834 Companion Guide and File Layout

ASC X12N (005010) Transaction Set
834 Benefit Enrollment and Maintenance Transactions for
Active Employees and COBRA Participant Eligibility

The State of Michigan

Civil Service Commission and
Department of Technology, Management and Budget

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Preface

This Companion Guide to the ASC X12N (005010) Implementation Guides adopted under HIPAA clarifies and specifies the data content being sent when data is transmitted electronically from the State of Michigan, Department of Civil Service. This document does not replace any ASC HIPAA Transaction Set Implementation Guides. Transmissions based on this companion document, used in tandem with the ASC X12N HIPAA Implementation Guides, are compliant with both ASC X12 (005010) syntax and those guides.

General Information

Delimiters

A delimiter is a character used to separate two data elements or component elements or to terminate a segment. The delimiters are an integral part of the data. Delimiters are specified in the interchange header segment, ISA. Once specified in the interchange header, the delimiters are not to be used in a data element value elsewhere in the interchange.

The State of Michigan will use the following symbols as delimiters:

- Element Separator Pipe (|)
- Segment Separator Tilde (~)
- Component Separator Right Brace (})

ASC Version

The State of Michigan will provide transactions in accordance with the following ASC X12N HIPAA Implementation Guide version:

- Transaction Set 834: Version 005010X220A1

Attributes

Attributes will be listed below each segment in the following order:

Data Element Reference Number, Element Format, Element Length and Requirement Designator

Element Reference Number
Data elements are assigned a unique reference number which indicates the position/location of an individual data element.

Element Format
Indicates the format type of an individual data element.

- **ID** = Identifier
  - An identifier data element always contains a value from a predefined list of codes that is maintained by the ASC X12 Committee or some other body recognized by the Committee.
- **AN** = String
  - A string data element is a sequence of any characters from the basic or extended character sets. The string data element must contain at least one non-space character.
- **DT** = Date
  - A date data element is used to express the standard date in either YYMMDD or CCYYMMDD format in which CC is the first two digits of the calendar year, YY is the last two digits of the calendar year, MM is the month (01 to 12), and DD is the day in the month (01 to 31). Users of this guide should note that all dates within transactions are 8-character dates (millennium compliant) in the format CCYYMMDD. The only date data element that is in format YYMMDD is the Interchange Date data element in the ISA segment and the TA1 segment where the century is easily determined because of the nature of an interchange header.
- **TM** = Time
  - A time data element is used to express the ISO standard time HHMMSS format in which HH is the hour for a 24 hour clock (00 to 23), MM is the minute (00 to 59) and SS is the second (00 to 59).
- **Nn** = Numeric
  - A numeric data element is represented by one or more digits with an optional leading sign representing a value in the normal base of 10. The value of a numeric data element includes an implied decimal point. It is used when the position of the decimal point within the data is permanently fixed and is not to be transmitted with the data. This set of guides denotes the number of implied decimal positions. The representation for this data element type is "Nn" where N indicates that it is numeric and n indicates the number of decimal positions to the right of the implied decimal point.

Element Length
Each data element is assigned a minimum and maximum length. The length of the data element value is the number of character positions used.

Requirement Designator
Indicates the requirement of an individual element's usage.

- **M** = Mandatory
  - The designation of mandatory is absolute in the sense that there is no dependency on other data elements. This designation may apply to either simple data elements or composite data structures.
- **O** = Optional
  - The designation of optional means that there is no requirement for a simple data element or composite data structure to be present in the segment.
- **X** = Relational
  - Relational conditions may exist among two or more simple data elements within the same data segment based on the presence or X- Relational absence of one of those data elements (presence means a data element must not be empty).

Weekly Membership Change File

Membership change files will be transmitted to carriers once a week, on Monday evenings. If a schedule change is necessary, carriers will be notified in advance via email and provided the adjusted transmission date.

Change File Standards

The information detailed below includes examples of scenarios that may be encountered.

- If a “001” Change record is received on the same file as a “021” Add or “024” Term record for the same member and does not include a DTP01 “543” qualifier then the “001” Change record can be removed from the file load.
- If a “001” Change record is received with “C” in INS05 and a “543” qualifier in DTP01, then COBRA eligibility will be added or extended through the “543” date provided in DTP02.
- If two or more “021” Add records are received with different DTP02 “348” dates or two or more “024” Term records are received with different DTP02 “349” dates for the same member, the records must be referred to SOM for clarification via the file discrepancy process.
- If an address change is received for a subscriber, the address change applies to all members on the account.
- If a subscriber’s coverage is terminated, all covered dependents are to be terminated as well. A subscriber must be enrolled in benefits in order for a spouse or dependents to remain covered.

Quarterly Audit Full File

Audit full files will be transmitted to carriers on a quarterly basis. Carriers will be notified of full file scheduling in advance via email.

Full File Standards

The information detailed below includes examples of scenarios that may be encountered.

- Quarterly full files are provided for auditing use only and are not to be loaded without SOM approval.
- Carriers must provide SOM with a summary of the audit results, detailing the types and volume of all identified discrepancies.
- Members impacted by an identified discrepancy must be sorted by discrepancy type and provided to SOM for further review and direction.
- Members that appear active in the carrier’s system, but do not appear on the full file will be researched by the carrier to determine the correct termination date using weekly change files from the previous quarter. If the correct termination date is unable to be determined, the carrier will include the member on the full file discrepancy report. SOM will then provide the carrier with the correct membership term date.

Eligibility

Subscribers, Spouses and Dependents

- Members are not eligible to be dual enrolled in benefits under any SOM plans. If a dual enrollment is identified by the carrier it must be reported to SOM via the file discrepancy process.

Spouses and Dependents

- A subscriber must be enrolled in benefits in order for a spouse or dependents to remain covered. If a spouse or dependent is identified as being enrolled in coverage when the subscriber is terminated, it must be reported to SOM for further review via the file discrepancy process.

Dependents

- Eligibility is contingent on SOM's Dependent Eligibility Guidelines. Under the met criteria, dependents are eligible for benefits through the end of the month in which they turn age 26, unless the dependent is deemed incapacitated, indicated with a "Y" in segment INS\10. Coverage that exceeds the specified age maximums must be reported to SOM for further review via the file discrepancy process.

COBRA

- SOM is responsible for the administration of COBRA benefits. Members transmitted on a COBRA record, indicated by "C" in INS05, are only eligible for coverage if a "543" qualifier is present in DTP01.

File Discrepancy Process

Files from the State of Michigan (SOM) are transmitted Monday evening and available to carriers Tuesday mornings of each week on the File Transfer Service (FTS). It is SOM's expectation that all transmitted benefit enrollment and maintenance transactions are loaded into the carrier's membership system. Discrepancy reporting must include all records unable to be processed through automation, manual corrections completed by the carrier, as well as records needing further direction from the SOM. Records appearing on the discrepancy report must indicate manual changes completed or no action was taken by the carrier and a brief explanation. Upon completion of the membership updates, all transmitted records will be compared to the carrier's membership and eligibility system to identify any discrepancies. This review must take place by an eligibility specialist of each carrier to confirm if a discrepancy exists and report back to the State within 48 hour or no later than Thursday morning of that same week.

