



Department of Health

Technical Specifications for Syndromic Surveillance

Facility Data Transmission

December 31, 2013

Revision: 2.9.1

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Revision History

Revision	Date	Description
R2.9.1	2013-12-31	Completely revised from 2011 version and customized to Ohio

Introduction

Health Monitoring Systems collects, processes, and displays healthcare data on behalf of public health and healthcare facilities. The data processed includes data from hospitals, urgent cares, ambulatory care facilities, physician practices, and federally qualified health centers.

This document specifies the requirements for submitting data to Health Monitoring Systems' EpiCenter software.

HIPAA and HITECH

Health Monitoring Systems makes every effort to ensure that our service is compliant with up to date security and privacy requirements. Sending facilities are responsible for ensuring that appropriate HIPAA and HITECH requirements are met when sending data to Health Monitoring Systems.

Participating Healthcare Providers

This document applies to healthcare providers submitting data to Health Monitoring Systems to meet Meaningful Use requirements. The types of providers covered by this include:

- Hospital Emergency Departments
- Eligible Professionals Urgent Care Facilities
- Federally Qualified Health Centers
- Ambulatory Care Facilities

Data Elements

Facilities are required to submit a record for each patient health encounter (either a visit or a registration, as applicable). A minimal set of data elements are required for every type of facility. These include:

- Facility identifier (identifier to be provided by HMS)
- Provider's NPI (required for ambulatory care facilities)
- Encrypted patient identifier
- Encrypted visit number
- Date and time of healthcare encounter
- Patient date of birth (or age in years)
- Patient home zip code
- Patient gender
- Patient class
- Free text chief complaint
- Discharge disposition
- Discharge diagnosis

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- Discharge date and time
- Temperature

In addition to the minimal required set of data elements, the following extended data may be collected, as determined on a per-project basis:

- Ethnicity
- Country of origin
- Triage notes

Encryption

All data must be sent securely to Health Monitoring Systems. Protected Health Information (PHI) and Individually Identifiable Health Information (IIHI) must be encrypted in the transmitted data. This includes, at a minimum, Patient Identifier and Patient Visit Number. The encryption method is at the sending facility's discretion, but must support decryption in the event that public health must identify a patient.

During a public health event, your facility may be asked to re-identify a large number of records. If this is infeasible, Health Monitoring Systems can encrypt and re-identify patient and visit numbers on a facility's behalf. This requires a HIPAA-compliant agreement between your facility and Health Monitoring Systems.

Data Transmission and Formats

Health Monitoring Systems is capable of receiving data transmitted using messaging over a VPN connection, SFTP, FTPS, and FTP over a VPN. This ensures security during data transmission.

Data format – HL7

The required data format is HL7, which may be transmitted using MLLP over a VPN, SFTP, FTPS or FTP over a VPN. Appendix A of this document provides details on HL7 support by our system. For Meaningful Use, EpiCenter supports HL7 version 2.5.1; however, facilities that met the Stage 1 syndromic surveillance menu option prior to 10/1/2013 and have continued to report using HL7 2.3.1 may continue to do so for Stage 2 Meaningful Use

EpiCenter supports the following HL7 message types: A01, A03, A04, and A08. Each message type must contain the same encrypted visit number in order to be successfully linked to a single patient interaction.

Appendix: HL7 Formatted Data

This appendix covers the specific data elements used by Health Monitoring Systems. This reference assumes properly constructed HL7 messages and message flow. Health Monitoring Systems provides message transformation and processing per facility. This permits flexibility in the code sets that are used.

Data Element	Message Type	Location	Requirement
Facility identifier	ALL	MSH-4	Health Monitoring Systems supplies facility identifiers in the format of <STATE>_<ID>. Non-updateable.
Patient identifier	ALL	PID-3	Required for all records. ¹ Non-updateable.
Visit number	ALL	PV1-19	Required for all records. Non-updateable.
Date and time of visit	Initial: A01, A04, A08 ²	PV1-44	Required for initial message. Non-updateable.
Patient date of birth (or age in years)	Initial message	PID-7 PID-7.2	All standard formats; can be updated from null to a valid date of birth or age.
Patient home zip code	Initial message, A08	PID-11.5	5 digit zip code; can be updated from null to a valid zip code only;
Patient class	Initial message	PV1-2	Standard (E, I, O) accepted; Custom class codes can be applied.
Free text chief complaint	Initial message, A08	PV2-3.2, OBX 5.2, or OBX 5.9	English language only; updateable.
Provider's NPI	Initial message, A08		Required for ambulatory care facilities
Ethnicity	Initial message, A08	PID-22	Custom ethnicity codes can be applied; can be updated from null to a valid code.
Country of Origin	Initial message, A08	PID-12	Can be update from null.
Discharge disposition	A08, A03	PV1-36	Standard CMS codes accepted. Custom disposition codes can be applied; can be updated from null to a valid code.
Discharge diagnosis	A08, A03	DG1-3	ICD-9 or ICD-10
Discharge time	A08, A03	DG1-5	All Standard Formats
Temperature	Initial message, A08	OBX-3.2	Fahrenheit or Celsius

¹ If the identifier is not encrypted, arrangements must be made for Health Monitoring Systems to encrypt it and re-identify it on the facility's behalf.

