National Patient Information Reporting System: National Data Warehouse

Alternative Simplified Delimited (ASD) File Format

Transmission Guide

April 2025

Version 5.0.1

Department of Health and Human Services Indian Health Service Office of Information Technology (OIT)

Indian Health Service National Patient Information Reporting System

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VERSION CONTROL

Version	Date	Notes
1.0	November 2019	Initial version
2.0	November 2020	Updates to template and content throughout
5.0.1	April 2025	Updating documentation to support compliance and Version Control consistency for all published guidelines.

BACKGROUND The Alternative Simplified Delimited (ASD) format enable

The Alternative Simplified Delimited (ASD) format enables sites to send additional data and extend the capabilities of the simplified format. The ASD format also empowers sites that use HL7 formats to send patient data through the ASD format instead of the HL7 file format. The ASD format is used for Encounter (ASDE) and Patient (ASDP) data only. Registration data associated with ASD data must be sent using either the simplified or HL7 format.

This guide details how to build the ASD files and send them to the National Data Warehouse (NDW). The parts of the file include the file name, file header, file trailer, and data. Definition for each part are given in their respective sections.

FILENAME REQUIREMENTS

The filename format is as follows:

Code	Required or Optional	Description
xxxxxx	Required	Facility code of the sending site. The entire 6 digit code should be in the name.
уууу	Required	Year when the file was created.
mm	Required	Month when the file was created. Single digit months should appear as 01.
dd	Required	Day when the file was created. Single digit days should appear as 01.
ZZ	Optional	Numbering value. If multiple files are created on the same day then a digit number can be added after the days.
.ASD	Required	

Example 1: Site 000000 had a file created on January 2nd 2018. The file would appear as follows:

00000020180102.ASD

Example 2: Site 000000 had two files created on January 3rd 2018. The files would appear as follows:

0000002018010301.ASD

0000002018010302.ASD

FILE HEADER

The file header (which is recommended but not required) has the following format:

1|2|3|4|5|6|

These positions are defined as follows:

Position	Fixed Value	Description		
1	ASDH	Segment Value.		
2		Leave this field blank.		

3	Total number of Encounters (ASDE) records.
4	Leave this field blank.
5	Total number of Patient (ASDP) records.
6	Field to be used by site.

Example: A site sends in 200 encounters and 100 patient records. The file header would appear as

follows: ASDH||200||100||

While the header is not required, it is strongly encouraged as the header allows for additional quality checks to be made when the NDW receives the file.

FILE TRAILER

The file trailer has the following format:

1|2|

These positions are defined as follows:

Position	Fixed Value	Description			
1	ASDT	Segment Value.			
2	END	Informs the receiver that the file was not cut-off during transmission.			

Example: A site sends in 200 encounters and 100 patient records. The file trailer would appear as follows:

ASDT|END|

DATA IN THE FILE

Between the header and trailer are the lines of data. These lines of data are referred to in the ASD format as segments. A segment begins with a segment ID. A list of segment IDs can be found in Appendix A. Examples of each segment can be found in Appendix B. Choosing a segment ID will depend on the data to be sent. For example, if a site wants to send in lab tests, then the segment ASDE080 would be chosen.

Regardless of what segments are sent, the site needs to ensure that the PRIMARY ENCOUNTER information is sent to the NDW, whether in the ASD or other acceptable format (HL7 or SD). In the ASD format this is done by sending the ASDE000 segment. If the site is already sending data through HL7 or SD formats and

is using the ASD format to send additional information to the NDW, then the ASDE000 segment is not needed. If the NDW does not receive PRIMARY ENCOUNTER information, then any related encounter data sent in through the ASD cannot be loaded properly.

Besides the ASDE000 segment, the additional segments can be sent in depending on the needs of the site. Following the below rules will ensure the data can be loaded properly into the NDW.

