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# National Patient Information Reporting System: National Data Warehouse

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## **NDW Non-HL7 Delimited Data Transmission Guide**

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Department of Health and  
Human Services

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## Version Control

Version	Date	Notes
0.1	September 2012	Initial delimited version.
0.9	December 2012	Check/Correct Formatting Issues, etc.
1.0	January 2, 2013	Accepted all changes; Published
2.0	June 2013	Modifications for ICD-10
3.0	September 2014	Additional info for ICD-10 implementation date. Clarifications for initial site transmissions. Aberdeen area name change.
5.0.1	April 2025	Updating documentation to support compliance and Version Control consistency for all published guidelines.

## Contact Information

For any questions related to implementing the non-HL7 delimited format files, contact the OIT Help Desk at [itsupport@ihs.gov](mailto:itsupport@ihs.gov) or 1-888-830-7280.

## Overview

Although OIT/NPIRS has accepted data in many different formats in the past, requirements have been developed to help standardize data submission and processing procedures among the non-RPMS sites and the National Patient Information Reporting System's (NPIRS) National Data Warehouse (NDW).

Health Level 7 (HL7), the industry-wide standard format for healthcare information, is the preferred method for data submission to the NDW. HL7 was chosen because it is an industry standard for interoperability of clinical and patient information.

Besides the minimum elements required for basic reporting, such as User Population and Workload, the HL7 export format includes data elements that can be used to provide expanded reporting capabilities and analyses related to other health status needs and performance measurement activities, such as Diabetes Management, Epidemiology, GPRA, and JCAHO's ORYX.

An HL7 Guide that also specifies the IHS requirements is available at:  
[http://www.ihs.gov/NDW/index.cfm?module=dsp\\_dqw\\_hl7interface](http://www.ihs.gov/NDW/index.cfm?module=dsp_dqw_hl7interface)

For those IHS sites that are currently unable to implement the HL7 standard, this document provides information that will enable you to send your data in a format that can be understood and loaded into the NDW. While this alternate non-HL7 structured format allows basic reporting, such as your User Population and Workload reports, it cannot provide the expanded reporting capabilities and analyses that are possible with HL7.

As of October 1<sup>st</sup> 2012, all Sites choosing to begin the process of exporting to the NDW using the non-HL7 file format will be required to use this new delimited version documented in this Guide and the separate document Appendixes E and F. Any site already working with NPIRS or already exporting may continue with the original format version. This new delimited version allows for either ICD9 or ICD10 codes to be submitted and defines some additional elements as 'required'.

## Delimited Format File Requirements

NPIRS requires separate export files for the following data:

- Patient **registration** data
- Patient **encounter** (visit) data

Both data export files use a delimited file format.

The **initial** registration and encounter data exports include

- All encounters, if a Site is new to the NDW, from 10/01/2000 forward, if available.
- All registrations associated with these encounters
- If a Site has submitted to the NDW in the past but is now changing systems, send only new encounters and registrations not previously sent in by the Site's old system.

NPIRS can accept the initial encounters in a single file, or broken into separate files by year or other methods.

For subsequent **incremental** registration and encounter data exports, include all new and/or modified registrations and encounters where the begin date is the day following the previous export end date (export end date + 1) and the end date is the creation date of the next data export file.

## File Name Convention

The following file naming convention is used to identify non-HL7 delimited format files containing registration and encounter data:

`SD[R,E]xxxxxyyyyjjj`

Where

`SD` = File identification – Delimited File

`[R,E]` = R(egistration) or E(ncounter)

`xxxxxx` = 6-character Area – Service Unit – Facility code (ASUFAC) for your site

`yyyymmjjj` = Date of transmission in year (yyyy) and Julian date (jjj) format

For example:

`SDE1234562011005`

Indicates a Delimited File (SD), containing Encounter data (E) from ASUFAC 123456, transmitted on January 5, 2011 (2011005).

To eliminate the possibility of a transmitted file being overwritten when more than one file is transmitted on a given date, we recommend appending a number, starting with \_02, to any additional files transmitted on the same day. For example:

SDE1234562011005	1 <sup>st</sup> file transmission on January 5, 2011
SDE1234562011005_02	2 <sup>nd</sup> file transmission on January 5, 2011
SDE1234562011005_03	3 <sup>rd</sup> file transmission on January 5, 2011

## Record Formats

The physical layouts of the registration and encounter export data files are described in:

- Appendix E - Delimited Format File: Registration
- Appendix F - Delimited Format File: Encounter

Both appendixes contain tables that list the data fields, in sequence, including logical name, data type and length, description, and reference to standard code (lookup) tables.

