

HL7 Interface Specification for the Transmission of PCMM Primary Care Data

1 INTRODUCTION

This interface specification specifies the information needed for PCMM Primary Care data reporting. This data exchange will be triggered by specific events in the PCMM package. The basic communication protocol will be addressed, as well as the information that will be made available and how it will be obtained.

1.1 General

This application will use the abstract message approach and encoding rules specified by HL7. HL7 is used for communicating data associated with various events that occur in health care environments.

For example, when a patient is assigned to a primary care team in PCMM, the event will trigger a PCMM primary care update message. This message is an unsolicited transaction to all external systems interfacing with **VISTA**.

The formats of these messages conform to the Version 2.3 HL7 Interface Standards where applicable. HL7 custom message formats ("Z" segments) are used only when necessary.

1.2 Assumptions

Assumptions have been made at the beginning of this project in order to help define the scope and meet the initial needs in interfacing with the Austin Automation Center (AAC).

1.2.1 Message Content

The data sent in the HL7 messages will be limited to the information that can be processed by the AAC, with the exception of the PID segment, which will be populated using the nationally supported **VISTA** call. The data being sent will also be limited to what is available in **VISTA**.

In order to capture the most information, specific PCMM events will generate messages to the AAC systems. This is not intended to cover all possible PCMM events; only those which may result in the capture of primary care data needed to update the National Patient Care Database (NPCD). The mode for capturing data for PCMM events was chosen to capture as much of the data as possible. (See Data Capture and Transmission (1.2.2) for further information on the mode for capturing the PCMM events.)

Per the HL7 standards, Primary Care data fields that are transmitted as null (“”) will delete data from the NPCD. A field that is transmitted as blank does not delete data; it simply means take no action on the field. In the ZPC segment, if field **Provider Assignment ID** has a value and all remaining fields are nulls, Austin should do the following.

If this record exists, **delete** it from the database.
If this record does not exist, **ignore** this segment.

1.2.2 Data Capture and Transmission

When PCMM options or calls are used to update specific primary care data in **VISTA**, these events and changes will be captured. Any changes made to the **VISTA** database in non-standard ways, such as a direct global set by an application or by MUMPS code, will not be captured.

1.2.3 Background Messages

A nightly background job will be sending HL7 messages for the appropriate PCMM primary care event for the day.

1.2.4 VA MailMan Lower Level Protocol

HL7 V. 1.6 of the VA MailMan lower level protocol (LLP) will be used. This version of the VA MailMan LLP differs from HL7 V. 1.5 in that a blank line is placed between each segment in the message [denoting a carriage return].

2 HL7 CONTROL SEGMENTS

This section defines the HL7 control segments supported by **VISTA**. The messages are presented separately and defined by category. Segments are also described. The messages are presented in the following categories:

Message Control

Unsolicited Transactions from **VISTA** (Section 3)

2.1 Message Definitions

From the **VISTA** perspective, all incoming or outgoing messages are handled or generated based on an event.

In this section, and the following sections, these elements will be defined for each message:

- The trigger events
- The message event code
- A list of segments used in the message
- A list of fields for each segment in the message

Each message is composed of segments. Segments contain logical groupings of data. Segments may be optional or repeatable. A [] indicates the segment is optional, the { } indicates the segment is repeatable. For each message category there will be a list of HL7 standard segments or "Z" segments used for the message.

2.2 Segment Table Definitions

For each segment, the data elements are described in table format. The table includes the sequence number (SEQ), maximum length (LEN), data type (DT), required or optional (R/O), repeatable (RP/#), the table number (TBL #), the element name, and the **VISTA** description. Each segment is described in the following sections.

2.3 Message Control Segments

This section describes the message control segments that are contained in message types described in this document. These are generic descriptions. Any time any of the segments described in this section are included in a message in this document, the **VISTA** descriptions and mappings will be as specified here, unless otherwise specified in that section.