- 1. The entire visit can be sent to the NDW in one file using the ASD format, but it does not have to be if the visit information is being sent in by the HL7 or SD formats. Parts of the visit can be sent in the HL7 or SD format and additional segments can be sent using the ASD format.
- 2. All ADSP segments contain the unique registration code, and all ADSE segments contain both the unique registration and encounter codes. Without these codes it is impossible to link the various data to the visit or person.
- 3. The date last modified is required to ensure the latest record appears in the NDW. If these are not given then the data will not overwrite previous data sent into the NDW. Note that the NDW treats the incoming file that has the same date last modified as the most current record. Records that do not have a date will be considered the oldest record unless the visit update and the original visit information both do not contain a date. In this case the most recent record will be considered the latest.
- 4. Updates to visits do not require the entire visit to be resent. For example if the provider code is updated for a visit then only the segment ASDE010 needs to be resent. The only exception is if the ASDE000 is being updated. In that case, **all** previously existing data related to the visit will be replaced with the incoming data.
- 5. For any given segment, the **entire** set of information for that particular visit segment ID needs to be sent in a single file. For example, if a visit contains five dx code records, then five ASDE040 records need to be sent in the same file. If an update occurs to the visit where the visit now has six dx codes, then on the next export all six dx codes need to appear in the same file using the ASDE040 segment. If only a partial set of codes is sent then only the code(s) sent will replace the older data. In the case of the example, if only the newly-added dx code were sent in the update, the visit would only have one dx code instead of the correct six.
- 6. Some segments can have multiple segments per file, while others can only have one. This is indicated in the "Multiples" column in Appendix A. For those that are single segments, send

only one per unique encounter code per file. The most recent modified data will replace the current data for that visit in the NDW.

7. An export does not have to contain all parts of the visit. For example a file can contain all the dx codes but none of the medications for a visit. The medications can be sent in a separate file. It is recommended to send all the data in one file, but this is not necessary to process a file into the NDW. However, if a file contains an ASDE000 for a visit, **all** previously existing data related to the visit will be replaced with the incoming data.

SEGMENT LAYOUT

The individual segments consist of delimiters and positions. The delimiter is a pipe (|) and the position is the space between pipes. The layout of a segment would therefore be as such:

1|2|3|4|5|6|7

The first position does not need a starting | and the last position in the segment does not need an ending |. Also note that if there are 7 positions for a segment but only positions 1 to 5 are being sent, the segment would appear as:

1|2|3|4|5

Similarly, if only positions 1, 4, and 5 are sent, the segment would appear as:

1|||4|5

Details about each segment can be found in the following section.

ASD SEGMENT GUIDE

The segment guide is a supplemental document to support this transmission guide. To request a copy, please email NPIRS at ITsupport@ihs.gov.

The segment guide consists of several columns that layout the segment positions. The column descriptions below detail the information found within the column.

Filter by Segment ID: This column can be used to filter on the segment ID. Only appears in the excel sheet version.

Filter by Segment Name: This column can be used to filter on the segment name. Only appears in the excel sheet version.

Position: The location in the segment which the data will be located.

Type: Descriptions of the possible types are as follows:

Char(x): The field is a character field in which the number in (x) is the maximum length allowed for the field.

Decimal: The field is a decimal field with the numbers in (X,Y) as X the places before the decimal, and Y the number of places after the decimal.

Integer: The field is an integer field.

Time: The field is a time field in HHMMSS format. H = Hours, M = minutes, and S = seconds. Single digit hours, minutes, second for example 6:08 and 2 seconds would appear as 060802.

Timestamp: the field is a date and time field. The format is CCYYMMDDHHMMSS and in order of appearance from left to right CCYY = Year, MM = Months, DD = Day, HH = Hours, MM = minutes, SS = seconds. Single digit fields appear with an additional 0, for example January = 01. The date 1-2-2018 at 6:08 and seconds appears as 20180102060802

*NOTE that data surpassing the maximum value will not be stored. A truncated portion of the value will not be stored.

Field Name: Name of the field.

Desired/Required: A value of Yes means the field is recommended to be sent if available. Highlight color meaning:

- Blue basic information required for processing the data
- Green the data contributes to the UP/workload and GPRA reports
- Orange the data contributes only to GPRA reports
- None the data is frequently helpful for other Ad Hoc reports

Format: Provides how the field should appear. Bolded values are the literal expected values for those positions while non-bolded values are format guides only.

Example: An example of the format.

Format Explanation: Provides an explanation to why the format has been specified. Some fields will have an explanation that gives the possible codes that can be used, while others explain that some fields must be a certain length.

Definition: Provides an explanation of the field. Where the expected value is from a defined code set, the appropriate Standard Code Book table is given.

Lookup Type: Some fields consist of code sets that can be looked up in the Standard Code Book (SCB). By following the link below, one can access the SCB. There are three types each for the sections where you will find the code set. Each of these is a separate link one can access by clicking the text. These are listed after the link.

https://www.ihs.gov/scb/index.cfm

SCB: Standard Code Book Tables

OIT SCS: OIT Standard Code Set Tables

INDUSTRY: Industry Standard Code Set Access Tables

Lookup Name: The name of the table that the relevant code set can be found for the field. Specifically this is found under the column "Table Name" after clicking one of the three links described above.

