

Procedure for setting up Illinois health care facility for HESS reporting

1. Missouri DHSS provides HESS Data Submission Plan and data format specifications (HESS HL7 Exhibit A - Revised and HESS Structure File Exhibit B – Revised) to health care facility.
2. Facility completes and mails HESS Data Submission to Missouri DHSS.
3. Missouri DHSS coordinates with the facility to set up a testing phase including VPN connection. DHSS will validate the message/record to make sure it meets specifications.
4. Missouri DHSS coordinates a "go production" date with the facility.

HESS Data Submission Plan

All elements of this plan must be reviewed and approved by MODHSS before data submissions will be accepted. Attach additional pages as needed to provide sufficient details.

1. Hospital Identification Number (National Provider ID preferred) _____
2. Hospital Name and Address

3. Hospital Technical Contact(s) Name and Phone number(s)

4. Date you expect to be ready to submit test data. _____
5. Date you expect to be ready to submit production data. _____
6. What format will be used for the messages/records?
_____ HL7 version 2.3.1
_____ ASCII structured flat file
7. How frequently will the messages/records be sent?
_____ Real-time (requires HL7)
_____ Daily Batch (must be received by 8:30 AM of following day)
8. MODHSS uses a Virtual Private Network (VPN) as its secure message transport protocol and typically uses the following IKE and IPSec parameters:
Encryption - 3DES,
Authentication - MD5
Diffie Helman Group - 2
_____ Will use parameters listed above.
_____ Other parameters required. Please list below.

9. Will data be submitted by a third party agent for the hospital?

No

Yes

If yes, third party name and contact information:

10. Contact information for person(s) completing this plan

Send completed plans to:

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Missouri Department of Health and Senior Services
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Introduction

For the purposes of Public Health Syndromic Surveillance, the HL7 v 2.3.1 message format will be used. ADT messages with a number of different event codes may carry information about chief complaint including A01 through A18. A04, Register a patient, will often be used to signal the beginning of a visit to the Emergency Department. A01, Admit/visit notification, and A08, Update patient information, may also be used to indicate changes to an initial A04 registration such as assigned or updated diagnosis or admission of an ER patient. Only message types ADT^A01, ADT^A04, and ADT^A08 are required for HESS reporting.

Although a general ADT message can have a much more complex structure, HESS reporting requires only the MSH, PID, PV1, and PV2 and/or DG1 segments. Only one MSH, PID, and PV1 segment will be allowed per message. However, multiple PV2 and/or DG1 segments may be sent per message.

Segment	Description	HL7 Chapter
MSH	Message Header	2
PID	Patient Identification	3
PV1	Patient Visit	3
[PV2]	Patient Visit - Additional Information	3
[DG1]	Diagnosis Information	6

Required data elements for public health syndromic surveillance reporting are located in segments MSH, PID, PV1, and PV2 / DG1. The rest of this exhibit identifies the specific formats for these segments. Elements with an optionality (OPT) of "R" are required. All other elements are not required and therefore may not be described in the segment details. Complete HL7 documentation can be found at <http://www.hl7.org/>. These specifications are in compliance with the specifications for HL7 version 2.3.1.

Please note that HL7 messaging requires the use of MLLP (Minimum Lower Layer Protocol), also known as MLP.

MSH Segment – Message Header

The message header segment (MSH) defines the intent, source, destination, and some specifics of the syntax of a message. The attributes of the message header segment are listed in the table below.

MSH Attributes

SEQ	LEN	DT	OPT	TBL#	RP/#	ITEM#	Element Name
1	1	ST	R			00001	Field Separator
2	4	ST	R			00002	Encoding Characters
3	180	HD	O			00003	Sending Application
4	180	HD	R			00004	Sending Facility
5	180	HD	R			00005	Receiving Application
6	180	HD	R			00006	Receiving Facility
7	26	TS	R			00007	Date/Time Of Message
8	40	ST	O			00008	Security
9	7	CM	R	0076		00009	Message Type
10	20	ST	R			00010	Message Control ID
11	3	PT	O			00011	Processing ID
12	8	ID	R	0104		00012	Version ID
13	15	NM	O			00013	Sequence Number
14	180	ST	O			00014	Continuation Pointer
15	2	ID	O	0155		00015	Accept Acknowledgment Type
16	2	ID	O	0155		00016	Application Acknowledgment Type
17	2	ID	O			00017	Country Code
18	6	ID	O	0211	Y/3	00692	Character Set
19	60	CE	O			00693	Principal Language Of Message

Example of MSH:

```
MSH|^~\&||HospitalName^013319934^NPI|MOHESS|MODHSS|200802171830||ADT^A04||P|2.3.1<cr>
```

If elements that contain no data (e.g., “|”) appear at the end of a segment, HL7 allows the elements to not appear. For example, the message above has no data populating elements 13-19, thus, the segment ends at element 12 (i.e., ...|2.3.1).