The discrepancy file needs to be in Excel format and include a column for each of the following fields:

- Benefit status code
- Subscriber's SSN
- Subscriber's first and last name
- Dependent's SSN (if applicable)
- Dependent's first and last name (if applicable)
- Group Number
- Current eligibility start date
- Current eligibility stop date
- File date the discrepancy was identified
- What the perceived discrepancy is

A	B	C	D	E	F	G	H	I	J	K	L
Benefit Status Code	Subscriber's SSN	Subscriber's Last Name	Subscriber's First Name	Dependent's SSN	Dependent's Last Name	Dependent's First Name	Group Number	Eligibility Start Date	Eligibility Stop Date	Date Discrepancy Identified	Perceived Discrepancy
Active/COBRA	XXX-XX-XXXX	Smith	John	XXX-XX-XXXX	Smith	John	Union Code	XX/XX/XXXX	XX/XX/XXXX	XX/XX/XXXX	Issue/Error

It is SOM's expectation that the carriers will provide a response for each file transmission. If no discrepancies are identified in a given week, it is required that EBD still receive notification within the weekly discrepancy report by indicating "none" in the excel document.

All discrepancy files will be sent securely to MiFTS.state.mi.us.

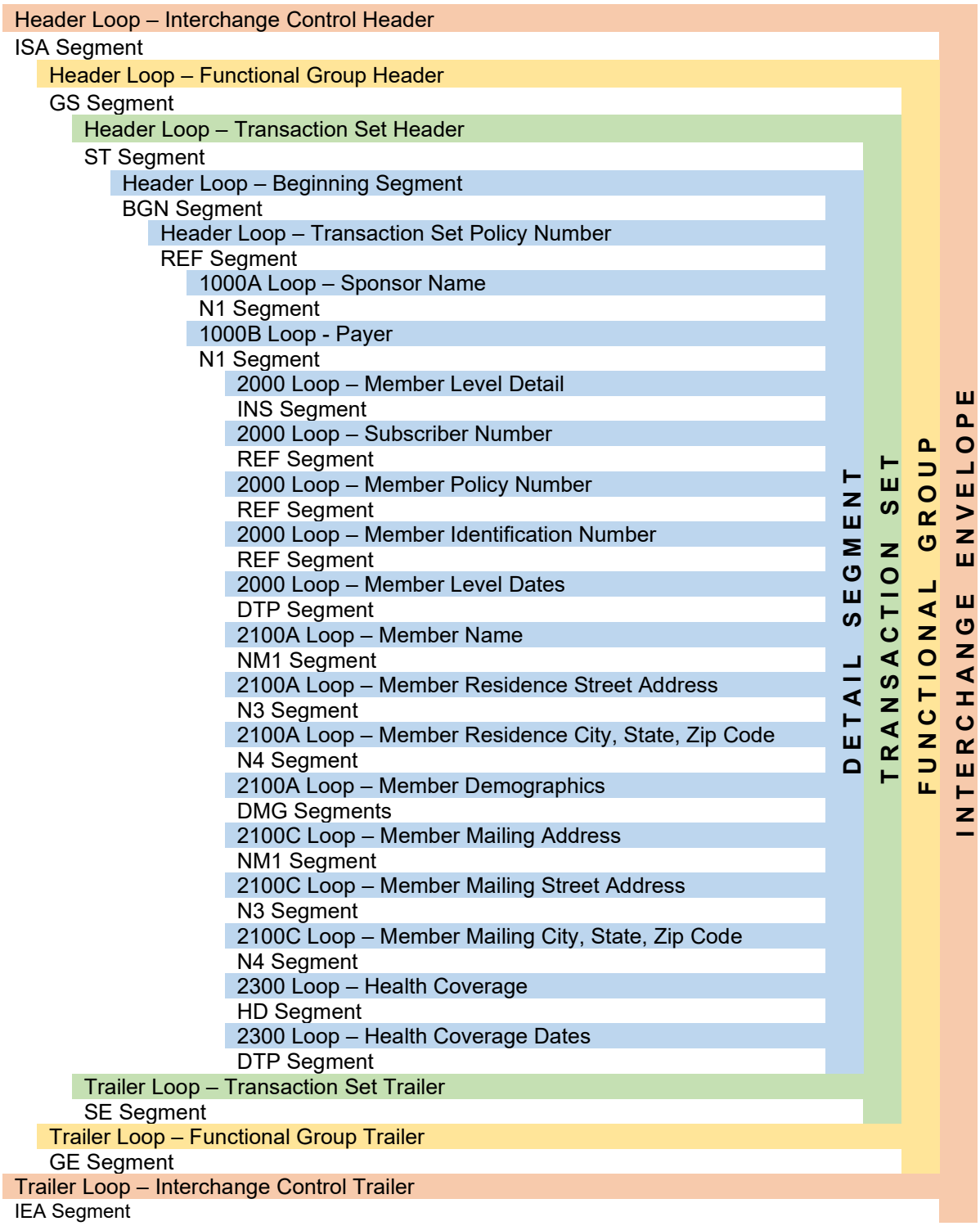
Carriers must retain benefit enrollment and maintenance files for a minimum of 12 months for research and audit purposes.

Carriers must provide SOM with the names and email addresses of the contact person and their backup who will be responsible for this eligibility process and the discrepancy file. SOM must also be provided with the carrier's Mailbox and Application/User ID that is used to access the File Transfer Service; we will need this information in order to send a file specifically to your organization. In the event a discrepancy report is not received, the Account Manager and person(s) responsible for discrepancy reporting will be contacted immediately.

File Layout Overview

834 files are built using Transaction sets containing segments of data related to that transaction. Each segment contains detailed data elements. In traditional file layouts, the segments would be equivalent to records and the elements are equivalent to fields within that record. Similar transaction sets are bound together as a "functional group" and then submitted together as a file transmission.

Below is an overview of the construction of the 834 file layout, with headers, transactions sets, segment detail and trailers.



