mandatory but it does provide a secondary check on the data that is about to be exported. You must select this option PRIOR to using the GDW option. Executing this option is a one step process and you simply choose the option and then type Yes to continue.

To create a patient registration update audit file, follow these steps:

1. Type **PRA** at the “Select Data Warehouse Export Menu Option:” prompt.
2. Type **Y** or **N** at the “Do you want to continue?” prompt.

```

*****
**                               **
**           Data Warehouse Export           **
*****

Version 1.0

CIMARRON HOSPITAL

GDW   Generate Data Warehouse Export Records
RERX  Re-Run a Previously Run Data Warehouse Export
DLOG  Display Log Entry
DWSR  Data Warehouse Export Summary Report
DWER  List PCC Encounters Not Exported
RSET  Reset Failed Log Entry
PURG  Purge Log Entries
DRE   Export to Data Warehouse for a Date Range
PRA   Create Patient Reg Update Audit File
DVAR  Create Encounter Audit Report
BLM   Backload Data Menu ...

Select Data Warehouse Export Menu Option: PRA Create Patient Reg Update Audit
File

This option is used to create a registration audit file prior to generating
transactions to send to the data warehouse (GDW option).

This option should only be run immediately prior to using the GDW option.

Do you want to continue? N// YES

Now creating the update DW Patient Audit file....
DOS File Being Created'
Please Standby - Copying Data to DOS File C:\EXPORT\BDWDWPX500001.161

```

Figure 4-9: Creating a Patient Registration Update Audit File

4.9 Create Visit Audit Report

This option is used to create and send a visit audit file. This is not mandatory but it does provide a secondary check on the data that is about to be exported. You must select this option **PRIOR** to using the GDW option. Executing this option is a one step process and you simply choose the option and type Yes to continue.

To create a visit audit report, follow these steps:

1. Type **DVAR** at the “Select Data Warehouse Export Menu Option:” prompt.
2. Type **Y** or **N** at the “Do you want to continue?” prompt.

VISIT audit file successfully created

```
*****
**                               **
**      Data Warehouse Export      **
**                               **
*****
                               Version 1.0

                               CIMARRON HOSPITAL

GDW  Generate Data Warehouse Export Records
RERX Re-Run a Previously Run Data Warehouse Export
DLOG Display Log Entry
DWSR Data Warehouse Export Summary Report
DWER List PCC Encounters Not Exported
RSET Reset Failed Log Entry
PURG Purge Log Entries
DRE  Export to Data Warehouse for a Date Range
PRA  Create Patient Reg Update Audit File
DVAR Create Encounter Audit Report
BLM  Backload Data Menu ...

Select Data Warehouse Export Menu Option: DVAR Create Encounter Audit Report

This option is used to create a visit audit report to accompany a data
warehouse export.
Last run was for FEB 7,2005 through APR 12,2005.
The inclusive dates for this run are APR 13,2005 through JUN 3,2005.
The location for this run is CIMARRON HOSPITAL.
Do you want to continue? N// YES
Generating visit audit report..Please wait.
DOS File Being Created'
Please Standby - Copying Data to DOS File C:\EXPORT\BDWDWVX500001.161
```

Figure 4-10: Creating a visit audit report

5.0 Glossary

HL7: This is an international standard messaging system for passing data from one site to another. The Data Warehouse Export System passes data from RPMS to the Data Warehouse using HL7 (Health Level 7) messages.

GIS: Generic Interface System. This is the RPMS package which manages and creates HL7 messages. This system manages the passing of the HL7 messages from one place to another.

Back loading: In order to populate the new Data Warehouse database with existing data each site must “back load” or send existing data to the Data Warehouse. This involves a one time export of all Patient Registration data and the export of all visit data from 10/1/2000 to the present.

6.0 Contact Information

If you have any questions or comments regarding this distribution, please contact the OIT Service Center by:

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(888) 830-7280

Fax: (505) 248-4363

Web: <http://www.rpms.ihs.gov/TechSupp.asp>

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