

# Scheduling V. 5.3

**Primary Care Management Module (PCMM)** 

# Transmission of Provider Workload to AAC

(SD\*5.3\*272)

**User Manual** 

**April 2003** 

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# 1. Background

# 1.1 Overview of the Primary Care Management Module

The Primary Care Management Module (PCMM) was developed to assist VA facilities in implementing primary care. PCMM supports both primary care and non-primary care teams. Teams are groups of staff members organized for a certain purpose. The software allows you to setup and define a team, assign positions to the team, assign staff to the positions, assign patients to the team, assign patients to practitioners, and reassign patients from one team to another team.

Tools are provided with the software to facilitate the startup process. These tools use the site's data (where available) to automate the following tasks: identify patients to be assigned to primary care; assign patients to teams; and assign patients to practitioners via team positions.

PCMM provides control over the transmission of MailMan messages to team positions. MailMan messages are categorized into patient death, inpatient activity, consult activity, and team activity. For each category, a user can elect to have a position get messages for all patients on a team; to have messages sent only on patients associated with that team position, or to not send messages at all.

Every patient must be assigned a primary care provider (PCP). A PCP can be a medical doctor (MD), doctor of osteopathy (DO), nurse practitioner, or physician assistant. Residents may not be considered as a PCP in this system.

The PCMM "business rules" provide information on how some of the PCMM fields are handled for team and team positions. These rules are not intended to be all encompassing, but to allow basic checking within the system to ensure data integrity. These rules can be found in VHA Directive 99-065: http://vaww.va.gov/publ/direc/health/direct/199065.pdf

## 1.2 Acronyms

AAC- Austin Automation Center

Direct PC FTEE- Direct Primary Care Full Time Employee Equivalent

DO- Doctor of Osteopathy

HL7- Health Level 7

MD- Medical Doctor

NP- Nurse Practitioner

PA- Physician Assistant

PCDPC- Primary Care Direct Patient Care

PCMM- Primary Care Management Module

PCP- Primary Care Provider

VA- Department of Veterans Affairs

VHA- Veterans Health Administration

Note: Field names, listed in the text, will be followed by their corresponding file and field number. (Ex. PCMM Direct Care FTEE (404.52, .09)

1.3 PCMM Direct Care FTEE (404.52, .09)

PCMM is used by the Veterans Health Administration (VHA) to measure its capacity for patient care. A recent VHA directive expresses a pressing need to capture consistent and accurate data on its capacity to provide primary care to patients. Recent PCMM enhancements (SD\*5.3\*264 and SD\*5.3\*277) were developed to meet this need.

It has been determined that the most reliable way to collect data is for each facility to document direct patient care time and non-patient care time in the same manner. The (VHA) Directive requires the entry and transmission of two key fields of information related to Primary Care Provider resources. The first field, Primary Care Direct Patient Care (PCDPC), is the amount of time each PCP spends providing direct patient care to outpatients. PCDPC is defined as the time to prepare for, provide for, and follow-up on the clinical care needs of outpatient, primary care patients. This data is captured in the "Direct PC FTEE" (Primary Care Full Time Employee Equivalent) field. "Direct PC FTEE" is a field in PCMM GUI version 1.2.3.1 used to indicate the percentage of time PCP's dedicate to direct patient care (not available in VISTA, however data can only be accessed through Fileman in VistA.) For more information on how PC FTEE is computed see the PCMM Enhancements for Direct Primary Care (SD\*5.3\*277) User Guide:

http://www.va.gov/vdl/VistA\_Lib/Clinical/Pri\_Care\_Mgmnt\_Module\_(PCMM)/SD\_53\_277.UM-Final.doc

The second field is the expected maximum panel size that has been established for each PCP's panel. It represents the maximum number of patients each PCP is expected to provide care for their panel. The maximum expected panel size is set locally based on a host of factors known to affect panel size. This data is captured in the MAX NUMBER OF PATIENTS field (404.57, .08.)