2.3.1 MSH - Message Header Segment

| SEQ | LEN | DT | R/O | RP/# | TBL# | ELEMENT NAME | VISTA DESCRIPTION |
|-----|-----|----|-----|------|--------------|---------------------------------|--|
| 1 | 1 | ST | R | | | Field Separator | Recommended value is ^ (caret) |
| 2 | 4 | ST | R | | | Encoding Characters | Recommended delimiter values: Component = ~ (tilde) Repeat = (bar) Escape = \ (back slash) Sub-component = & (ampersand) |
| 3 | 15 | ST | | | | Sending Application | PCMM-212 |
| 4 | 20 | ST | | | | Sending Facility | Station's facility number |
| 5 | 30 | ST | | | | Receiving Application | NPCD-PCMM |
| 6 | 30 | ST | | | | Receiving Facility | Facility=200 |
| 7 | 26 | TS | | | | Date/Time Of Message | Date and time message was created |
| 8 | 40 | ST | | | | Security | Not used |
| 9 | 7 | CM | R | | 0076 0003 | Message Type | <u>2 Components</u> 1. Refer to Table 0076 2. Refer to Table 0003 |
| 10 | 20 | ST | R | | | Message Control ID | Automatically generated by VISTA HL7 Package |
| 11 | 1 | ID | R | | 0103 | Processing ID | P (production) |
| 12 | 8 | ID | R | | 0104 | Version ID | 2.3 (Version 2.3) |
| 13 | 15 | NM | | | | Sequence Number | Not used |
| 14 | 180 | ST | | | | Continuation Pointer | Not used |
| 15 | 2 | ID | | | 0155 | Accept Acknowledgment Type | NE (never acknowledge) |
| 16 | 2 | ID | | | 0155 | Application Acknowledgment Type | AL (always acknowledge) |
| 17 | 2 | ID | | | | Country Code | Not used |

2.3.2 EVN - Event Type Segment

| SEQ | LEN | DT | R/O | RP/# | TBL# | ELEMENT NAME | VISTA DESCRIPTION |
|-----|-----|----|-----|------|------|-------------------------|--------------------------|
| 1 | 3 | ID | R | | 0003 | Event Type Code | Refer to Table 0003 |
| 2 | 26 | TS | R | | | Date/Time of Event | Date/Time Event Occurred |
| 3 | 26 | TS | | | | Date/Time Planned Event | Not used |
| 4 | 3 | ID | | | 0062 | Event Reason Code | Not used |
| 5 | 60 | CN | | | 0188 | Operator ID | Not used |

2.3.3 PID - Patient Identification Segment

| SEQ | LEN | DT | R/O | RP/# | TBL# | ELEMENT NAME | VISTA DESCRIPTION |
|-----|-----|----|-----|------|------|----------------------------|---|
| 1 | 4 | SI | | | | Set ID - Patient ID | Always 1 |
| 2 | 20 | CK | | | | Patient ID (External ID) | Integration Control Number (ICN) |
| 3 | 20 | CM | R | Y | | Patient ID (Internal ID) | Pointer to entry in PATIENT file |
| 4 | 12 | ST | | | | Alternate Patient ID | Primary Short ID |
| 5 | 48 | PN | R | | | Patient Name | Name |
| 6 | 30 | ST | | | | Mother's Maiden Name | Mother's maiden name |
| 7 | 26 | TS | | | | Date of Birth | Date of birth |
| 8 | 1 | ID | | | 0001 | Sex | <i>Refer to Table 0001</i> |
| 9 | 48 | PN | | Y | | Patient Alias | Alias |
| 10 | 1 | ID | | | 0005 | Race | Race |
| 11 | 106 | AD | | Y | | Patient Address | Address |
| 12 | 4 | ID | | | | County Code | VA County Code |
| 13 | 40 | TN | | Y | | Phone Number - Home | Phone number (residence) |
| 14 | 40 | TN | | Y | | Phone Number - Business | Phone number (work) |
| 15 | 25 | ST | | | | Language - Patient | Not used |
| 16 | 1 | ID | | | 0002 | Marital Status | <i>Refer to Table 0002</i> |
| 17 | 3 | ID | | | 0006 | Religion | Religion |
| 18 | 20 | CK | | | | Patient Account Number | Not used |
| 19 | 16 | ST | | | | SSN Number - Patient | Social security number and pseudo indicator |
| 20 | 25 | CM | | | | Driver's Lic Num - Patient | Not used |
| 21 | 20 | CK | | | | Mother's Identifier | Not used |
| 22 | 1 | ID | | | 0189 | Ethnic Group | Not used |
| 23 | 25 | ST | | | | Birth Place | Not used |
| 24 | 2 | ID | | | | Multiple Birth Indicator | Not used |
| 25 | 2 | NM | | | | Birth Order | Not used |
| 26 | 3 | ID | | Y | 0171 | Citizenship | Not used |
| 27 | 60 | CE | | | 0172 | Veterans Military Status | Not used |