MSH field definitions:

MSH-1 Field separator (ST) 00001

Definition: This field contains the separator between the segment ID and the first real field, MSH-2-encoding characters. As such it serves as the separator and defines the character to be used as a separator for the rest of the message. Recommended value is |, (ASCII 124).

MSH-2 Encoding characters (ST) 00002

Definition: This field contains the four characters in the following order: the component separator, repetition separator, escape character, and subcomponent separator. Expected values will be ^~\&, (ASCII 94, 126, 92, and 38, respectively)

MSH-4 Sending facility (EI) 00004

Components: <namespace ID (IS)> ^ <universal ID (ST)> ^ <universal ID type (ID)>

This element contains the name of the originating hospital, National Provider Identifier (NPI), and “NPI” as the universal type. In the absence of an NPI, the hospital’s Medicaid Provider ID may be used with the universal ID type identified as “MCID”.

namespace ID	Name of originating hospital
universal ID	Unique NPI number of originating hospital
universal ID type	"NPI"

|Hospital Name^013319934^NPI|

MSH-5 Receiving application (EI) 00005
 This element will always contain "MOHESS" for Missouri Hospital Electronic Syndromic Surveillance.

MSH-6 Receiving facility (EI) 00006
 This element will always contain "MODHSS" for the Missouri Department of Health and Senior Services.

MSH-7 Date/time of message (TS) 00007
 HL7 Format: YYYY[MM[DD[HHMM[SS[S[S[S[S]]]]]]][+/-ZZZZ]

EXAMPLE

|200302171830|

Definition: This field contains the date/time that the sending system created the message. Local time is expected, but, if the time zone is specified, it will be used throughout the message as the default time zone. Precision to the minute level is acceptable for the purpose of this message and time zone is not required.

MSH-9 Message type (CM) 00009
 Components: <message type (ID)> ^ <trigger event (ID)> ^<message structure (ID)>

EXAMPLE

|ADT^A04|

Definition: This field contains the message type, trigger event, and abstract message structure code for the message. The first component is the message type edited by HL7 table 0076 – Message type; second is the trigger event code edited by HL7 table 0003 - Event type; third is the abstract message structure code edited by HL7 Table 0354 - Message structure.

For Hospital Syndromic Surveillance all messages will be of type ADT and trigger events will be A01, A04, or A08. The third component is not required.

MSH-10 Message Control ID (ST) 00010
 Definition: Unique identifier used to relate a response (e.g., an ACK) to its initial message.

MSH-11 Processing ID (PT) 00011
 Components: <processing ID (ID)> ^ <processing mode (ID)>

EXAMPLE

|P|

Definition: This field is used to decide whether to process the message as defined in HL7 Application (level 7) Processing rules, above. The first component defines whether the message is part of a production, training, or debugging system (refer to HL7 table 0103 - Processing ID for valid values). The second component defines whether the message is part of an archival process or an initial load (refer to HL7 table 0207 - Processing mode for valid values). This allows different priorities to be given to different processing modes.

Most messages for Hospital Syndromic Surveillance will be Production messages which do not require a processing mode. Other values will only be accepted for the purposes of initial testing, debugging, or archival data as instructed by MODHSS.

Table 0103 - Processing ID

Value	Description
D	Debugging
P	Production
T	Training

Table 0207 - Processing mode

Value	Description
A	Archive
R	Restore from archive
I	Initial load
not present	Not present (the default, meaning <i>current</i> processing)

Version ID (VID) 00012

Components:

<version ID (ID)>^<internationalization code (CE)>^<internal version ID (CE)>

EXAMPLE

|2.3.1|

Definition: This field is matched by the receiving system to its own version to be sure the message will be interpreted correctly. Preferred version is 2.3.1 and is assumed if null.

Table 0104 - Version ID

Value	Description
2.0	Release 2.0 September 1988
2.0D	Demo 2.0 October 1988
2.1	Release 2. 1 March 1990
2.2	Release 2.2 December 1994
2.3	Release 2.3 March 1997
2.3.1	Release 2.3.1

PID Segment – Patient Identification

The PID segment is used as the primary means of communicating patient identification information. This segment contains permanent patient identifying and demographic information that is not likely to change frequently.