# 2. Introduction and Patch Description

#### 2.1 Patch SD\*5.3\*272

The data captured with the "Direct PC FTEE" field must be transmitted from local sites to a database at the Austin Automation Center (AAC). This action allows the VHA to measure the capacity for primary care. This patch will enable sites to transmit provider workload data to AAC. The transmission is performed using the abstract message approach and encoding rules specified by HL7 standards.

HL7 is used for communicating data in the FTEE field (404.52, .09), and the MAX NUMBER OF PATIENTS field (404.57, .08). The formats of these messages conform to Version 2.4 HL7 Interface Standards where applicable. The data sent in the HL7 messages is limited to the information that can be processed by the AAC. A nightly background job will send HL7 messages for each change in direct patient care FTEE and Position Maximum Workload. HL7 V. 1.6 of the VA MailMan lower level protocol (LLP) is 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]. See section 4 (Troubleshooting Tips) for more information on reading HL7 messages.

Note: There is no new version of PCMM GUI associated with this patch.

# 2.2 Trigger Events

The PCMM provider workload transmission is activated, an HL7 event is triggered, and an HL7 message is created when the following trigger events occur (multiple events will trigger multiple messages. All trigger events cause messages to be placed in a nightly queue for transmission to the AAC):

Trigger Event	PCMM HL7 Provider Workload ZFT		
	Segment Element Update		
FTEE Entered on Practitioner Position	Direct Patient Care FTEE = current value		
Assignment			
FTEE edited on Practitioner Position	Direct Patient Care FTEE = current value		
Assignment			
Practitioner Inactivated from Position	Direct Patient Care FTEE = 0; Maximum		
	Workload = 0		
Practitioner Activated to the Position but not	Direct Patient Care FTEE = 0; Maximum		
allowed to provide primary care	Workload = 0		
Changes MAX Number of Patients in Panel	Maximum Workload = current value		
Position Changed to Not Allow to Be Primary	Direct Patient Care FTEE = 0; Maximum		
Care	Workload = 0		
Position Changed to Allow to Be Primary	Direct Patient Care FTEE = current value;		
Care	Maximum Workload = current value		

Primary Care Provider with multiple (more	Direct Patient Care FTEE = cumulative
than one) positions assigned	current value for all active positions on all
	teams for given provider; Maximum FTEE
	cannot be greater than 1.0; Maximum
	Workload = cumulative current value for all
	active positions on all teams for given
	provider
Provider Inactivation due on a future date.	Direct Patient Care FTEE = 0; Maximum
	Workload = 0 on the date provider
	scheduled to become inactive

# 3. ADPAC Instructions

#### 3.1 User Information

Patch SD\*5.3\*272 will provide for the transmission of provider workload to the AAC. Entering and editing Primary Care FTEE data and other changes (see trigger events) in PCMM will trigger HL7 events. These messages are transmitted at the same time current PCMM HL7 messages are transmitted to AAC. This is usually a nightly scheduled task. A maximum of 2500 messages can be sent at one time.

Note: There are two types of HL7 messages sent to AAC; PCMM-Patient messages (contain the practitioner/patient assignment for PCP), and the new PCMM-Provider workload messages created with Patch SD\*5.3\*272.

#### What is HL7?

Health Level 7 is an ANSI standard that defines the fundamental aspects of the electronic exchange of health care data.

### What is an HL7 message?

HL 7 messages are constructed from a defined sequence of segments.

- An HL7 message is a group of logically related records (segments.)
- Messages are classified by a three-character code (message type.)
- Segments are the building blocks for HL7 communications
- Segments are reusable in message definitions, but fields are typically tied to a single segment.
- Because segments have varying length and can repeat, messages have widely ranging lengths.

For more information on HL 7 see <a href="http://vista.med.va.gov/hl7/train/hl7\_intro.pdf">http://vista.med.va.gov/hl7/train/hl7\_intro.pdf</a>

#### 3.2 Instructions

#### How is workload data transmitted to AAC?

PCP FTEE changes, panel size changes, and provider position assignment changes trigger HL 7 events, these events create HL7 messages. The messages are put into a queue until the next time a site sends their HL7 messages to the AAC. The time or frequency for sites sending HL 7 messages is usually nightly but may be decided locally.