2.3.4 ZPC – VA Specific Primary Care Information Segment

| SEQ | LEN | DT | R/O | RP/# | TBL# | ELEMENT NAME | VISTA DESCRIPTION |
|-----|-----|-----|-----|------|------|-----------------------------------|---|
| 1 | 20 | ST | R | | | Provider Assignment ID | Facility – number Example: 500-234 Where: 500 = Facility number 234 = Pointer to full ID in PCMM HL7 ID file (404.49). |
| 2 | 90 | XCN | R | | | Provider ID | <u>14 Components</u> 1. <u>2 Sub-Components</u> 1.1. Pointer to entry in NEW PERSON file (#200) 1.2. Facility Number 2. <family name (ST) > & < last_name_prefix (ST)> 3. <given name (ST)> 4. <middle initial or name (ST)> 5. <suffix (e.g., JR or III) (ST)> 6. <prefix (e.g., DR) (ST)> 7. <degree (e.g., MD) (IS)> 8. This will always be VA200 (NEW PERSON file) 9. Not used 10. Not used 11. Not used 12. Not used 13. Not used 14. Assigning Facility (HD) - This will be the facility number |
| 3 | 26 | TS | R | | | Date Provider Assigned | File POSITION ASSIGNMENT HISTORY (404.52), field .02 –or- PRECEPTOR ASSIGNMENT HISTORY (404.53), field .02 . |
| 4 | 26 | TS | O | | | Date Provider Unassigned | Date is derived from STATUS field (.04) in both POSITION ASSIGNMENT HISTORY (404.52), and PRECEPTOR ASSIGNMENT HISTORY (404.53).. |
| 5 | 3 | ID | R | | | Provider Type Code | PCP = Primary Care Provider AP = Associate Provider |
| 6 | 20 | CE | O | | | Provider Person Class | <u>3 Components</u> 1. Provider Type Code 2. Not used 3. This will always be VA8932.1 (PERSON CLASS file) |
| 7 | 4 | SI | R | | | Set ID | This field is used to sequentially number multiple Primary Care (ZPC) segments. |
| 8 | 9 | ST | O | | | Provide Social Security Number | SSN (#9) field of the NEW PERSON (#200) file. |

3 PURPOSE

This section defines the HL7 message transactions that are necessary to support the primary care data in the NPCD for the Austin Automation Center (AAC). These messages will use the generic HL7 format, so that they can be expanded later to support new interfaces at other facilities.

3.1 Trigger Events and Message Definitions

Each triggering event is listed below, along with the applicable form of the message to be exchanged. The notation used to describe the sequence, option, and repetition of segments is described in the HL7 Final Standard Manual, Chapter 2, Section 2.4.8, Chapter Formats for Defining Abstract Messages, and in summary form, in Section 2.1 of this document.

3.1.1 Update Patient Information (A08)

PCMM Primary Care trigger events will create an entry into the PCMM HL7 EVENT file (#404.48) under the following circumstances.

- When a patient is assigned/unassigned to a position
- When an existing patient assignment is edited
- When an existing patient assignment is deleted
- When a provider is assigned/unassigned to a position
- When an existing provider assignment is edited
- When an existing provider assignment is deleted

A recurring job will process the PCMM HL7 EVENT file and trigger an A08 message to be sent for each patient marked for transmission. The receiving system will replace any data that exists with the “new” data that is transmitted with this message based on the **Provider Assignment ID** field.

Business Rules

When an entry is deleted, a ZPC segment will be sent showing the Provider Assignment ID and the remaining fields as null (“”). This will delete the current record.

| ADT | ADT Message | Section |
|------------|------------------------|----------------|
| MSH | Message Header | 0 |
| EVN | Event Type | 0 |
| PID | Patient Identification | 0 |
| {ZPC} | PCMM Primary Care Data | 2.3.4 |

4 SUPPORTED AND USER-DEFINED HL7 TABLES

4.1 Table 0001 - Sex

| VALUE | DESCRIPTION |
|-------|-------------|
| F | FEMALE |
| M | MALE |
| O | OTHER |
| U | UNKNOWN |

4.2 Table 0002 - Marital Status

| VALUE | DESCRIPTION |
|-------|-------------|
| A | SEPARATED |
| D | DIVORCED |
| M | MARRIED |
| S | SINGLE |
| W | WIDOWED |