PID Attributes

SEQ	LEN	DT	OPT	TBL#	RP/#	ITEM#	Element Name
1	4	SI	R			00104	Set ID - Patient ID
2	20	CX	O			00105	Patient ID (External ID)
3	20	CX	R		Y	00106	Patient ID (Internal ID)
4	20	CX	O		Y	00107	Alternate Patient ID - PID
5	48	XPN	O			00108	Patient Name
6	48	XPN	O			00109	Mother's Maiden Name
7	26	TS	R			00110	Date/Time of Birth
8	1	IS	R	0001		00111	Sex
9	48	XPN	O		Y	00112	Patient Alias
10	1	IS	R	0005		00113	Race
11	106	XAD	R		Y	00114	Patient Zipcode
12	4	IS	O			00115	County Code
13	40	XTN	O		Y	00116	Phone Number - Home
14	40	XTN	O		Y	00117	Phone Number - Business
15	60	CE	O	0296		00118	Primary Language
16	1	IS	O	0002		00119	Marital Status
17	3	IS	O	0006		00120	Religion
18	20	CX	O			00121	Patient Account Number
19	16	ST	O			00122	SSN Number - Patient
20	25	CM	O			00123	Driver's License Number - Patient
21	20	CX	O		Y	00124	Mother's Identifier
22	3	IS	R	0189		00125	Ethnic Group
23	60	ST	O			00126	Birth Place
24	2	ID	O	0136		00127	Multiple Birth Indicator
25	2	NM	O			00128	Birth Order
26	4	IS	O	0171	Y	00129	Citizenship
27	60	CE	O	0172		00130	Veterans Military Status
28	80	CE	O			00739	Nationality
29	26	TS	C			00740	Patient Death Date and Time
30	1	ID	R	0136		00741	Patient Death Indicator

Example of PID:

```
PID|1||95101100001^^^^ Hospital Name&013319934&NPI ||Doe^John^Q^Jr||19641004|M||W|2166
Wells Dr^Apt B^Jefferson
City^MO^65101^USA^^^C051|051|^206^6793240|||||423523049|||N|||||N|<cr>
```

PID field definitions:

PID-1 Set ID-patient ID (SI) 00104

This field allows for multiple PID segments (i.e. multiple patient reports) with a single MSH. The Set ID field is used to identify repetitions. For hospital-based reporting, only one patient should be sent per message, in other words, one PID per MSH. Thus, PID-1 may be left blank or should appear as:

|1|

PID-3 Patient ID (internal ID) (CX) 00106

PID-3 is essentially the patient identifier (i.e., medical record number) from the hospital, which is submitting the report to public health officials. The field has the same components as PID-2:

```
<ID (ST)> ^ <check digit (ST)> ^ <code identifying the check digit scheme employed (ID)> ^
<assigning authority (HD)> ^ <identifier type code (IS)> ^ <assigning facility (HD)>
```

The <assigning facility> is a component of PID-3, and thus is separated from the other components by a “^”. The component <assigning facility> has three subcomponents which are separated with a “&”. Since HL7 allows users to define the subcomponents of the HD data type, the <assigning facility> has the following definition for the hospital-based reporting message:

namespace ID	Name of originating hospital
universal ID	Unique NPI number of originating hospital
universal ID type	“NPI”

Repeating Identifiers

Although Repeating Identifiers may be used when there is a need to represent multiple internal identifiers used at an institution, they are generally not required for syndromic surveillance. If used, the field should appear as:

```
|95101100001^^^Hospital Name&013319934&NPI|~|56850125M7^^^Hospital
Name&013319934&NPI|
```

If the assigning facility is the same as MSH-4 sending facility, only the first component is required:
|95101100001|

PID-5 Patient Name (XPN) 00108

The field has the following components:

```
<family name (ST)> ^ <given name (ST)> ^ <middle initial or name (ST)> ^ <suffix (e.g., JR or III)
(ST)> ^ <prefix (e.g., DR) (ST)> ^ <degree (e.g., MD) (ST)> ^ <name type code (ID)>
```

EXAMPLE

```
|Doe^John^Q^Jr|
```

Patient Name is optional for Illinois facilities.

PID-7 Date/Time of Birth (TS) 00110

The field has the same structure as defined for MSH-7. The field should contain at least the year, month, and date.

EXAMPLE

```
|19641004|
```

If only the patient’s age is available, HL7 2.3 allows the degree of precision to be changed so that only the year is provided:

```
|1964|
```

PID-8 Sex (IS) 00111

HL7 allows users to define the values for Table 0001. The accepted values for the hospital-based reporting message are:

Sex - Table 0001

Value	Description
F	Female
M	Male
U	Unknown / not stated

EXAMPLE
|M|

PID-10 Race (IS) 00113

Although HL7 allows users to define the values for Table 0005. The accepted values for the hospital-based reporting message are:

Race - Table 0005

Value	Description
W	White
B	Black
A	Asian or Pacific Islander
I	American Indian or Alaskan Native
M	Multiracial
O	Other
U	Unknown

EXAMPLE
|W|

PID-11 Patient Address (XAD) 00114

The field has the following components:

<street address (ST)> ^ < other designation (ST)> ^ <city (ST)> ^ <state or province (ST)> ^ <zip or postal code (ST)> ^ <country (ID)> ^ <address type (ID)> ^ <other geographic designation (ST)> ^ <county/parish code (IS)> ^ <census tract (IS)>

EXAMPLES

|2166 Wells Dr^Apt B^Jefferson City^MO^65101^USA^^^COLE|
|2166 Wells Dr^Apt B^Jefferson City^MO^65101^^^051|

The first sequence of this field contains the primary residence address for the patient. This information allows health officials to notify local agencies of potential public health problems in their jurisdictions.