The non-HL7 delimited format files of registration and encounter data use a pipe delimited file format, eliminating the need for spacing and justifications. For data samples, see Appendix H - File Samples.

## Batch Header and Trailer Records

The batch header and trailer are special records that provide information about all the data messages between them. The batch header will always be the first record of the file and the trailer the last record. Together, these two records provide administrative information needed to interpret the file, present information on the Acknowledgement and Post Load reports, and verify that the NDW received all the records sent by the source.

Each field of the header and trailer records is delimited by the pipe character '|'. For example, the header record for an 'initial' encounter export file from Acme Hospital in California Area would look like this:

```
PHDR|NSFF|||CAO|20120914|669999|ACME HOSPITAL|20001001|20120930|1|2.0.0|SDE|EXO^EBL|3.0
```

A trailer example for the same file where there were 600 records with 1 header and 1 trailer would look like this:

```
PTRL|||CAO|SDE6699992012258.txt|602|||||||
```

The following tables describe the layout of the fields in the header and trailer records.

### Batch Header Record Fields

Element Name	Type	Length	Description	Required?
Record Code	Character	4	Value is "PHDR"	Y
Source System Code	Character	4	Default value is "NSFF" for both SDR (registrations) and SDE (encounters).	Y
Process Code	Character	2	No value required	N
Export ID	Character	8	No value required	N
IHS Area Code	Character	3	3-character region designator, for example, "CAO" (see Appendix G - Other IHS-Specific Code Sets).	Y
Source File Export Date	Date, format CCYYMMDD	8	The date the source file was exported (beginning date, if run overnight)	Y
Export Box ASUFAC	Character	6	ASUFAC of the exporting system computer, for example, "669999"	Y
Source Box Site	Character	30	Name of the site, for example, "ACME HOSPITAL" (see the Facility SCB Table at the IHS Standard Code Book Tables web site, <a href="http://www.ihs.gov/CIO/scb/">http://www.ihs.gov/CIO/scb/</a> .)	Y
First Modified Date	Date, format CCYYMMDD	8	This date identifies the earliest date a record was modified in this file and is the begin date parameter for identifying the time period.	Y
Last Modified Date	Date, format CCYYMMDD	8	This date identifies the latest date a record was modified in this file and is the end date parameter for identifying the time period.	Y
Export Log Number	Character	6	The site may use this field as an internal identifier to count exports.	N
IE Header Version Number	Character	10	The value is '2.0.0'	Y
Source File Type Code	Character	3	The value is "SDR" for registration files or "SDE" for encounter files.	Y
Export Options	Character	30	This field is not required. If used, initial export runs should contain the default values of 'EXO^RBL' for registrations and 'EXO^EBL' for encounters. Incremental exports should use the default value of 'EXO^GDW' for both record type exports.	N
File Format Version	Character	10	The value is '3.0' for this format version.	Y



### Batch Trailer Record Fields

Element Name	Type	Length	Description	Required?
Record Code	Character	4	Value is "PTRL"	Y
Process Code	Character	2	No value required	N
Export ID	Character	8	No value required	N
IHS Area Code	Character	3	(Same as header information)	Y
Source File Name	Character	30	Source file name as sent	Y
Source File Record Quantity	Character	8	Number of records, including the header & trailer.	Y
IE File Name	Character	30	No value required	N
IE Record Count	Character	8	No value required	N
IE File Export Date	Date, format CCYYMMDD	8	No value required	N
Number of PCC Visits	Character	8	No value required	N
PCC Visits Skipped	Character	8	No value required	N
PCC Visit Errors	Character	8	No value required	N
Skipped Demo Patients	Character	8	No value required	N

### Required Registration and Encounter Fields

The following tables list the required patient registration and encounter fields. Here, "required" is defined as being critical to processing and loading the data into the NDW database successfully, and subsequently producing the standard User Population and Workload verification reports. The required fields are subject to change over time due to additional needs of the NDW, or the evolution of the Workload and User Population processing.