SENDING TO THE NDW

When the file is ready to be submitted to the NDW, please contact the Helpdesk at ITsupport@ihs.gov to open a ticket. This ticket will be assigned to NPIRS, and user name, password, IP address, and FTP settings will be communicated to you over the phone. Submission to the NDW will be done using the above information to directly link to the FTP site. If this is not possible, then the Secure Data Transfer tool can be used as an alternate method.

QUESTIONS

If you have any questions about this guide or need further explanation, please email the Helpdesk at ITsuport@ihs.gov and in your email write that you have a question on the ASD format for NPIRS.

APPENDIX A: TABLE OF SEGMENTS

Segment ID	Segment Name	Туре	Multiples	Definition
ASDE000	Primary Encounter	Encounter	No	Data for the visits that relates to the patient, service date, and type of visit. This is essential for all visits to be sent.
ASDE001	Contract Encounter	Encounter	No	Data for the visit that relates to a contract visit. Only needs to be sent if contract visits are sent.

ASDE002	Inpatient Encounter	Encounter	No	Data for the visit that relates to an inpatient stay. Only to be sent with an inpatient visit.
ASDE003	Dental Encounter	Encounter	No	Data for the visit that relates to a dental visit. Only to be sent with a dental visit.
ASDE004	Miscellaneous Encounter	Encounter	No	Additional data associated to a visit.
ASDE005	PHN Record	Encounter	No	Data relating to a public health nurse.
ASDE010	PROVIDER Record	Encounter	Yes	Provider data for a particular visit.
ASDE020	PROCEDURE Record	Encounter	Yes	Procedure data for a particular visit.
ASDE025	HCPCS Record	Encounter	Yes	HCPCS data for a particular visit.
ASDE030	ADA Record	Encounter	Yes	Ada codes and units for a dental visit.
ASDE031	Teeth Record	Encounter	Yes	Additional Dental visit information.
ASDE040	DX Record	Encounter	Yes	DX codes either diagnosis or injury for a visit.
ASDE050	Exam Record	Encounter	Yes	Exams taken for the visit.
ASDE060	Patient Education Record	Encounter	Yes	Patient education event that took place for a visit.
ASDE070	Immunization Record	Encounter	Yes	Immunizations that took place for a visit.
ASDE080	Lab Test Record	Encounter	Yes	Lab Tests taken for a visit.
ASDE090	Clinical Measures Record	Encounter	Yes	Clinic measures such as Height and Weight taken during the visit.
ASDE100	Skin Test Record	Encounter	Yes	Skin tests taken for a visit.
ASDE110	Medication Record	Encounter	Yes	Medications prescribed or dispensed for a visit.

ASDE120	Health Factor Record	Encounter	Yes	Health Factors listed for a visit.
ASDE130	Revenue Record	Encounter	Yes	Hospital charges relating to the HCPCS codes.
ASDE140	ICN Record	Encounter	Yes	Integration Control Number from the IHS Master Patient Index.
ASDE150	Infant Feeding Record	Encounter	Yes	Infant feeding listed for a visit.

Segment ID	Segment Name	Туре	Multiples	Definition
ASDP100	Problem List	Patient	Yes	Patient list of current problems that are ongoing and may or may not be related to the visit sent in.
ASDP200	Refusals	Patient	Yes	A list of refusals by the patient.
ASDP300	Immunization Contraindications	Patient	Yes	A list of immunization contraindications by the patient.
ASDP400	Women's Health	Patient	Yes	A list of procedures for a patient that are related to Women's Health.

APPENDIX B: SEGMENT EXAMPLES

Below are examples of each Segment ID. The format of each example is as follows:

- Segment Name
- Segment with the field names in-between the pipes ||
- How the segment should appear in the file with example data.

NOTE: Most fields are shown with data even though this usually would not be the case.

Header Example:

ASHD||64|0|11||

ASDE000 Record Primary Encounter:

ASDE001 Record Contract Encounter:

Segment ID|Unique Registration Code|Unique Encounter Code|Service Admission Date|Date Last Modified|File Name|Authorizing Facility Code|Authorizing Number|Purchase Order Number|FI Discharge Type Code

|CHS Paid Amount|Local Patient Identifier|Claim Number|Commercial Insurance Flag|Encounter Quantity|CFI Attending Physician Code|Payment Status Code|Newborn Death Code|Hospital Authorization Number

|Age|CHS IEN|Furchase Order Issue Date|Paid Date|Service Class Code|Payment Destination|CHS Type of Service|Purchase Order Type Code|Type of Bill|Pend Reject Code|Nature of Coverage Code|

Blanket Purchase Order Indicator|Object Class Code|COB Amount|Allow Amount|Billed Amount|HCPCS Code Claim Level|Place of Service