² This data element is populated based on the data received in the initial registration message

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Appendix: HL7 Specifications

The following tables address the message segments process by Health Monitoring Systems. Our software accepts properly formatted HL7 for versions listed in Data format – HL7.

MSH:

Description	Segment	Sequence	ED/Urgent Care	Ambulatory Care	Inpatient	Message Types	Accepted Formats
Field Separator	MSH	1	Required	Required	Required	A01, A03, A04, A08	“ ” preferred, others accepted per HL7 guidelines
Encoding Characters	MSH	2	Required	Required	Required	A01, A03, A04, A08	“^~\&” HL7 recommended.
Sending Facility	MSH	4	Required	Required	Required	A01, A03, A04, A08	Provided by HMS.
HL7 message date and time	MSH	7	Required	Required	Required	A01, A03, A04, A08	All Standard Formats
Message Type	MSH	9-1	Required	Required	Required	A01, A03, A04, A08	ADT
Trigger Event Code	MSH	9-2	Required	Required	Required	A01, A03, A04, A08	
Message Control ID	MSH	10	Required	Required	Required	A01, A03, A04, A08	
Processing Mode	MSH	11	Required	Required	Required	A01, A03, A04, A08	
HL7 Version	MSH	12	Required	Required	Required	A01, A03, A04, A08	See “Data format – HL7” for supported versions.

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PID:

Description	Segment	Sequence	ED/Urgent Care	Ambulatory Care	Inpatient	Message Types	Accepted Formats
Patient ID	PID	3	Required	Required	Required	A01, A03, A04, A08	Patient ID should be encrypted.
Identifier Type Code	PID	3-5	Required	Required	Required	A01, A03, A04, A08	Specifies type of Patient ID provided in PID 3 (e.g. MR)
Patient DOB	PID	7	Required	Required	Required	A01, A03, A04, A08	All standard formats
Patient Age	PID	7-2	Optional	Optional	Optional	A01, A03, A04, A08	Age in Years
Patient Gender	PID	8	Required	Required	Required	A01, A03, A04, A08	M, F; please supply any custom codes in use;
Patient Home Zip Code	PID	11-5	Required	Required	Required	A01, A03, A04, A08	
Patient Ethnicity	PID	22	Optional	Optional	Optional	A01, A03, A04, A08	Standard codes supported; please supply any custom codes in use.

PVI:

Description	Segment	Sequence	ED/Urgent Care	Ambulatory	Inpatient	Message Types	Accepted Formats
Patient Class	PV1	2	Required	Required	Required	A01, A03, A04, A08	E for ED, O for Ambulatory, I for Inpatient; please supply any custom codes in use.
Visit Number	PV1	19	Required	Required	Required	A01, A03, A04, A08	Encrypted.

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Discharge Disposition	PV1	36	Required	N/A	Required	A03	codes; please supply any custom codes in use.
Interaction Date/Time	PV1	44	Required	Required	Required	A01, A03, A04, A08	All standard formats
Discharge Date/Time	PV1	45	Required	N/A	Required	A03, A08	All standard formats

PV2:

Description	Segment	Sequence	ED/Urgent Care	Ambulatory Care	Inpatient	Message Types	Example
Admit Reason	PV2	3-2	Required	Required	Required	A01, A03, A04, A08	Free text reason for visit

DG1:

Description	Segment	Sequence	ED/Urgent Care	Ambulatory Care	Inpatient	Message Types	Example
ICD-9 Coding	DG1-3	3	Required ³	Optional	Optional	A01, A03, A04, A08	ICD-9 and ICD-10 accepted
Diagnostic Date/Time	DG1	5	Optional	Optional	Optional	A01, A03, A04, A08	All standard formats
Diagnosis Type	DG1	6	Required	N/A	Required	A01, A03, A04, A08	Primary, Admitting, Discharge

OBX:⁴

³ This is required if the facility is sending diagnosis, it is optional otherwise.

⁴ Currently HMS supports the processing of Patient Temperature via OBX segments

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Description	Segment	Sequence	ED/Urgent Care	Ambulatory	Inpatient	Message Types	Accepted Formats
Set ID	OBX	1	Required	Optional	Optional	A01, A03, A04, A08	Numbers the repetitions of the OBX segments (OBX 1)
Value Type ⁵	OBX	2	Required	Optional	Optional	A01, A03, A04, A08	Format of Observation Value (e.g. Degrees Fahrenheit)
Observation Identifier	OBX	3.1	Required	Optional	Optional	A01, A03, A04, A08	Identifies data to be received in observation (e.g. Body Temperature)
Text	OBX	3.2	Required	Optional	Optional	A01, A03, A04, A08	Observation Value
Chief Complaint	OBX	5.2	Required	Optional	Optional	A01, A03, A04, A08	Chief Complaint to be sent in OBX 5-2 if it is captured as a structured field.
Chief Complaint	OBX	5.9	Required	Optional	Optional	A01, A03, A04, A08	Chief Complaint to be sent in OBX 5-9 if it is captured as a free-text value.

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