## Required Registration Fields

Patient Registration Logical Field Name
Unique Registration Code
Date of Last Update
Chart Facility Code
Chart Number
First Name
Last Name
Date of Birth
Sex
Social Security Number
Pseudo SSN Flag
Beneficiary Classification Code
Tribe Code
Blood Quantum Code
Community of Residence Code

For the complete list of registration data export fields, see Appendix F - Delimited Format File: Encounter

## Required Encounter Fields

Encounter/Visit Logical Field Name
Unique Encounter Code
Chart Facility Code
Chart Number
Date of Birth
Sex
Social Security Number
Pseudo SSN Flag
Tribe Code
Community of Residence Code
Beneficiary Classification Code
Service/Admission Date
Location of Encounter
Service Type Code
Service Category Code
Clinic Code
Provider Discipline Code (1)
Unique Registration ID
Date of Last Update
Diagnosis Code (1)
Admission Service
Discharge Date
ADA Code (1)
Vendor Type Code
Authorizing Facility

For the complete list of encounter data export fields, see Appendix F - Delimited Format File: Encounter

## Valid Values

There are four categories of valid data field values:

- (1) Literal values, such as last name
- (2) IHS Standard Code Book values
- (3) IHS-specific code set values not included in the online IHS Standard Code Book
- (4) National Standard Code sets, such as ADA and CPT

## Accessing Standard Codes

Standard codes are uniform listings of descriptive terms and identifying codes. These codes can be IHS-specific or national standard code sets (e.g., ICD, ADA), that are generally accepted in the medical information community.

## Accessing IHS Standard Code Sets

The Standard Code Book (SCB) tables contain approved code sets from the Indian Health Service (IHS) Standard Code Book. For access to the online IHS SCB tables, go to <https://www.ihs.gov/scb/>.

Standard code sets (SCS) which have been approved by the Office of Information Technology (OIT) can also be used and are listed on this website under DIR SCS Tables.

Additionally, the NDW uses other IHS-specific code sets, which are listed in Appendix G - Other IHS-Specific Code Sets.

In cases where IHS or NPIRS does not maintain or control the lookups or code sets, or tables are not available on the web site or in this guide, email the OIT Help Desk for guidance at [itsupport@ihs.gov](mailto:itsupport@ihs.gov).

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## Accessing National Standard Code Sets

The NDW uses the following national standard codes sets.

### ICD – International Classification of Diseases

The International Classification of Diseases, 10th Revision, Clinical Modification (ICD-10-CM) is a code set used to code and classify morbidity data from inpatient and outpatient records and physician offices. The National Center for Health Statistics maintains the ICD code system along with coordination from the Centers for Medicare and Medicaid Services.

The US adopted the WHO (World Health Organization) ICD9 code system in 1979. On the compliance date of October 1, 2015, everyone covered by the Health Insurance Portability and Accountability Act (HIPAA) will begin using the International Classification of Diseases, 10th revision, Clinical Modification (ICD-10-CM). These codes will replace the ICD-9-CM code set and must be used in all HIPAA electronic transactions.

The compliance date is determined by the date of service/discharge date for an encounter, not the date it is submitted to the NDW. Date of service is used for outpatient and dental encounters; discharge date is used for inpatient encounters. Compliance date for cause of death on the registration record is determined by the date of death

The Department of Health and Human Services (HHS) regulation requires the replacement of the ICD-9 code sets with ICD-10 on all encounters and discharges on or after the compliance date and it does not allow for use of the ICD-10 codes prior to the compliance date. The HHS regulation also does not allow for a single claim to contain both ICD-9 and ICD-10 codes. Additionally, it requires claims that span the compliance date to be split so all ICD-9 codes remain on one claim with Dates of Service (DOS) through 9/30/2015 and all ICD-10 codes placed on the other claim with DOS beginning 10/1/2015 and later.

The NDW will accept both the ICD9 and ICD10 code sets, allowing the NDW to accept encounter and registration data pertaining to encounters both before and after the compliance date.

These codes are used to classify and categorize diagnoses and procedures. Many online sources of information exist, including the CDC web site at <https://www.cdc.gov/>.

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## HCPCS/CPT

Healthcare Common Procedure Coding System (HCPCS) is a medical code set created in 1983 by the Center for Medicare and Medicaid Services (CMS), and is used to identify health care procedures, equipment, and supplies. It was primarily designed for claims submission. There are three levels:

- **Level I** contains AMA-maintained Common Procedure Terminology (CPT) codes.
- **Level II** contains items and services not included in the CPT medical code set. It is maintained by the Centers for Medicaid and Medicare Services (CMS), Blue Cross Blue Shield Association (BCBSA), and Health Insurance Association of America (HIAA).
- **Level III** contains codes assigned by Medicaid agencies for additional items not included in Level I or Level II.

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**Note:** Level III Local codes have been eliminated as of 12-31-2003, replaced by S or C code sections of HCPCS Level II.