Multiple addresses are not required for syndromic surveillance. However, if a secondary address is sent, but no primary address, then a repeat delimiter (-) must be sent in the first sequence.

If your facility collects Homeless information in a standardized manner that allows you to identify homeless patients programmatically, please note the following **FIPS** code usages:

- PID-11.4 State: Use 97 for homeless and 98 for non-US
- PID-11.5 Zip / postal code: Use 99997 for homeless and 99998 for non-US
- PID-11.6 Country: Use 9997 for homeless
- PID-11.9 County: Use 997 for homeless and 998 for non-US

Note that although FIPS codes exist for foreign countries, it is generally too much of a burden for health care facilities to use FIPS codes to report foreign countries. In fact, many facilities do not

collect country information at all. If your facility captures free form text for foreign countries, this text may be used for reporting foreign country information.

For Illinois facilities, only the zip or postal code, state, country (if available), and county are required. If a facility is not able to send FIPS codes, county name may be sent.

EXAMPLES for Illinois facilities:

```
|^^^|L^62208^USA^^^163|
|^|^L^62246^^^BOND|
```

PID-12 County Code (IS) 00115

This field may contain FIPS code for the county where the patient resides. If FIPS code is not available, the name of the county should appear here. The county is also supported in the county/parish code component of the XAD data type (PID-11.9 of Patient Address). If county information is not reported here, it should be reported in PID-11.9.

PID-13 Phone Number - Home (XTN) 00116

Field follows the HL7-defined structure for extended telecommunications number, data type XTN, which has the following components:

```
[NNN] [(999)]999-9999 [X99999] [B99999] [C any text] ^ <telecommunication use code (ID)> ^
<telecommunication equipment type (ID)> ^ <E-mail address (ST)> ^ <country code (NM)> ^
<area/city code (NM)> ^ <phone number (NM)> ^ <extension (NM)> ^ <any text (ST)>
```

Components five through nine reiterate the basic function of the first component in a delimited form that allows the expression of both local and international telephone numbers. In HL7 Version 2.3, the recommended form for the telephone number is to use the delimited form rather than the unstructured form supported by the first component (which was left in for backward compatibility only). Nevertheless, Missouri syndromic surveillance supports the receipt of phone information in either the first component or components five through nine. Alternative home phone numbers are not required but can be provided with the repeating character "~".

EXAMPLES

```
|^^^206^6793240^call after 5:00 pm only ~ ^^206^6795772^112|
|(816)999-9999|
```

Home phone number is not required for Illinois facilities.

PID-19 Social Security Number (SSN) (ST) 00122

This field contains the patient's social security number. The field should contain the 9-digit SSN without hyphens or spaces.

EXAMPLE

```
|423523049|
```

Social Security Number is not required for Illinois facilities.

PID-22 Ethnic Group (IS) 00125

The following table should be used for hospital-based reporting if the ethnic group of the patient is known:

Ethnic Group - Table 0189

Value	Description
H	Hispanic
N	Non-Hispanic
U	Unknown

EXAMPLE
|N|

PID-29 Patient Death Date and Time (TS) 00740

Field is optional for HL7 2.3 but is recommended for hospital-based reporting if available. Patient Death Date and Time should be reported if PID-30 = "Y". For many hospitals, the discharge date can be used when the patient is deceased.

PID-30 Patient Death Indicator (ID) 00741

Field is optional for HL7 2.3 but is recommended for hospital-based reporting if available. HL7 requires the use of HL7 table 0136 - Yes/No Indicator for PID-30 where Y=yes and N=no. Many hospitals are able to determine Patient Death Indicator from discharge disposition.

An example for a patient that died is:
|Y|

Additional PID examples:

```
PID|1||325003||MYLAST^MYFIRST||19130323|F||B|3 YOURSTREET DR^J3^ST
LOUIS^MO^63146|510|(314)223-3333|||||773839993|||N|<cr>
```

```
PID|1||325001^^^GOOD
HOSPITAL&266666&MCID||MYLAST^MYFIRST^MI^SFX^PFX^DEG||19610521|F||W|111 S
GRAND^APT 222^SAINT LOUIS^MO^631030000^USA^HOME^029|029|(314)221-
3331|||||771819991|||H|||||20041012001111|Y
```

PV1 Segment – Patient visit segment

The PV1 segment is used by Registration/Patient Administration applications to communicate information on a visit-specific basis.