File Layout Detail

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
Header Loop – ISA Segment – Interchange Control Header			
Interchange Control Header	ISA/01	"00" = No Authorization Information Present.	Code identifying the type of information in the authorization information.
Authorization Information	ISA/02	10 Blank Spaces	Information used for additional identification or authorization of the interchange sender or the data in the interchange.
Security Information Qualifier	ISA/03	"00" = No Security Information Present.	Code identifying the type of information in the security information.
Security Information	ISA/04	10 Blank Spaces	Used for identifying the security information about the interchange sender or the data in the interchange.
Interchange ID Qualifier	ISA/05	"30" = Federal Tax ID	Code indicating the system/method of code structure used to designate the sender or receiver ID element being qualified.
Interchange Sender ID	ISA/06	SOM's Federal Tax ID – This element must be followed with blank spaces to a total of 15 characters.	Identification code published by the sender for other parties to use as the receiver ID.
Interchange ID Qualifier	ISA/07	"ZZ" = Mutually Defined	Code indicating the system/method of code structure used to designate the sender or receiver ID element being qualified.
Interchange Receiver ID	ISA/08	Carrier's Federal Tax ID – This element must be followed with blank spaces to a total of 15 characters.	Identification code published by the receiver of the data.
Interchange Date	ISA/09	YYMMDD	Date of the interchange.
Interchange Time	ISA/10	HHMM	Time of the interchange.
Interchange Control Standards Identifier	ISA/11	"^"	The repetition separator is a delimiter and not a data element; this field provides the delimiter used to separate repeated occurrences of a simple data element or a composite data structure.
Interchange Control Version Number	ISA/12	"00501"	Code specifying the version number of the interchange control segments.
Interchange Control Number	ISA/13		A control number assigned by the interchange sender. Must match IEA02.
Acknowledgement Requested	ISA/14	"0" = No acknowledgement requested "1" = Acknowledgement requested	Code indicating sender's request for an interchange acknowledgment.
Usage Indicator	ISA/15	"P" = Production Data "T" = Test Data	Code indicating whether data enclosed by this interchange envelope is test, production or information.
Component Element Separator	ISA/16	"}"	The component element separator is a delimiter and not a data element; this field provides the delimiter used to separate component data elements within a composite data structure.

Attributes

ISA/01				ISA/02				ISA/03				ISA/04			
I01	ID	2/2	M	I02	AN	10/10	M	I03	ID	2/2	M	I04	AN	10/10	M
ISA/05				**ISA/06**				**ISA/07**				**ISA/08**			
I05	ID	2/2	M	I06	AN	15/15	M	I05	ID	2/2	M	I07	AN	15/15	M
ISA/09				**ISA/10**				**ISA/11**				**ISA/12**			
I08	DT	6/6	M	I09	TM	4/4	M	I65	AN	1/1	M	I11	ID	5/5	M
ISA/13				**ISA/14**				**ISA/15**				**ISA/16**			
I12	N0	9/9	M	I13	ID	1/1	M	I14	ID	1/1	M	I15	AN	1/1	M

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
Header Loop – GS Segment – Functional Group Header			
Functional Group Header	GS/01	"BE" = Benefit Enrollment and Maintenance	Code identifying a group of application related transaction sets.
Application Sender's Code	GS/02	"SOM-ACTIVE"	Code identifying party sending transmission.
Application Receiver's Code	GS/03	Carrier Description Code	Code identifying party receiving transmission.
Transaction Set Creation Date	GS/04	CCYYMMDD	Date of the transaction set.
Transaction Set Creation Time	GS/05	HHMM	Time of the transaction set.
Group Control Number	GS/06		Assigned number originated and maintained by the sender. Must match GE02.
Responsible Agency Code	GS/07	"X" = Accredited Standards Committee X12	Code identifying the issuer of the standard.
Version/Release/ Industry Identifier Code	GS/08	"005010X220A1"	Code indicating the version, release, sub release, and industry identifier of the EDI standard being used.

Attributes															
GS/01				**GS/02**				**GS/03**				**GS/04**			
0479	ID	2/2	M	0142	AN	2/15	M	0124	AN	2/15	M	0373	DT	8/8	M
GS/05				**GS/06**				**GS/07**				**GS/08**			
0337	TM	4/8	M	0028	N0	1/9	M	0455	ID	1/2	M	0455	A	1/12	M

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
Header Loop – ST Segment – Transaction Set Header			
Transaction Set Identifier Code	ST/01	"834" = Benefit Enrollment and Maintenance	Code uniquely identifying a transaction set.
Transaction Set Control Number	ST/02	"0001"	Identifying control number that must be unique within the transaction set. Must match SE02.
Implementation Convention Reference	ST/03	"005010X220A1"	Reference assigned to identify implementation convention. Must match GS/08.

Attributes											
ST/01				**ST/02**				**ST/03**			
0143	ID	3/3	M	0329	AN	4/9	M	1705	AN	1/35	M

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
Header Loop – BGN Segment – Beginning Segment			
Transaction Set Purpose Code	BGN/01	“00” = Original Transaction “15” = Re-Submission “22” = Informational	Code identifying purpose of transaction set. The "00" indicates the first time the transaction is sent. The “15” indicates the original transmission was incorrect, not been processed by the receiver and a corrected transmission is being sent. The “22” indicates the original transmission was lost or not processed and the sender is passing another transmission that is the same as the original.
Transaction Set Identifier Code	BGN/02		This element is the transaction set reference number assigned by the sender’s application. It uniquely identifies this occurrence of the transaction for future reference.
Transaction Set Creation Date	BGN/03	CCYYMMDD	Date of the Transaction Set.
Transaction Set Creation Time	BGN/04	HHMM	Time of the Transaction Set.
Time Zone Code	BGN/05	“ED” = Eastern Daylight Time “ES” = Eastern Standard Time	Code identifying the sender’s time zone. Required when the sender and receiver are not in the same time zone.
Transaction Set Identifier Code	BGN/06	“2” = Changed File “3” = Duplicate File	If BGN01 is “15” or “22” this identifier should be used to cross-reference the original transaction set, otherwise left blank.
Action Code	BGN/08	“2” = Change/Update “4” = Verify “RX” = Replace	Code indicating type of action. The “2” indicates a changes only file. The “4” indicates an audit only full file. The “RX” indicates a full enrollment file.

Attributes															
BGN/01				BGN/02				BGN/03				BGN/04			
0353	ID	2/2	M	0127	AN	1/50	M	0373	DT	8/8	M	0337	TM	4/8	X
BGN/05				BGN/06				BGN/08							
0623	ID	2/2	O	0127	AN	1/50	O	0306	ID	1/2	O				

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
Header Loop – REF Segment – Transaction Set Policy Number			
Reference Identification Qualifier	REF/01	“38” = Master Policy Number	Code qualifying the reference identification.
Master Policy Number	REF/02		Reference information as defined for a particular transaction set or as specified by the reference identification qualifier.

Attributes							
REF/01				REF/02			
0128	ID	2/3	M	0127	AN	1/50	X

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
Header Loop – DTP Segment – File Effective Date			
Date/Time Qualifier	DTP/01	"007" = File Effective	Code specifying type of date or time. DTP segment only transmitted on full files.
Date/Time Format	DTP/02	"D8" = CCYYMMDD	Code indicating the date format.
Date/Time Period	DTP/03	CCYYMMDD	Date applicable with DTP01 qualifier.