Note: FTEE levels exceeding 1.0 will generate a 702M error that can be seen in the PCMM Transmission Error Processing option. When the FTEE level is corrected a new message will be transmitted.

The following fields are also transmitted to AAC:

- Provider's name
- Provider's suffix
- PCP's FTEE
- Provider's Panel Size
- Institution
- Institution Numbers (five digit)

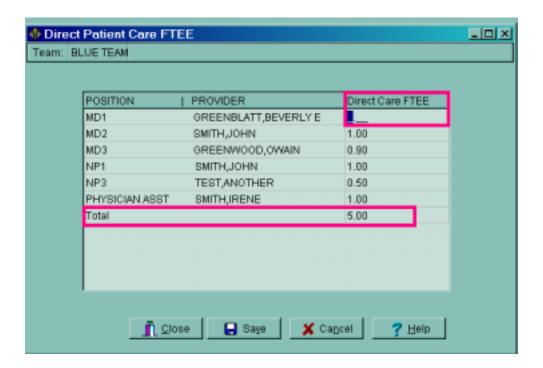
# To trigger a workload data transmission

- 1. Log on to PCMM GUI.
- 2. Click on "**Team**" menu item.

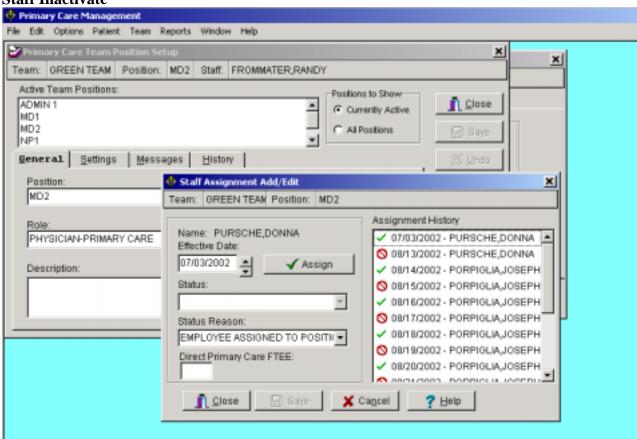


3. If the user performs one of the above mentioned trigger events (section 2.2) an HL 7 message will be created. Below are several examples of screens for which trigger events may be launched. Data transmissions can only be validated in VistA. Examples will be given in section 3.3 (Workload Transmission Data Validation.)

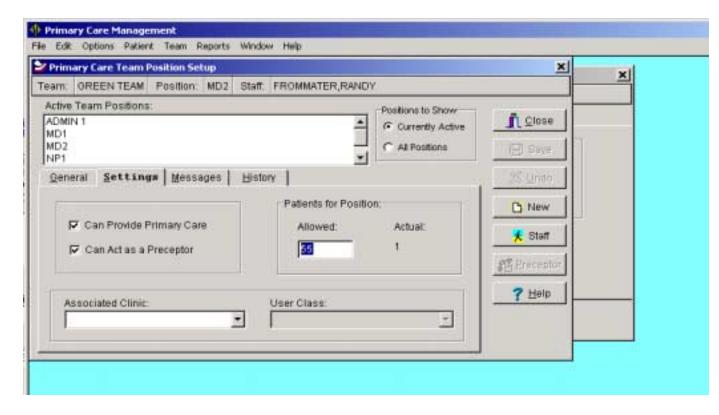
#### **Direct PC FTEE**



#### **Staff Inactivate**



## **Changing Panel Size**



#### 3.3 Workload Data Transmission Validation

To monitor workload data transmissions to the AAC:

- -Users can check the PCMM Work HL7 Event File to see if changes in provider workload triggered events.
- -Receive messages from the PCMM FTEE Workload Mail Group, who receive Mailman messages listing triggered events
- Or create one of the following reports; a Fileman report for the HL7 Event File, PCMM "Direct PC FTEE", or Maximum Panel Size report. Below are examples of these reports. The reports provide a listing of the data a site has in **V***ISTA* that can be compared with what has been sent to the AAC.