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Your facility may already be set up to update HCPCS and CPT codes. If needed, the following sites can be used as a starting point or a source of clarification on these code sets:

- For HCPCS codes, refer to:  
<http://www.cms.hhs.gov/hcpcsreleasecodesets/anhcpcs/list.asp>
- For CPT codes, refer to:  
<http://www.ama-assn.org/ama/pub/physician-resources/solutions-managing-your-practice/coding-billing-insurance/cpt.page?>

## ADA/CDT

The American Dental Association (ADA) is the source for ADA diagnosis/procedure codes, also known as CDT codes. HIPAA requires use of the current version of CDT-4 for electronic transmission dental information. For more information, refer to:  
<http://www.ada.org>.

## Other Industry Standard Code Sets

The IHS Standard Code Book web site includes links to industry standard code sets, including HL7 Immunization CVX and MVX codes, VA Drug Class codes, and X23 Provider Class, Specialty, and Type codes.

To access the official sources for these code sets, go to the website:  
<https://www.ihs.gov/scb/>, and click the **Industry SCS Access Tables** menu option  
on the left pane.

## Testing and Transmitting Export Files

Before data can be accepted into NPIRS/NDW, it must be tested for validity and adherence to the file structure. Before production processing of your data exports can begin, you must send us an initial “test” version of the Patient Registration and Encounter data export files.

NPIRS will work with you to determine the best way to transmit your files, including where and how to send them.

When NPIRS receives your test Patient Registration data export file, NPIRS will process the file, note any problems, and work with you to resolve those problems. NPIRS will repeat the testing procedure with your test Encounter data export file. When all processing issues for both export files are resolved and testing results are satisfactory, production processing of your data exports can begin.

## Appendix E - Delimited Format File: Registration

The non-HL7 delimited format file uses a pipe delimited file format, eliminating the need for spacing and justifications.

This appendix refers to an NDW database-generated report. This report specifies the physical layout of the registration data, where patient registration fields are listed in sequential order by:

- Logical name, where those names displayed in **bold** font are required data fields
- Data type and field length
- Description, including specific formatting and any conditional requirements
- Reference to standard code (lookup) tables, as appropriate

To download the most recent version of the **Delimited File Format: Registration** report:

- a. Go to the IHS National Data Warehouse website: <https://www.ihs.gov/npirs/>
- b. In the left panel, click the heading “**Submitting Data**”
- c. In the right panel, locate and click the link, **IHS’s NDW/NPIRS Data Transmission Guide Using Non-HL7 Delimited File.**
- d. Click the link, **Delimited File: Registration – Appendix E.** .



## Appendix F - Delimited Format File: Encounter

The non-HL7 delimited format file uses a pipe delimited file format, eliminating the need for spacing and justifications.

This appendix refers to an NDW database-generated report. This report specifies the physical layout of the encounter data, where patient encounter fields are listed in sequential order by

- Logical name, where those names displayed in **bold** font are required data fields
- Data type and field length
- Description, including specific formatting and any conditional requirements
- Reference to standard code (lookup) tables, as appropriate

To download the most recent version of the **Delimited File Format: Encounter** report:

- a. Go to the IHS National Data Warehouse website: <https://www.ihs.gov/npirs/>
- b. In the left panel, click the heading “**Submitting Data**”.
- c. In the right panel, locate and click the link,  
**IHS’s NDW/NPIRS Data Transmission Guide Using Non-HL7 Delimited File.**
- d. Click the link, **Delimited File: Encounter – Appendix F.**

## Appendix G - Other IHS-Specific Code Sets

### IHS Area Codes

Code	Service Type Description
ABR	Aberdeen (obsolete as of 10/1/2014)
AKA	Alaska
ALB	Albuquerque
BJI	Bemidji
BIL	Billings
CAO	California
GPA	Great Plains Area (previously Aberdeen)
NSA	Nashville
NAV	Navajo
OKC	Oklahoma
PHX	Phoenix
POR	Portland
TUC	Tucson

All fields including, numeric data fields, are treated as character fields.

```
1863500000000022|20120101|20120329|A|900101|0000000022||Able|Baker|C
harlie||19700710||F|123456789||01|999|2|0209290||1050 Anyroad
Dr.|Leonardville|TX|02148|||||||||||||||||||||||||||||||||
||||||3.0
```

```
186350000005832|186350000000022|20101001|20101001|900101|00000
00022|19700710|F|242501541||999|0209290|01|20151116|900101|C|A|
01|1|45|J18.9|A02.29|W92.XXXA|||||||BN01ZZZ|||||||
|||||9110|2|||||||522
334444||81000|||||||3.0
```