Attributes											
DTP/01				DTP/02				DTP/03			
0374	ID	3/3	M	1250	ID	2/3	M	1251	AN	1/35	M

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
1000A Loop – N1 Segment – Sponsor Name			
Entity Identifier Code	N1/01	"P5" = Plan Sponsor	Code identifying an organizational entity, a physical location, property or an individual.
Plan Sponsor Name	N1/02	"STATE OF MICHIGAN"	Sender's name.
Identification Code Qualifier	N1/03	"FI" = Federal Tax ID	Code designating the system/method of code structure used for identification.
Sponsor Identifier	N1/04	SOM's Federal Tax ID	Code identifying a party.

Attributes															
N1/01				N1/02				N1/03				N1/04			
0098	ID	2/3	M	0093	AN	1/60	X	0066	ID	1/2	X	0067	AN	2/80	X

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
1000B Loop – N1 Segment – Payer			
Entity Identifier Code	N1/01	"IN" = Insurer	Code identifying an organizational entity.
Insurer Name	N1/02	Carrier's Name	Free-form name.
Identification Code Qualifier	N1/03	"FI" = Carrier's Federal Tax ID	Code designating the system/method of code structure used for identification.
Insurer Identification Code	N1/04	Carrier's Federal Tax ID	Carrier's Federal Tax ID

Attributes															
N1/01				N1/02				N1/03				N1/04			
0098	ID	2/3	M	0093	AN	1/60	X	0066	ID	1/2	X	0067	AN	2/80	X

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
2000 Loop – INS Segment – Member Level Detail			
Insured Indicator	INS/01	"Y" = Yes; used for Employee "N" = No; used for Dependent	Code indicating if the member is the subscriber.
Individual Relationship Code	INS/02	"01" = Spouse "05" = Grandchild "10" = Foster Child "17" = Stepchild "18" = Employee/Subscriber "19" = Child "25" = Ex-Spouse "53" = Life Partner/OEAI	Code indicating the relationship to the subscriber. HRMN Relationship codes "20" Guardian, "26" Child/Parent, "54" OEAI Dependent and "92" Deceased Dependent are transmitted as "19" Child. HRMN Relationship code "91" Deceased Spouse is transmitted as "01" Spouse.
Maintenance Type Code	INS/03	"001" = Change "021" – Addition "024" = Cancellation/Termination "030" = Audit/Compare	Code identifying the specific type of item maintenance. "001" Change records impact demographics only, unless DTP01="543". If "543" date does not appear on "001" change record, no eligibility changes should be made. "030" records are for Audit only, these records are not to be loaded.
Maintenance Reason Code	INS/04	"01" = Divorce "02" = Birth "03" = Death "04" = Retirement "05" = Adoption "07" = Termination of Benefits "08" = Termination of Employment "09" = COBRA "10" = COBRA Premium Paid "11" = Surviving Spouse "18" = Suspended "20" = Active "21" = Disability "22" = Plan Change "28" = Initial Enrollment "29" = Benefit Selection "31" = Legal Separation "32" = Marriage "37" = Leave of Absence with Benefits "38" = Leave of Absence without Benefits "39" = Layoff with Benefits "40" = Layoff without Benefits "41" = Re-enrollment "43" = Change of Location "AI" = No reason given "XN" = Notification	Code identifying the reason for the maintenance change. "XN" used for audit full files only.
Benefit Status Code	INS/05	"A" = Active "C" = COBRA	The type of coverage under which benefits are paid.
Medicare Plan Code	INS/06	"A" = Medicare Part A "B" = Medicare Part B "C" = Medicare Part A and B "D" = Medicare "E" = No Medicare	Code identifying the Medicare plan, if applicable.

COBRA Qualifying Event Code	INS/07	"2" = Reduction in Hours "4" = Death "5" = Divorce "6" = Separation of Employment "7" = Ineligible Child "9" = Layoff "10" = Leave of Absence "ZZ" = Mutually Defined	Code identifying the qualifying life event for COBRA coverage. Qualifying Event Codes "9" and "10" indicate Continuation of Coverage. Qualifying Event Codes "2, 4, 5, 6, 7 and ZZ" indicate True COBRA. HRMN Qualifying Event Codes "1" Separation of Employment, "9" Social Security Disability, "16" LTD Rider Separation of Employment, "22" Retiree Medicare Advantage, and "24" Subsidy Departure are transmitted as "6" Separation of Employment. HRMN Qualifying Event Codes "13" Layoff and "15" LTD Layoff are transmitted as "9" Layoff. HRMN Qualifying Event Codes "12" Leave of Absence 36 months, "14" LTD Rider Leave of Absence, "23" Subsidy LOA/Layoff, and "25" Subsidy LTD Rider are transmitted as "10" Leave of Absence. Qualifying Event Code "ZZ" Mutually Defined only applies to BCBS HL.
Employment Status Code	INS/08	"FT" = Full-time (Full-time Active) "L1" = Leave of Absence	Code showing the general employment status of an employee. "FT" indicates Active employee coverage. "L1" indicates COBRA or Continuation of Coverage.
Student Status Code	INS/09	"F" = Full-time "N" = Not a student	Code indicating the student status of a dependent, if 19 years of age or older. Code is used internally to identify a dependent that is the parent of a covered grandchild. Student Status Code is not used to determine eligibility.
Handicap Indicator	INS/10	"Y" = Yes "N" = No	Code indicating if a member is disabled.
Date Time Period Format Qualifier	INS/11	"D8" = CCYYMMDD	Code indicating the date format. "D8" indicates date of death will be sent in INS12.
Insured Individual Death Date	INS/12	CCYYMMDD	Member's date of death.
Birth Sequence Number	INS/17		A generic number applied when more than one family member has the same date of birth.

Attributes															
INS/01				**INS/02**				**INS/03**				**INS/04**			
1073	ID	1/1	M	1069	ID	2/2	M	0875	ID	3/3	O	1203	ID	2/3	O
INS/05				**INS/06**				**INS/07**				**INS/08**			
1216	ID	1/1	O	1218	ID	1/1	M	1219	ID	1/2	O	0584	ID	2/2	O
INS/09				**INS/10**				**INS/11**				**INS/12**			
1220	ID	1/1	O	1073	ID	1/1	O	1250	ID	2/3	O	1251	AN	1/35	X
						INS/17									
						1470	N0	1/9	O						

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
2000 Loop – REF Segment – Subscriber Number			
Reference Qualifier	REF/01	"**0F**" = Subscriber Number	Code qualifying the reference identification. (Zero-F)
Reference Identifier	REF/02	Subscriber's SSN	Reference information as defined for a particular transaction set or as specified by the reference identification qualifier.

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
2000 Loop – REF Segment – Member Policy Number			
Reference Qualifier	REF/01	"**1L**" = Group/Policy Number	Code qualifying the reference identification.
Reference Identifier	REF/02	Insured Group or Policy Number.	Reference information as defined for a particular transaction set or as specified by the reference identification qualifier.