#### **HL7** Event File

```
Select VA FileMan Option: Inquire to File Entries

OUTPUT FROM WHAT FILE: PCMM HL7 EVENT (15295 entries)

Select PCMM HL7 EVENT DATE/TIME OF EVENT: ?

Answer with PCMM HL7 EVENT DATE/TIME OF EVENT, or PATIENT

Do you want the entire 15295-Entry PCMM HL7 EVENT List? y (Yes)
```

# Note: This sample trigger event is associated with the original PCMM HL7 messaging and not PCMM Workload HL7 messaging.

DATE/TIME OF EVENT: MAR 31, 2003@10:26:50

TRANSMISSION REQUIRED: NO TEAM POSITION: 49

USER: SMITH, JOEL EVENT POINTER: PC TEAM 1

WORKLOAD: WORKLOAD

## PCMM "Direct PC FTEE Report" [SC PCMM REPORTS MENU]

The PCMM Direct Primary Care FTEE Report can only be printed from VISTA.

- 1. Enter/select the "PCMM Reports Menu Option." [SC PCMM REPORTS MENU]
- 2. Enter/select the "PCMM Direct Primary Care FTEE Option." These options are shown below. The next page shows needed entries once the Direct PC FTEE Report is entered.

```
Select <SMA> PCMM Reports Option:

[SC PCMM REPORTS MENU]
```

FTEE	PCMM Direct Primary Care FIEE
DPA	Detailed Patient Assignments
HAR	Historical Assignment Reports
INCR	PCMM Inconsistency Report
ITP	Individual Team Profile
PATA	Patient Listing for Team Assignments
PD	Practitioner Demographics
PP	Practitioner's Patients
SLT	Summary Listing of Teams
TML	Team Member Listing
TPL	Team Patient Listing

• To print the FTEE report for all institutions, accept "FIRST" default by pressing the <enter> key. "FIRST" must always be in CAPS, otherwise a report will not be created.

```
*Previous selection: INSTITUTION not null

START WITH INSTITUTION: FIRST// <ENTER>

DEVICE: TELNET PORT Right Margin: 80//
```

• To print for one institution, enter the institution name after the "Start with Institution" prompt.

Note: If the institution name is used at the FIRST and LAST prompts, it must be complete and exactly as it appears in the Institution file (file #4), or the report will not contain any data. For example, enter "VAMC ALBANY" not just "ALBANY." Entering "ZZ" to the institution name at the "last" prompt can also produce the report.

# **Example:**

```
START WITH INSTITUTION: FIRST// VAMC ALBANY
     LAST// VAMC ALBANYZZ
      DEVICE: TELNET PORT Right Margin: 80//
     MARGIN WIDTH IS NORMALLY AT LEAST 132.ARE YOU SURE? No//yES
Direct PC FTEE
                                            SEP 11,2002 10:37 PAGE 1
PRACTITIONER
                                                  Direct PC
                               TEAM
POSITION
                               CLINIC
                                                  FTEE
        INSTITUTION: ALBANY VAMC
TEST, JAMES
                              RED TEAM
                                                1.0
   MD1
SUBTOTAL
                                                  1.0
SMITH, LUTHER
                               RED TEAM
                                                  0.8
   PA1
SUBTOTAL
                                                  0.8
SMITH, NANCY
                               RED TEAM
                                                  0.3
   NP2
                               GREEN TEAM
                                                  0.7
SUBTOTAL
                                                  1.0
TOTAL
                                                  2.8
```