ASDE001|0000000000000000000000000002|20120402|20180402121300|00000018402.ASD|0000000|0123456|04C00000000|150.50|000000000000000000000|10|123|20180101|20180101|254D|1|1|44|111|R100|C|N|IE|500.25|500.50|500.35|50412|GF

ASDE002 Record Inpatient Encounter:

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Segment ID|Unique Registration Code|Unique Encounter Code|Service Admission Date|Date Last Modified|File Name|Admission Service Code|Admission Type Code|Attending Physicians Affiliation Code |Attending Physicians Discipline code|Attending Physician Local Code|ICD DX Death Code|Number of Consults|Discharge Date|Discharge Service Code|Discharge Type Code|Transfer Facility code| |Length of Stay|Midwifery flag|ICD Death Revision Code

ASDE002|0000000000001|000000000002|20120402|20180402121300|0000020180402.ASD|03|1|1|00|ABC|A50.54|50|20180202|03|1|000000|1|1|1100

ASDE003 Record Dental Encounter:

Segment ID|Unique Registration Code|Unique Encounter Code|Service Admission Date|Date Last Modified|File Name|Dental Delivery Code|Dental Cost|Dentist's SSN ASDE003|00000000000001|00000000002|20120402|20180402121300|00000020180402.ASD|D|70.50|000000000

ASDE004 Record Misc Encounter:

ASDE005 Record PHN Record:

Segment ID|Unique Registration Code|Unique Encounter Code|Service Admission Date|Date Last Modified|File Name|PHN Activity Code|PHN Intervention Level|PHN Activity Minutes|PHN Travel Minutes
ASDE005|00000000000001|000000000000000002|20120402|20180402121300|00000020180402.ASD|01|P|50|30

ASDE010 PROVIDER Record:

ASDE020 PROCEDURE Record:

Segment ID|Unique Registration Code|Unique Encounter Code|Service Admission Date|Date Last Modified|File Name|Sequence Number|ICD Procedure Code |Procedure Date|Infection Flag|Provider Affiliation Code|Provider Discipline Code|Provider Class X12 Code|Provider Spec X12 Code|Provider Type X12 Code |Diagnosis Sequence Number|ICD Procedure Code Revision Flag

ASDE020|00000000000001|000000000000002|20120402|20180402121300|0000020180402.ASD|1|A541454|20180101|N|1|00|3B|E0005|50|1|110

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ASDE025 HCPCS Record:

Segment ID|Unique Registration Code|Unique Encounter Code|Service Admission Date|Date Last Modified|File Name|Sequence Number | HCPCS/CPT Code|HCPCS/CPT Code modifier|CPT Code Flag|HCPCS Quantity|HCPCS Cost Amount | ASDE025|000000000001|0000000000000000002|20120402|20180402121300|00000020180402.ASD|1|45148|AA,BB,AB|N|50|500.54 | ASDE025|0000000000001|00000000000002|20120402|20180402121300|00000020180402.ASD|2|A4154|AA,BB,AB|Y|25|50.25

ASDE030 ADA Record:

Segment ID|Unique Registration Code|Unique Encounter Code|Service Admission Date|Date Last Modified|File Name|Sequence Number|ADA Code|ADA Units|ADA Code Fee Amount ASDE030|000000000001|0000000000002|20120402|20180402121300|00000020180402.ASD|1|0000|200|50.25

ASDE031 Teeth Record:

Segment ID|Unique Registration Code|Unique Encounter Code|Service Admission Date|Date Last Modified|File Name|
Sequence Number|Dental Tooth Surface|Dental Operative Site Code|Tooth Surface Code
ASDE031|000000000000001|0000000000000002|20120402|20180402121300|00000020180402.ASD|1|4|32|I

ASDEMAN DY Records

Segment ID|Unique Registration Code|Unique Encounter Code|Service Admission Date|Date Last Modified|File Name|Sequence Number
|Diagnosis Code|Cause of Diagnosis|Cause of Injury|Place of Injury|Revisit Flag|ICD DX Revision Flag|ICD Injury Revision Flag|Provider Narrative

ASDE040|00000000000001|00000000000000000002|20120402|20180402121300|0000020180402.ASD|1|V22.2|2|Y23.44|A|1|I10|I10|56 cm gash

ASDE040|0000000000001|0000000000002|20120402|20180402121300|0000020180402.ASD|2|A20.0|2|X34.34|D|1|I10|I10|Short

ASDE040|0000000000001|00000000000002|20120402|20180402121300|0000020180402.ASD|3|B22.1|3|W55.55|E|1|I10|I10|Narrative very long