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
2000 Loop – REF Segment – Member Identification Number			
Reference Qualifier	REF/01	"**DX**" = Department/Agency Number	Code qualifying the reference identification.
Reference Identifier	REF/02	Format is: A B C D E F "A" = 5 character Process Level (4 numbers, followed by blank space). "B" = 3 character Bargaining Unit. "C" = 4 character Plan Code. "D" = 2 digit HRMN Coverage Option. "E" = 2 digit HRMN Occurrence Type. "F" = 9 digit original subscriber's SSN.	Reference information as defined for a particular transaction set or as specified by the reference identification qualifier. Standard Bargaining Unit codes include one alpha and two numeric characters (e.g. W22). Commission Employees= "111", COBRA Retiree= "222", COBRA Retiree w/ MA= "333", COBRA Trooper/Sergeant Retired ≥10/01/87 w/o MA= "444", COBRA Trooper/Sergeant Retired ≥10/01/87 w/ MA= "555". Coverage Option and Occurrence Type indicate HRMN specific codes, not standard 834 translation. Original subscriber's SSN is only transmitted when a dependent of a subscriber is enrolled in True COBRA.

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
2000 Loop – REF Segment – Member Policy Number			
Reference Qualifier	REF/01	"**23**" = Client Number	Code qualifying the reference identification.
Reference Identifier	REF/02	SOM Employee ID Number	Reference information as defined for a particular transaction set or as specified by the reference identification qualifier. Provided as alternate identifier. Transmitted for subscriber's record only.

Attributes							
REF/01				REF/02			
0128	ID	2/3	M	0127	AN	1/50	X

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
2000 Loop – DTP Segment – Member Level Dates			
Date/Time Qualifier	DTP/01	"303" = Maintenance Effective "356" = Eligibility Begin "357" = Eligibility End "301" = COBRA Qualifying Event "340" = COBRA Begin "341" = COBRA End	Code specifying type of date. This segment will contain the "340" COBRA begin and "341" COBRA end dates for COBRA participants. The "356" eligibility begin will be used to provide the subscriber's hire date or when they first became eligible for benefits. These dates are not to be used for eligibility.
Date/Time Format	DTP/02	"D8" = CCYYMMDD	Code indicating the date format.
Date/Time Period	DTP/03	CCYYMMDD	Date applicable with DTP01 qualifier.

Attributes											
DTP/01				DTP/02				DTP/03			
0374	ID	3/3	M	1250	ID	2/3	M	1251	AN	1/35	M

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
2100A Loop – NM1 Segment – Member Name			
Entity Code Identifier	NM1/01	"IL" = Insured	Code identifying an organizational entity, a physical location, property or an individual.
Entity Type Qualifier	NM1/02	"1" = Person	Code qualifying the type of entity.
Member Last Name	NM1/03	Member Last Name	Individual last name.
Member First Name	NM1/04	Member First Name	Individual first name.
Member Middle Name	NM1/05	Member Middle Name	Individual middle name.
Member Prefix	NM1/06	Member Prefix	Individual prefix.
Member Suffix	NM1/07	Member Suffix	Individual suffix.
Identification Code Qualifier	NM1/08	"34" = Member's SSN	Code designating the system/method of code structure used for identification.
Identification Code	NM1/09	Member's SSN	Code identifying a party.

Attributes															
NM1/01				NM1/02				NM1/03				NM1/04			
0098	ID	2/3	M	1065	ID	1/1	M	1035	AN	1/60	X	1036	AN	1/35	O
NM1/05				NM1/06				NM1/07				NM1/08			
1037	AN	1/25	O	1038	AN	1/10	O	1039	AN	1/10	O	0066	ID	1/2	X
						NM1/09									
						0067	AN	2/80	X						

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
2100A Loop – N3 Segment – Member Residence Street Address			
Subscriber Address	N3/01	Address Line 1	Subscriber's physical address. Supplemental address field in HRMN. Applies to all members enrolled under the subscriber.
Subscriber Address	N3/02	Address Line 2	Subscriber's physical address.

Attributes							
N3/01				N3/02			
0166	AN	1/55	M	0166	AN	1/55	O

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
2100A Loop – N4 Segment – Member Residence City, State, Zip Code			
Subscriber City	N4/01	City	Subscriber's physical city.
Subscriber State	N4/02	State	Subscriber's physical state.
Subscriber Zip Code	N4/03	Zip Code	Subscriber's physical zip code.
Subscriber Country	N4/04	Country Code	Subscriber's physical country code. Only transmitted if subscriber resides outside US.

Attributes															
N4/01				N4/02				N4/03				N4/04			
0019	AN	2/30	O	0156	ID	2/2	X	0116	ID	3/15	O	0026	ID	2/3	X

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
2100A Loop – DMG Segment – Member Demographics			
Date/Time Format	DMG/01	"D8" = CCYYMMDD	Code indicating the date format.
Date/Time Period	DMG/02	CCYYMMDD	Member's date of birth.
Gender Code	DMG/03	"F" = Female "M" = Male	Code indicating the gender of the individual.
Marital Status	DMG/04	"B" = Domestic Partner "D" = Divorced "I" = Single "M" = Married "R" = Unreported "S" = Separated "U" = Unmarried "W" = Widowed "X" = Legally Separated	Code defining the marital status of a subscriber. HRMN Marital Status "P" Domestic Partner transmits as "B" Domestic Partner. HRMN Marital Status "S" Single transmits as "I" Single. HRMN Marital Status "R" Separated transmits as "S" Separated. HRMN Marital Status "L" Legally Separated transmits as "X" Legally Separated.

Attributes															
DMG/01				DMG/02				DMG/03				DMG/04			
1250	ID	2/3	X	1251	AN	1/35	X	1068	ID	1/1	O	1067	ID	1/1	O

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
2100C Loop – NM1 Segment – Member Mailing Address			
Entity Identifier Code	NM1/01	"31" = Postal Mailing Address	Transmitted only when a subscriber's mailing address is different than their physical. Code identifying an organizational entity, a physical location, property or an individual.
Entity Type Qualifier	NM1/02	"1" = Person	Code qualifying the type of entity.

Attributes							
NM1/01				NM1/02			
0098	ID	2/3	M	1065	ID	1/1	M

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
2100C Loop – N3 Segment – Member Mailing Street Address			
Mailing Address	N3/01	Mailing Address Line 1	Transmitted only when a subscriber's mailing address is different than their physical. Subscriber's Mailing Address. Home address field in HRMN. Applies to all members enrolled under the subscriber.
Mailing Address	N3/02	Mailing Address Line 2	Subscriber's Mailing Address.

Attributes							
N3/01				N3/02			
0166	AN	1/55	M	0166	AN	1/55	O

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
2100C Loop – N4 Segment – Member Mailing City, State, Zip Code			
Mailing City	N4/01	City	Transmitted only when a subscriber's mailing address is different than their physical. Subscriber's mailing city.
Mailing State	N4/02	State	Subscriber's mailing state.
Mailing Zip Code	N4/03	Zip Code	Subscriber's mailing zip code.
Mailing Country	N4/04	Country Code	Subscriber's mailing country code. Only transmitted if subscriber resides outside US.