4.3 Table 0003 - Event Type Code

| VALUE | DESCRIPTION |
|-------|----------------------------|
| A08 | UPDATE PATIENT INFORMATION |

4.4 Table 0005 - Race

| VALUE | DESCRIPTION |
|-------|----------------------------------|
| 1 | HISPANIC, WHITE |
| 2 | HISPANIC, BLACK |
| 3 | AMERICAN INDIAN OR ALASKA NATIVE |
| 4 | BLACK, NOT OF HISPANIC ORIGIN |
| 5 | ASIAN OR PACIFIC ISLANDER |
| 6 | WHITE, NOT OF HISPANIC ORIGIN |
| 7 | UNKNOWN |

4.5 Table 0006 – Religion

| VALUE | DESCRIPTION |
|-------|-----------------------------|
| 0 | ROMAN CATHOLIC CHURCH |
| 1 | JUDAISM |
| 2 | EASTERN ORTHODOX |
| 3 | BAPTIST |
| 4 | METHODIST |
| 5 | LUTHERAN |
| 6 | PRESBYTERIAN |
| 7 | UNITED CHURCH OF CHRIST |
| 8 | EPISCOPALIAN |
| 9 | ADVENTIST |
| 10 | ASSEMBLY OF GOD |
| 11 | BRETHREN |
| 12 | CHRISTIAN SCIENTIST |
| 13 | CHURCH OF CHRIST |
| 14 | CHURCH OF GOD |
| 15 | DISCIPLES OF CHRIST |
| 16 | EVANGELICAL COVENANT |
| 17 | FRIENDS |
| 18 | JEHOVAH'S WITNESSES |
| 19 | LATTER DAY SAINTS |
| 20 | ISLAM |
| 21 | NAZARENE |
| 22 | OTHER |
| 23 | PENTECOSTAL |
| 24 | PROTESTANT |
| 25 | PROTESTANT, NO DENOMINATION |
| 26 | REFORMED |
| 27 | SALVATION ARMY |
| 28 | UNITARIAN-UNIVERSALISM |
| 29 | UNKNOWN/NO PREFERENCE |
| 30 | NATIVE AMERICAN |
| 31 | ZEN BUDDHISM |
| 32 | AFRICAN RELIGIONS |
| 33 | AFRO-CARIBBEAN RELIGIONS |
| 34 | AGNOSTICISM |
| 35 | ANGLICAN |
| 36 | ANIMISM |
| 37 | ATHEISM |
| 38 | BABI & BAHAI FAITHS |
| 39 | BON |
| 40 | CAO DAI |
| 41 | CELTICISM |
| 42 | CHRISTIAN (NON-SPECIFIC) |
| 43 | CONFUCIANISM |
| 44 | CONGREGATIONAL |
| 45 | CYBERCULTURE RELIGIONS |
| 46 | DIVINATION |
| 47 | FOURTH WAY |
| 48 | FREE DAISM |
| 49 | FULL GOSPEL |
| 50 | GNOSIS |
| 51 | HINDUISM |
| 52 | HUMANISM |
| 53 | INDEPENDENT |
| 54 | JAINISM |
| 55 | MAHAYANA |

4.5 Table 006 - Religion, cont.

| VALUE | DESCRIPTION |
|-------|------------------------------|
| 56 | MEDITATION |
| 57 | MESSIANIC JUDAISM |
| 58 | MITRAISM |
| 59 | NEW AGE |
| 60 | NON-ROMAN CATHOLIC |
| 61 | OCCULT |
| 62 | ORTHODOX |
| 63 | PAGANISM |
| 64 | PROCESS, THE |
| 65 | REFORMED/PRESBYTERIAN |
| 66 | SATANISM |
| 67 | SCIENTOLOGY |
| 68 | SHAMANISM |
| 69 | SHIITE (ISLAM) |
| 70 | SHINTO |
| 71 | SIKISM |
| 72 | SPIRITUALISM |
| 73 | SUNNI (ISLAM) |
| 74 | TAOISM |
| 75 | THERAVADA |
| 76 | UNIVERSAL LIFE CHURCH |
| 77 | VAJRAYANA (TIBETAN) |
| 78 | VEDA |
| 79 | VOODOO |
| 80 | WICCA |
| 81 | YAOHUSHUA |
| 82 | ZOROASTRIANISM |
| 83 | ASKED BUT DECLINED TO ANSWER |

4.6 Table 0076 - Message Type

| VALUE | DESCRIPTION |
|-------|-------------|
| ADT | ADT MESSAGE |