ASDE040|0000000000001|00000000000002|20120402|20180402121300|0000020180402.ASD|4|K38.9|5|X54.54|H|1|I10|I10|A Quote is allowed " "

ASDE040|0000000000001|000000000000002|20120402|20180402121300|0000020180402.ASD|5|N23.4|1|X54.25|K|1|I10|I10|Some Text

ASDE050 Exam Record:

Segment ID|Unique Registration Code|Unique Encounter Code|Service Admission Date|Date Last Modified|File Name|Sequence Number |Lab Test Name|LOINC Code|Lab Results|Range Lower Limit|Range Upper Limit|Unit of Measure |ASDE080|000000000001|000000000000000002|20120402|20180402121300|00000020180402.ASD|1|Test 1|5424-4|10.0|0|100|mg/dl |ASDE080|0000000000001|00000000000000002|20120402|20180402121300|00000020180402.ASD|2|Test 2|5487-4|Negative|-30|30|% |ASDE080|000000000001|0000000000000000002|20120402|20180402121300|00000020180402.ASD|3|Test 3|4741-1|Postive|70|80|mg/dl

ASDE090 Clinical Measures Record:

ASDE100 Skin Test Record:

ASDF110 Medication Record:

ASDF120 Health Factor Record:

ASDE120|0000000000001|000000000000002|20120402|20180402121300|0000020180402.ASD|2|CAGE 1/4|F019|ALCOHOL/DRUG|C001

ASDF120 Revenue Record.

Segment ID|Unique Registration Code|Unique Encounter Code|Service Admission Date|Date Last Modified|File Name |Sequence Number|Revenue Code|Revenue Quantity|Revenue Cost Amount ASDE130|000000000000001|0000000000000002|20120402|20180402121300|0000020180402.ASD|1|3|500|50.01 ASDE130|00000000000001|000000000000002|20120402|20180402121300|0000020180402.ASD|2|4|600|600.50

ASDE140 ICN Record:

Segment ID|Unique Registration Code|Unique Encounter Code|Service Admission Date|Date Last Modified|File Name|Sequence Number|Integration Control Number ASDE140|00000000000001|000000000000000002|20120402|20180402121300|00000020180402.ASD|1|000000000001

ASDF150 Infant Feeding Records

Segment ID|Unique Registration Code|Unique Encounter Code|Service Admission Date|Date Last Modified|File Name|Sequence Number|Infant Feeding Code ASDE150|000000000000001|00000000000000002|20120402|20180402121300|00000020180402.ASD|1|3

ASDE150|000000000001|000000000000002|20120402|20180402121300|0000020180402.ASD|2|4

ASDE150|0000000000001|000000000000002|20120402|20180402121300|00000020180402.ASD|3|5

ASDP100 Record Problem List:

Segment ID|Unique Registration Code|Leave Blank|Leave Blank|Date Last Modified|File Name|Sequence Number|Diagnosis Code
|Diagnosis Revision Code|Onset Date|Problem Number|Problem Facility Code|Provider Narrative|Problem Status Code|Added Date|Deleted Date
ASDP100|000000000000001|||20180402121300|0000020180402.ASD|1|A10.0|I10|20180101|10|000000|Found on 4-3-2017|A|20180101|20180101
ASDP100|000000000000001|||20180402121300|0000020180402.ASD|3|B10.1|I10|20180101|20|000000|Quote "did not know"|I|20180101|20180101
ASDP100|00000000000001|||20180402121300|00000020180402.ASD|4|C10.2|I10|20180101|30|000000|Problem found|D|20180101|20180101

ASDP200 Record Refusals:

ASDP300 Record Immunization Contraindications:

Segment ID|Unique Registration Code|Leave Blank|Leave Blank|Date Last Modified|File Name|Sequence Number |Immunization CVX Code|Reason for Contraindication|Date Noted|Immunization Contraindication Facility Code |ASDP300|0000000000000001||20180402121300|00000020180402.ASD|1|143|ANAPHYLAXIS|20180101|000000

ASDP400 Record Women's Health:

Segment ID|Unique Registration Code|Leave Blank|Leave Blank|Date Last Modified|File Name|Sequence Number |Women's Health Procedure Type|Result|Procedure Date|Procedure Facility Code |ASDP400|0000000000000001|||20180402121300|0000020180402.ASD|1|MAMMOGRAM SCREENING|NEG|20180101|000000 |ASDP400|000000000000000001|||20180402121300|00000020180402.ASD|2|PAP SMEAR|NEG|20180101|000000

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Trailer Example:

ASDT|END