SEQ	LEN	DT	OPT	RP/#	TBL#	ITEM#	ELEMENT NAME
1	4	SI	O			00131	Set ID - PV1
2	1	IS	R		0004	00132	Patient Class
3	80	PL	O			00133	Assigned Patient Location
4	2	IS	R		0007	00134	Admission Type
5	20	CX	O			00135	Preadmit Number
6	80	PL	O			00136	Prior Patient Location
7	60	XCN	O	Y	0010	00137	Attending Doctor
8	60	XCN	O	Y	0010	00138	Referring Doctor
9	60	XCN	O	Y	0010	00139	Consulting Doctor
10	3	IS	O		0069	00140	Hospital Service
11	80	PL	O			00141	Temporary Location
12	2	IS	O		0087	00142	Preadmit Test Indicator
13	2	IS	O		0092	00143	Re-admission Indicator
14	3	IS	O		0023	00144	Admit Source
15	2	IS	O	Y	0009	00145	Ambulatory Status
16	2	IS	O		0099	00146	VIP Indicator
17	60	XCN	O	Y	0010	00147	Admitting Doctor
18	2	IS	O		0018	00148	Patient Type
19	20	CX	R			00149	Visit Number
20	50	FC	O	Y	0064	00150	Financial Class
21	2	IS	O		0032	00151	Charge Price Indicator
22	2	IS	O		0045	00152	Courtesy Code
23	2	IS	O		0046	00153	Credit Rating
24	2	IS	O	Y	0044	00154	Contract Code
25	8	DT	O	Y		00155	Contract Effective Date
26	12	NM	O	Y		00156	Contract Amount
27	3	NM	O	Y		00157	Contract Period
28	2	IS	O		0073	00158	Interest Code
29	1	IS	O		0110	00159	Transfer to Bad Debt Code
30	8	DT	O			00160	Transfer to Bad Debt Date
31	10	IS	O		0021	00161	Bad Debt Agency Code
32	12	NM	O			00162	Bad Debt Transfer Amount
33	12	NM	O			00163	Bad Debt Recovery Amount
34	1	IS	O		0111	00164	Delete Account Indicator
35	8	DT	O			00165	Delete Account Date
36	3	IS	O		0112	00166	Discharge Disposition
37	25	CM	O		0113	00167	Discharged to Location
38	80	CE	O		0114	00168	Diet Type
39	2	IS	O		0115	00169	Servicing Facility
40	1	IS	O		0116	00170	Bed Status
41	2	IS	O		0117	00171	Account Status
42	80	PL	O			00172	Pending Location
43	80	PL	O			00173	Prior Temporary Location
44	26	TS	R			00174	Admit Date/Time
45	26	TS	O			00175	Discharge Date/Time

SEQ	LEN	DT	OPT	RP/#	TBL#	ITEM#	ELEMENT NAME
46	12	NM	O			00176	Current Patient Balance
47	12	NM	O			00177	Total Charges
48	12	NM	O			00178	Total Adjustments
49	12	NM	O			00179	Total Payments
50	20	CX	O		0203	00180	Alternate Visit ID
51	1	IS	O		0326	01226	Visit Indicator
52	60	XCN	O	Y	0010	01274	Other Healthcare Provider

Example of PV1:

PV1|1|E||E|||||||7|||||8399193^^Hospital Name&013319934&NPI|||||||||||||||||033120031420<cr>

PV1 field definitions:

PV1-1 Set ID - PV1 (SI) 00131

Definition: This field contains the number that identifies this transaction. For the first occurrence of the segment, the sequence number shall be one, for the second occurrence, the sequence number shall be two, etc.

PV1-2 Patient class (IS) 00132

Definition: This field is used by systems to categorize patients by site. It does not have a consistent industry-wide definition. It is subject to site-specific variations. Refer to user-defined table 0004 - Patient class for values used for hospital-based syndromic reporting.

User-defined Table 0004 - Patient class

<u>Value</u>	<u>Description</u>
E	Emergency
I	Inpatient
O	Outpatient
P	Preadmit
R	Recurring Patient
B	Obstetrics

PV1-4 Admission type (ID) 00134

Definition: This field indicates the circumstances under which the patient was or will be admitted. Refer to user-defined Table 0007 - Admission type for values used for hospital-based syndromic reporting.

User-defined Table 0007 - Admission type

<u>Value</u>	<u>Description</u>
A	Accident
E	Emergency
L	Labor and Delivery
R	Routine

PV1-14 Admit source (IS) 00144

Definition: This field indicates from where the patient was admitted. Refer to user-defined table

0023 Admit source for suggested values. This field is used on UB92 FL19. The UB codes listed below are not an exhaustive list; refer to a UB specification for additional information.

Note: The official title of UB is "National Uniform Billing Data Element Specifications." Most of the codes added came from the UB-92 specification, but some came from the UB-82.

User-defined Table 0023 - Admit source

<u>Value</u>	<u>Description</u>
1	Physician Referral
2	Clinic Referral
3	HMO Referral
4	Transfer from a Hospital
5	Transfer from a Skilled Nursing Facility
6	Transfer from Another Health Care Facility
7	Emergency Room
8	Court/Law Enforcement
9	Information Not Available

Admit Source is not required for Illinois facilities.