Attributes															
N4/01				N4/02				N4/03				N4/04			
0019	AN	2/30	O	0156	ID	2/2	X	0116	ID	3/15	O	0026	ID	2/3	X

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
2300 Loop – HD Segment – Health Coverage			
Maintenance Type Code	HD/01	"001" = Change "021" = Addition "024" = Cancellation or Termination "030" = Audit or Compare	Code identifying the specific type of item maintenance. "001" Change records impact demographics only, unless DTP01="543". If "543" date does not appear on "001" change record, no eligibility changes should be made. "030" records are for Audit only, these records are not to be loaded.
Insurance Line Code	HD/03	"AK" = Mental Health "DCP" = Dental Capitation (for DMO) "DEN" = Dental "HLT" = Health "HMO" = Health Maintenance Organization "PPO" = Preferred Provider Organization "VIS" = Vision	Code identifying a group of insurance products.
Plan Coverage Description	HD/04	Carrier's Name	A description or number that identifies the plan or coverage.
Coverage Level Code	HD/05	"ECH" = Employee and Children "EMP" = Employee Only "ESP" = Employee and Spouse "FAM" = Family	Code indicating the level of coverage being provided for this insured. Coverage Level Code will be blank when an employee has a Domestic Partner (OEAI) enrolled. This is specific to the two digit HRMN Coverage Options of 31, 32, 33, or 34 in the REF|DX segment.

Attributes															
HD/01				HD/03				HD/04				HD/05			
0875	ID	3/3	M	1205	ID	2/3	O	1204	AN	1/50	O	1207	ID	3/3	O

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
2300 Loop – DTP Segment – Health Coverage Dates			
Date/Time Qualifier	DTP/01	"303" = Maintenance Effective "348" = Benefit Begin "349" = Benefit End "543" = Cobra Paid Thru Date	Code specifying type of date. The DTP01 Qualifier of "543" indicates eligibility term date for COBRA participants. COBRA coverage only exists if "543" paid thru date is provided, if no "543" date is specified then no COBRA coverage should exist.
Date/Time Format	DTP/02	"D8" = CCYYMMDD	Code indicating the date format.
Date/Time Period	DTP/03	CCYYMMDD	Date applicable with DTP01 qualifier.

Attributes											
DTP/01				DTP/02				DTP/03			
0374	ID	3/3	M	1250	ID	2/3	M	1251	AN	1/35	M

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
Trailer Loop – SE Segment – Transaction Set Trailer			
Transaction Segment Count	SE/01		Total number of segments included in a transaction set including ST and SE segments.
Set Control Number	SE/02		Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set. Must match ST02.

Attributes							
SE/01				SE/02			
0096	N0	1/10	M	0329	AN	4/9	M

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
Trailer Loop – GE Segment – Functional Group Trailer			
Transaction Set Count	GE/01		Total number of transaction sets included in the functional group or interchange group terminated by the trailer containing this data element.
Group Control Number	GE/02		Assigned number originated and maintained by the sender. Must match GS06.

Attributes							
GE/01				GE/02			
0097	N0	1/6	M	0028	AN	1/9	M

Element Description	Segment/ Element	Element Values/Qualifiers	Summary
Trailer Loop – IEA Segment – Interchange Control Trailer			
Functional Group Count	IEA/01		A count of the number of functional groups included in an interchange.
Interchange Control Number	IEA/02		A control number assigned by the interchange sender. Must match ISA13.

Attributes							
IEA/01				IEA/02			
I16	N0	1/5	M	I12	AN	9/9	M

File Layout Example

ISA|00| |00| |30|123456789 |ZZ|123456789 |180101|1400|^|00501|123456789|0|P

GS|BE|SOM-ACTIVE|123456789|20180101|1400|123456789|X|005010X220A1~

ST|834|0001|005010X220A1~

BGN|00|ABCDEF123456|20180101|1400|ED|||2~

REF|38|ABC123~

N1|P5|STATE OF MICHIGAN|FI|123456789~

N1|IN|CARRIER NAME|FI|123456789~

INS|Y|18|001|22|A|||FT||N|~

REF|0F|123456789~

REF|1L|123456~

REF|DX|1901 Y99 ABCD 01~

REF|23|123456789~

DTP|356|D8|20180101~

NM1|IL|1|LASTNAME|FIRSTNAME|MIDDLENAME|||34|123456789~

N3|400 S PINE ST~

N4|LANSING|MI|48933~

DMG|D8|19800101|M|I~

NM1|31|1~

N3|PO BOX 30002~

N4|LANSING|MI|48909~

HD|001|PPO|CARRIER NAME|EMP~

DTP|348|D8|20180101~

SE|123|0001~

GE|123|123456789~

IEA|1|123456789~

Standard Transaction Examples

Active Employment Member –
"021" Add record for Active coverage.
"348" begin date transmitted.
Active coverage: 01/01/18-12/31/9999.

INS|Y|18|021|22|A|||FT||N|~
REF|0F|123456789~
REF|1L|123456~
REF|DX|1901 Y99 ABCD 01~
REF|23|123456789~
DTP|356|D8|20180101~
NM1|IL|1|LAST|FIRST|MIDDLE|||34|123456789~
N3|400 S PINE ST~
N4|LANSING|MI|48933~
DMG|D8|19800101|M|I~
HD|021|PPO|CARRIER NAME|EMP~
DTP|348|D8|20180101~

Active Employment Member –
"024" Term record for Active coverage.
"349" end date transmitted.
Active coverage: 01/01/18-05/31/18.

INS|Y|18|024|22|A|||FT||N|~
REF|0F|123456789~
REF|1L|123456~
REF|DX|1901 Y99 ABCD 01~
REF|23|123456789~
DTP|356|D8|20180101~
NM1|IL|1|LAST|FIRST|MIDDLE|||34|123456789~
N3|400 S PINE ST~
N4|LANSING|MI|48933~
DMG|D8|19800101|M|I~
HD|024|PPO|CARRIER NAME|EMP~
DTP|349|D8|20180531~
DTP|303|D8|20171116~
DTP|348|D8|20180101~

True COBRA Member –
"021" Add record for COBRA enrollment without LTD rider.
No "543" paid thru date transmitted.
COBRA coverage: No COBRA enrollment.

INS|Y|18|021|09|C||6|L1||N~
REF|0F|123456789~
REF|1L|123456~
REF|DX|1901 Y99 ABCD 01~
REF|23|123456789~
DTP|356|D8|20180101~
DTP|340|D8|20180201~
DTP|341|D8|20190731~
NM1|IL|1|LAST|FIRST|MIDDLE|||34|123456789~
N3|400 S PINE ST~
N4|LANSING|MI|48933~
DMG|D8|19800101|M|I~
HD|021|PPO|CARRIER NAME|EMP~
DTP|348|D8|20180201~

Continuation of Coverage Member –
"021" Add record for COBRA enrollment with LTD rider.
"543" paid thru date present.
COBRA coverage: 02/01/18-07/31/18.