PV1-19 Visit number (CX) 00149

Components: <ID (ST)> ^ <check digit (ST)> ^ <code identifying the check digit scheme employed (ID)> ^ <assigning authority (HD)> ^ <identifier type code (IS)> ^ <assigning facility (HD)>Subcomponents of assigning authority: <namespace ID (IS)> & <universal ID (ST)> & <universal ID type (ID)>Subcomponents of assigning facility: <namespace ID (IS)> & <universal ID (ST)> & <universal ID type (ID)>

Definition: For backward compatibility, an NM data type may be sent, but HL7 recommends that new implementations use the CX data type. This field contains the unique number assigned to each patient visit. Although the assigning authority and identifier type code are generally strongly recommended for CX data types, if not present it will be assumed MSH-4 Sending Facility is the assigning authority. Note: For some hospitals, Patient Account may be used if it is indeed unique for each patient visit.

EXAMPLES:

[311431332]
[V615243]

PV1-44 Admit date/time (TS) 00174

Definition: This field contains the admit date/time. It is to be used if the event date/time is different from the admit date and time, i.e., a retroactive update. This field is also used to reflect the date/time of an outpatient/emergency patient registration. This field provides a temporal context for the chief complaint.

Note: The preferred method of reporting chief complaint data is using a PV2 segment. However, the DG1 segment is also supported and may be sent either in addition to a PV2 segment or in place of the PV2 segment.

PV2 Segment – Patient visit – additional information segment

In order to leverage data available in existing clinical information system, chief complaint data may be sent in a **PV2** segment **Admit Reason** element. This element is a CE data type but should be sent as free text. The location or institution and date/time will be inferred from the **MSH** segment.

The **PV2** segment description in this implementation guide is IDENTICAL to the HL7 V2.3.1 **PV2** description in Chapter 3 except that the **Admit Reason** element is required and the discussion of this element has been expanded.

PV2 attributes

SEQ	LEN	DT	OPT	RP/#	TBL#	ITEM#	ELEMENT NAME
1	80	PL	C			00181	Prior Pending Location
2	60	CE	O		0129	00182	Accommodation Code
3	60	CE	R			00183	Admit Reason
4	60	CE	O			00184	Transfer Reason
5	25	ST	O	Y		00185	Patient Valuables
6	25	ST	O			00186	Patient Valuables Location
7	2	IS	O		0130	00187	Visit User Code
8	26	TS	O			00188	Expected Admit Date/Time
9	26	TS	O			00189	Expected Discharge Date/Time
10	3	NM	O			00711	Estimated Length of Inpatient Stay
11	3	NM	O			00712	Actual Length of Inpatient Stay
12	50	ST	O			00713	Visit Description
13	90	XCN	O	Y		00714	Referral Source Code
14	8	DT	O			00715	Previous Service Date
15	1	ID	O		0136	00716	Employment Illness Related Indicator
16	1	IS	O		0213	00717	Purge Status Code
17	8	DT	O			00718	Purge Status Date
18	2	IS	O		0214	00719	Special Program Code
19	1	ID	O		0136	00720	Retention Indicator
20	1	NM	O			00721	Expected Number of Insurance Plans
21	1	IS	O		0215	00722	Visit Publicity Code
22	1	ID	O		0136	00723	Visit Protection Indicator
23	90	XON	O	Y		00724	Clinic Organization Name
24	2	IS	O		0216	00725	Patient Status Code
25	1	IS	O		0217	00726	Visit Priority Code
26	8	DT	O			00727	Previous Treatment Date
27	2	IS	O		0112	00728	Expected Discharge Disposition
28	8	DT	O			00729	Signature on File Date
29	8	DT	O			00730	First Similar Illness Date
30	80	CE	O		0218	00731	Patient Charge Adjustment Code
31	2	IS	O		0219	00732	Recurring Service Code
32	1	ID	O		0136	00733	Billing Media Code
33	26	TS	O			00734	Expected Surgery Date & Time
34	1	ID	O		0136	00735	Military Partnership Code
35	1	ID	O		0136	00736	Military Non-Availability Code
36	1	ID	O		0136	00737	Newborn Baby Indicator
37	1	ID	O		0136	00738	Baby Detained Indicator

Examples of PV2:

```
PV2|||789.00^ABDMNAL PAIN UNSPCF SITE^I9C<cr>
PV2|||^ASTOMACH ACHE<cr>
PV2|||^ ^DYSYPNEA, LOW GRADE TEMP<cr>
```

PV2-3 Admit reason (CE) 00183

Components: <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)>

Definition: This field contains a short description of the reason for patient's visit. This reason may be coded as ICD-9, ICD-9-CM or ICD-10 codes but will often be sent as free text. If the reason is sent as a coded value, the text component must be sent in order to allow systems which rely on text to operate without having access to tables of coding systems that include text descriptions.

Values used for coding systems:

I9C = ICD-9-CM

I9 = ICD-9

I10 = ICD-10

Complete Message Example

```
MSH|^~\&||Hospital Name^013319934^NPI|MOHESS|MODHSS|200302171830||ADT^A04||P|2.3.1<cr>
PID|1||95101100001^^^^Hospital Name&013319934&NPI||Doe^John^Q^Jr||19641004|M||W|2166 Wells
Dr^Apt B^Jefferson City^MO^65101^USA^^051|051|^^^206^6793240||M|||423523049||N<cr>
PV1|1|E|E|||||||7|||||||8399193^^Hospital Name&013319934&NPI|||||||200302171420<cr>
PV2|||789.00^ABDMNAL PAIN UNSPCF SITE^I9C<cr>
```

DG1 Segment – Diagnosis segment

The DG1 segment contains patient diagnosis information of various types, for example, admitting, primary, etc. This element is a CE data type but should be sent as free text. The location or institution and date/time will be inferred from the **MSH** segment.

Figure 6-2. DG1 attributes

SEQ	LEN	DT	OPT	RP/#	TBL#	ITEM#	ELEMENT NAME
1	4	SI	R			00375	Set ID - DG1
2	2	ID	O		0053	00376	Diagnosis Coding Method
3	60	ST	O		0051	00377	Diagnosis Code
4	40	ST	R			00378	Diagnosis Description
5	26	TS	O			00379	Diagnosis Date/Time
6	2	IS	O		0052	00380	Diagnosis Type
7	60	CE	O		0118	00381	Major Diagnostic Category
8	60	CE	O		0055	00382	Diagnostic Related Group
9	2	ID	O		0136	00383	DRG Approval Indicator
10	2	IS	O		0056	00384	DRG Grouper Review Code
11	60	CE	O		0083	00385	Outlier Type
12	3	NM	O			00386	Outlier Days
13	12	CP	O			00387	Outlier Cost
14	4	ST	O			00388	Grouper Version And Type
15	2	ID	O			00389	Diagnosis Priority
16	60	XCN	O	Y		00390	Diagnosing Clinician
17	3	IS	O		0228	00766	Diagnosis Classification
18	1	ID	O		0136	00767	Confidential Indicator
19	26	TS	O			00768	Attestation Date/Time

Examples of DG1:

```
DG1|1||| HEAD INJURY, UNSPEC<cr>
DG1|2|I9C|789.00|ABDMNAL PAIN UNSPCF SITE|200302171420|A<cr>
DG1|3|I9|8472|SPRAIN LUMBAR REGION||F<cr>
```

DG1 field definitions:

DG1-1 Set ID - DG1 (SI) 00375

Definition: This field contains the number that identifies this transaction. For the first occurrence of the segment, the sequence number shall be 1, for the second occurrence it shall be 2, etc.

DG1-2 Diagnosis coding method (ID) 00376

Definition: This field contains the name of the standardized coding scheme used for the code in DG1-3. ICD9 is the recommended coding methodology and will be assumed if left blank.

Values used for coding systems:

- I9C = ICD-9-CM
- I9 = ICD-9
- I10 = ICD-10

DG1-3 Diagnosis code - DG1 (ST) 00377

Definition: This field contains a standard diagnostic code for the reason for patient's visit. This code may be from the ICD-9, ICD-9-CM or ICD-10 code systems. Not all hospitals will have this code available. Codes may be sent with or without imbedded periods.

DG1-4 Diagnosis description (ST) 00378

Definition: This field contains a short description of the reason for patient's visit. The reason may be the text associated with a standard ICD-9, ICD-9-CM or ICD-10 code but will often be sent as free text. This field is required.

DG1-5 Diagnosis date/time (TS) 00379

Definition: This field contains the date/time that the diagnosis was identified and is optional.

DG1-6 Diagnosis type (IS) 00380

Definition: This field identifies the type of diagnosis being sent.

Values used:

A = Admitting diagnosis

W = Working diagnosis

F = Final diagnosis

Complete Message Example

```
MSH|^~\&||Hospital Name^013319934^NPI|MOHESS|MODHSS|200302171830||ADT^A04||P|2.3.1<cr>
PID|1||95101100001^H^^Hospital Name&013319934&NPI||Doe^John^Q^Jr||19641004|M||W|2166 Wells
Dr^Apt B^Jefferson City^MO^65101^USA^^051|051|^^206^6793240||M|||423523049||N<cr>
PV1|1|E||E|||||||7|||||||8399193^^Hospital Name&013319934&NPI|||||||200302171420<cr>
PV2||^HEADACHE<cr>
DG1|1|I9|37999^ILL-DEFINED EYE PBX NEC||A<cr>
DG1|2|I9|4739|CHRONIC SINUSITIS NOS||F<cr>
```

HESS Structure File Exhibit B - Revised

As an alternative for hospitals that are not able to support HL7 messages, the following format will be used for transmission of data for the purposes of Public Health Syndromic Surveillance. The structure closely follows the fields defined in the HL7 message format.