INS|Y|18|021|09|C||10|L1||N~
REF|0F|123456789~
REF|1L|123456~
REF|DX|1901 Y99 ABCD 01~
REF|23|123456789~
DTP|356|D8|20180101~
DTP|340|D8|20180201~
DTP|341|D8|20190731~
NM1|IL|1|LAST|FIRST|MIDDLE|||34|123456789~
N3|400 S PINE ST~
N4|LANSING|MI|48933~
DMG|D8|19800101|M|I~
HD|021|PPO|CARRIER NAME|EMP~
DTP|348|D8|20180201~
DTP|543|D8|20180731~

True COBRA Member –
"001 Change record for COBRA coverage.
"543" paid thru date present.
COBRA coverage: 02/01/18-03/31/18. (payment received)

INS|N|18|001|09|C||6||N|N~
REF|0F|123456789~
REF|1L|123456~
REF|DX|1901 Y99 ABCD 01~
REF|23|123456789~
DTP|303|D8|20180315~
DTP|356|D8|20180101~
DTP|340|D8|20180201~
DTP|341|D8|20190731~
NM1|IL|1|LAST|FIRST|MIDDLE|||34|123456789~
N3|400 S PINE ST~
N4|LANSING|MI|48933~
DMG|D8|19800101|M|I~
HD|001|PPO|CARRIER NAME|EMP~
DTP|303|D8|20180315~
DTP|348|D8|20180201~
DTP|543|D8|20180331~

Continuation of Coverage Member –
"024" Term record for COBRA coverage.
"543" paid thru date present.
COBRA coverage: 02/01/18-05/31/18

INS|Y|18|024|09|C||10|L1~
REF|0F|123456789~
REF|1L|123456~
REF|DX|1901 Y99 ABCD 01~
REF|23|123456789~
DTP|356|D8|20180101~
DTP|340|D8|20180201~
DTP|341|D8|20190731~
NM1|IL|1|LAST|FIRST|MIDDLE|||34|123456789~
N3|400 S PINE ST~
N4|LANSING|MI|48933~
DMG|D8|19800101|M|I~
HD|024|PPO|CARRIER NAME|EMP~
DTP|349|D8|20180531~
DTP|303|D8|20180531~
DTP|348|D8|20180201~
DTP|543|D8|20180531~

Interchange and Application Control Structures

Interchange Control Structure

The transmission of data proceeds according to very strict format rules to ensure the integrity and maintain the efficiency of the interchange. Each business grouping of data is called a transaction set. For instance, a group of benefit enrollments sent from a sponsor to a payer is considered a transaction set.

Each transaction set contains groups of logically related data in units called segments. For instance, the N4 segment used in the transaction set conveys the city, state, ZIP Code, and other geographic information. A transaction set contains multiple segments, so the addresses of the different parties, for example, can be conveyed from one computer to the other.

The sequence of the elements within one segment is specified by the ASC X12 standard as well as the sequence of segments in the transaction set. In a more conventional computing environment, the segments would be equivalent to records, and the elements equivalent to fields.

Similar transaction sets, called "functional groups," can be sent together within a transmission. Each functional group is prefaced by a group start segment; and a functional group is terminated by a group end segment. One or more functional groups are prefaced by an interchange header and followed by an interchange trailer.

Application Control Structure Definitions and Concepts

Basic Structure

A data element corresponds to a data field in data processing terminology. A data segment corresponds to a record in data processing terminology. The data segment begins with a segment ID and contains related data elements. A control segment has the same structure as a data segment; the distinction is in the use. The data segment is used primarily to convey user information, but the control segment is used primarily to convey control information and to group data segments.

- **Delimiter**
  A delimiter is a character used to separate two data elements or component elements or to terminate a segment. The delimiters are an integral part of the data. Delimiters are specified in the interchange header segment, ISA. Once specified in the interchange header, the delimiters are not to be used in a data element value elsewhere in the interchange.

Business Transaction Structure Definitions and Concepts

The ASC X12 standards define commonly used business transactions (such as a health care claim) in a formal structure called "transaction sets." A transaction set is composed of a transaction set header control segment, one or more data segments, and a transaction set trailer control segment. Each segment is composed of the following:

• A unique segment ID
• One or more logically related data elements each preceded by a data element separator
• A segment terminator

Data Element

The data element is the smallest named unit of information in the ASC X12 standard. Data elements are identified as either simple or component. A data element that occurs as an ordinally positioned member of a composite data structure is identified as a component data element. A data element that occurs in a segment outside the defined boundaries of a composite data structure is identified as a simple data element. The distinction between simple and component data elements is strictly a matter of context because a data element can be used in either capacity.

Data elements are assigned a unique reference number. Each data element has a name, description, type, minimum length, and maximum length. For ID type data elements, this guide provides the applicable ASC X12 code values and their descriptions or references where the valid code list can be obtained.

A simple data element within a segment may have an attribute indicating that it may occur once or a specific number of times more than once. The number of permitted repeats are defined as an attribute in the individual segment where the repeated data element occurs. Each data element is assigned a minimum and maximum length. The length of the data element value is the number of character positions used except as noted for numeric, decimal, and binary elements.

- **Numeric (Nn)**
  A numeric data element is represented by one or more digits with an optional leading sign representing a value in the normal base of 10. The value of a numeric data element includes an implied decimal point. It is used when the position of the decimal point within the data is permanently fixed and is not to be transmitted with the data. This set of guides denotes the number of implied decimal positions. The representation for this data element type is "Nn" where N indicates that it is numeric and n indicates the number of decimal positions to the right of the implied decimal point.

- **Identifier (ID)**
  An identifier data element always contains a value from a predefined list of codes that is maintained by the ASC X12 Committee or some other body recognized by the Committee. Trailing spaces must be suppressed unless they are necessary to satisfy a minimum length. An identifier is always left justified. The representation for this data element type is "ID."

- **String (AN)**
  A string data element is a sequence of any characters from the basic or extended character sets. The string data element must contain at least one non-space character. The significant characters shall be left justified. Leading spaces, when they occur, are presumed to be significant characters. Trailing spaces must be suppressed unless they are necessary to satisfy a minimum length. The representation for this data element type is "AN."

- **Date (DT)**
  A date data element is used to express the standard date in either YYMMDD or CCYYMMDD format in which CC is the first two digits of the calendar year, YY is the last two digits of the calendar year, MM is the month (01 to 12), and DD is the day in the month (01 to 31). Users of this guide should note that all dates within transactions are 8-character dates (millennium compliant) in the format CCYYMMDD. The only date data element that is in format YYMMDD is the Interchange Date data element in the ISA segment and the TA1 segment where the century is easily determined because of the nature of an interchange header.

- **Time (TM)**
  A time data element is used to express the ISO standard time HHMMSS format in which HH is the hour for a 24 hour clock (00 to 23), MM is the minute (00 to 59) and SS is the second (00 to 59). The representation for this data element type is "TM." The length of the data element determines the format of the transmitted time.