All fields will be left justified with unknown values padded with spaces. Each record should end with a carriage return (ASC13) or carriage return/line feed (ASC13 ASC10).

The required column in Table 1 indicates whether a field is Required (R), Optional (O) or Conditionally (C) required. See the description to determine the requirements for conditional fields.

Table 1 – Hospital Syndromic Surveillance ASCII file structure

Field Name	Relative Position	Field Length	Required	Format	Description
Record Type	1	1	R	A	4 = New Record 8 = Update of previously sent record
Sending Facility Identifier	2-11	10	R	A/N	This field shall contain the National Provider Identifier (NPI) for the hospital/facility sending data. If no NPI is available, the state assigned Medicare provider number may be used.
Sending Facility Name	12-41	30	R	A/N	Name of the originating hospital
Date/Time of Message	42-53	12	R	N	YYYYMMDDHHMM format for date and time record is generated.
Processing ID	54	1	R	A	Unless directed by MODHSS, all records should be Production records. P = Production D = Debugging/Testing.
Patient Medical Record Number	55-74	20	R	A/N	Medical Record Number of the patient.
Patient Last Name	75-104	30	O	A/N	Last name of patient. No space should be embedded within a last name as in MacBeth. Titles (for example, Sir, Msgr., Dr.) should not be recorded. Record hyphenated names with the hyphen, as in Smith-Jones.
Patient First Name	105-124	20	O	A/N	First name of patient.
Patient Middle Name	125-144	20	O	A/N	Middle name or initial of patient, if known.
Patient Name Suffix	145-150	6	O	A/N	Record suffixes such as JR, SR, III, if known
Date of Birth	151-158	8	R	N	YYYYMMDD date of birth. If only age is known, record YYYY as year of birth.
Sex	159	1	R	A	Patient sex at time of encounter M = Male F = Female U = Unknown

HESS Structure File Exhibit B - Revised

Field Name	Relative Position	Field Length	Required	Format	Description
Race	160	1	R	A	W = White B = Black or African American A = Asian or Pacific Islander I = American Indian or Alaska Native M = Multiracial (two or more races) O = Other U = Unknown
Ethnicity	161	1	R	A	H = Hispanic or Latino N = Not Hispanic or Latino U = Unknown
Residence Address Line 1	162-191	30	O	A/N	Free form address line
Residence Address Line 2	192-221	30	O	A/N	Free form address line, if needed.
City	222-246	25	O	A/N	Patient city of residence.
State	247-248	2	R	A/N	Postal abbreviation for state of residence. Use 97 for homeless, 98 for non-US.
Zip Code	249-253	5	R	N	First five digits for patient residence (homeless = 99997, non-US = 99998)
County Code	254-256	3	R	N	Use FIPS codes (homeless = 997, non-US = 998)
Country Code	257-260	4	R	N	Use FIPS codes (homeless = 9997)
Phone Number Area Code	261-263	3	O	N	Format 999 if known, blank if not known
Phone Number	264-271	8	O	A/N	Format 999-9999 including hyphen if known, blank if not known.
Extension	272-276	5	O	A/N	Telephone extension, if necessary or known.
Social Security Number	277-285	9	O	N	Contains the 9-digit SSN without hyphens or spaces
Patient Death Indicator	286	1	R	A	If available. Y = Yes N = No
Patient Death Date Time	287-298	12	C	N	YYYYMMDDHHMM representation of Date and Time (if known) of death if Indicator is "Y".
Patient Class	299	1	R	A	Used to categorize patients by site. E = Emergency I = Inpatient O = Outpatient P = Preadmit R = Recurring patient B = Obstetrics
Admission Type	300	1	R	A	Indicates the circumstances under which the patient was or will be admitted A = Accident E = Emergency L = Labor and delivery R = Routine
Unique Encounter	301-320	20	R	A/N	Unique identifier within facility for

HESS Structure File Exhibit B - Revised

Field Name	Relative Position	Field Length	Required	Format	Description
Identifier					each patient encounter or visit.
Admit Date/Time	321-332	12	R	N	YYYYMMDDHHMM This field contains the admit date and time. This field is also used to reflect the date/time of an emergency patient or outpatient registration
Admit Reason Text	333-452	120	R	A/N	Textual literal chief complaint. The text must be sent even if a code is available.
Admit Reason Code	453-462	10	O	A/N	Diagnostic code for the reason for visit or chief complaint, if available. Not all hospitals will have this code available at the time of the initial report to MODHSS.
Admit Reason Coding Scheme	463-470	8	C	A/N	Standardized Coding scheme used for the Admit Reason Code, if Admit Reason Code is sent. I9C = ICD-9-CM I10 = ICD-10 SNOMED = SNOMED
Filler	471-500	30	R		Spaces