Repeating Data Elements

Simple or composite data elements within a segment can be designated as repeating data elements. Repeating data elements are adjacent data elements that occur up to a number of times specified in the standard as number of repeats. The implementation guide may also specify the number of repeats of a repeating data element in a specific location in the transaction that are permitted in a compliant implementation. Adjacent occurrences of the same repeating simple data element or composite data structure in a segment shall be separated by a repetition separator.

Composite Data Structure

The composite data structure is an intermediate unit of information in a segment. Composite data structures are composed of one or more logically related simple data elements, each, except the last, followed by a sub-element separator. The final data element is followed by the next data element separator or the segment terminator. Each simple data element within a composite is called a component.

Each composite data structure has a unique four-character identifier, a name, and a purpose. The identifier serves as a label for the composite. Each component within the composite is further characterized by a reference designator and a condition designator.

A composite data structure within a segment may have an attribute indicating that it may occur once or a specific number of times more than once. The number of permitted repeats are defined as an attribute in the individual segment where the repeated composite data structure occurs.

Data Segment

The data segment is an intermediate unit of information in a transaction set. In the data stream, a data segment consists of a segment identifier, one or more composite data structures or simple data elements each preceded by a data element separator and succeeded by a segment terminator.

Each data segment has a unique two- or three-character identifier, a name, and a purpose. The identifier serves as a label for the data segment. A segment can be further defined through the use of syntax notes, semantic notes, and comments. Each simple data element or composite data structure within the segment is further characterized by a reference designator and a condition designator.

Syntax Notes
Syntax notes describe relational conditions among two or more data segment units within the same segment, or among two or more component data elements within the same composite data structure.

Semantic Notes
Simple data elements or composite data structures may be referenced by a semantic note within a particular segment. A semantic note provides important additional information regarding the intended meaning of a designated data element, particularly a generic type, in the context of its use within a specific data segment. Semantic notes may also define a relational condition among data elements in a segment based on the presence of a specific value (or one of a set of values) in one of the data elements.

Reference Designator
Each simple data element or composite data structure in a segment is provided a structured code that indicates the segment in which it is used and the sequential position within the segment. The code is composed of the segment identifier followed by a two-digit number that defines the position of the simple data element or composite data structure in that segment.

For purposes of creating reference designators, the composite data structure is viewed as the hierarchical equal of the simple data element. Each component data element in a composite data structure is identified by a suffix appended to the reference designator for the composite data structure of which it is a member. This suffix is prefixed with a hyphen and defines the position of the component data element in the composite data structure.

Example
• The first simple element of the CLP segment would be identified as CLP01.
• The first position in the SVC segment is occupied by a composite data structure that contains seven component data elements, the reference designator for the second component data element would be SVC01-02.

Condition Designator
This section provides information about X12 standard conditions designators. It is provided so that users will have information about the general standard. Implementation guides may impose other conditions designators. Data element conditions are of three types: mandatory, optional, and relational. They define the circumstances under which a data element may be required to be present or not present in a particular segment.

Control Segment
A control segment has the same structure as a data segment, but it is used for transferring control information rather than application information.

- **Loop Control Segment**
  Loop control segments are used only to delineate bounded loops. Delineation of the loop shall consist of the loop header (LS segment) and the loop trailer (LE segment). The loop header defines the start of a structure that must contain one or more iterations of a loop of data segments and provides the loop identifier for this loop. The loop trailer defines the end of the structure. The LS segment appears only before the first occurrence of the loop, and the LE segment appears only after the last occurrence of the loop. Unbounded looping structures do not use loop control segments.

- **Transaction Set Control Segment**
  The transaction set is delineated by the transaction set header (ST segment) and the transaction set trailer (SE segment). The transaction set header identifies the start and identifier of the transaction set. The transaction set trailer identifies the end of the transaction set and provides a count of the data segments, which includes the ST and SE segments.

- **Functional Group Control Segment**
  The functional group is delineated by the functional group header (GS segment) and the functional group trailer (GE segment).The functional group header starts and identifies one or more related transaction sets and provides a control number and application identification information. The functional group trailer defines the end of the functional group of related transaction sets and provides a count of contained transaction sets.

Transaction Set
The transaction set is the smallest meaningful set of information exchanged between trading partners. The transaction set consists of a transaction set header segment, one or more data segments in a specified order, and a transaction set trailer segment.

- **Transaction Set Header and Trailer**
  A transaction set identifier uniquely identifies a transaction set. This identifier is the first data element of the Transaction Set Header Segment (ST). A user assigned transaction set control number in the header must match the control number in the Trailer Segment (SE) for any given transaction set. The value for the number of included segments in the SE segment is the total number of segments in the transaction set, including the ST and SE segments.

- **Data Segment Groups**
  The data segments in a transaction set may be repeated as individual data segments or as unbounded or bounded loops.

- **Loops of Data Segments**
  Loops are groups of semantically related segments. Data segment loops may be unbounded or bounded.

  - **Unbound Loop**
    To establish the iteration of a loop, the first data segment in the loop must appear once and only once in each iteration. Loops may have a specified maximum number of repetitions. Alternatively, the loop may be specified as having an unlimited number of iterations. The notation for an unlimited number of repetitions is ">1."

    A specified sequence of segments is in the loop. Loops themselves are optional or mandatory. The requirement designator of the beginning segment of a loop indicates whether at least one occurrence of the loop is required. Each appearance of the beginning segment defines an occurrence of the loop.

    The requirement designator of any segment within the loop after the beginning segment applies to that segment for each occurrence of the loop. If there is a mandatory requirement designator for any data segment within the loop after the beginning segment, that data segment is mandatory for each occurrence of the loop. If the loop is optional, the mandatory segment only occurs if the loop occurs.

  - **Bounded Loops**
    The characteristics of unbounded loops described previously also apply to bounded loops. In addition, bounded loops require a Loop Start Segment (LS) to appear before the first occurrence and a Loop End Segment (LE) to appear after the last consecutive occurrence of the loop. If the loop does not occur, the LS and LE segments are suppressed.

- **Data Segment in a Transaction Set**
  When data segments are combined to form a transaction set, three characteristics are applied to each data segment: a requirement designator, a position in the transaction set, and a maximum occurrence.

- **Data Segment Requirement Designators**
  A data segment, or loop, has one of the following requirement designators for health care and insurance transaction sets, indicating its appearance in the data stream of a transmission. These requirement designators are represented by a single character code.

- **Data Segment Position**
  The ordinal positions of the segments in a transaction set are explicitly specified for that transaction. Subject to the flexibility provided by the optional requirement designators of the segments, this positioning must be maintained.

Functional Group

A functional group is a group of similar transaction sets that is bounded by a functional group header segment and a functional group trailer segment. The functional identifier defines the group of transactions that may be included within the functional group. The value for the functional group control number in the header and trailer control segments must be identical for any given group. The value for the number of included transaction sets is the total number of transaction sets in the group.