### **Maximum Panel Size Report**

Create Fileman report as follows:

```
Select: VA FILEMAN

Select OPTION: PRINT FILE ENTRIES

OUTPUT FROM WHAT FILE: TEAM POSITION//

SORT BY: POSITION// .04 POSSIBLE PRIMARY PRACTITIONER?

START WITH POSSIBLE PRIMARY PRACTITIONER?: FIRST// 1 YES

GO TO POSSIBLE PRIMARY PRACTITIONER?: LAST// 1 YES

WITHIN POSSIBLE PRIMARY PRACTITIONER?, SORT BY: .01 POSITION

START WITH POSITION: FIRST//

WITHIN POSITION, SORT BY:

FIRST PRINT FIELD: .01 POSITION

THEN PRINT FIELD: MAX NUMBER OF PATIENTS

THEN PRINT FIELD:

Heading (S/C): TEAM POSITION LIST//
```

# 3.4 Error Processing

START AT PAGE: 1//

Error processing is also an important part of assuring that workload data will be transmitted to AAC. This is primarily done through the use of the PCMM Reject Transmission Menu and the PCMM Reports.

PCMM Transmission Error Code Report (SCMC PCMM ERR CODE REPORT)-This report will print a list of the error codes and descriptions for entries in the PCMM HL7 ERROR CODE file.

#### **Example:**

SCMC PCMM REJECT TRANS MENU PCMM Reject Transmission Menu

```
ECR PCMM Transmission Error Code Report
EP PCMM Transmission Error Processing
ER PCMM Transmission Error Report
```

Select PCMM Reject Transmission Menu Option: ecr PCMM Transmission Error Code Report

DEVICE: HOME// TELNET PORT Right Margin: 80//

PCMM Transmission Error Code Report MAR 20,2003 14:50

PAGE 1

#### ERROR CODE FIELD DESCRIPTION

000M		No errors.
001M		EVN segment missing (Contact IRM for assistance).
002M		PID segment missing (Contact IRM for assistance).
003M		ZPC segment missing (Contact IRM for assistance).
005М		Invalid segment name (Contact IRM for assistance).
006М		ORG segment missing
007M		STF Segment Missing
M800		ZPT Segment Missing
104M	Event Date/Time	Event Date is missing or out of range.
106M	Event Date/Time	Event Time is invalid or missing.
110M	Message Control ID N	Message Control ID missing(Contact IRM for assistance).
113M	Event Type	Event Type is not 'A08' (Contact
		IRM for assistance).
114M	2	EVN must be B02
200M	Patient Name	Patient Name is missing or
		invalid.
210M	Patient ID	Patient ID is missing or not
		numeric.
220M	Date of Birth	Date of Birth is missing.
221M	Date of Birth	Invalid year or year greater than the processing year.
223M	Date of Birth	Invalid Date of Birth.
224M	Date of Birth	Date of Birth greater than
		processing date.
230M	Sex	Sex code is invalid or missing.
240M	Race	Invalid Race code.
250M	Marital Status	Invalid Marital Status code.
260M	State	Invalid state code.
261M	County	Invalid County code.
262M	Address Line 1	Address Line 1 is all numeric.
263M	Address Line 2	Address Line 2 is all numeric.
264M	City	City contains all numbers.
270M	Religion	Invalid Religion code.
280M	Zip Code	Zip Code not numeric.
290M	SSN	SSN is missing, or not numeric,
		or is equal to zeros.
291M	SSN	Pseudo SSN is not 'P' or blank.
300M	Provider Assignme	ent ID Provider Assignment ID is invalid.
310M	Provider ID	Non-numeric ID and/or invalid entry.
320M	Date Provider Ass	
330M	Date Provider Una	Date Provider Unassigned is an invalid date (if date is present).
340M	Provider Type Cod	de Provider Type Code is not 'PCP

		or 'AP'.
350M	Provider Person Class	Provider Person Class (seq 6 comp
		1) is invalid.
360M	Provider Person Class	Provider Person Class (seq 6 comp
		3) not 'VA8932.1'.
370M	Provider SSN	Required. SSN not numeric or all zeros.
502M	2	Invalid Staff Code
602M	2	Invalid Organization Unit Code
608M	8	Invalid Area of Specialization
702M	2	DIRECT PATIENT CARE FTEE INVALID
703M	3	MAXIMUM WORKLOAD INVALID
801M	1	Missing Field Separator
802M	2	Missing encoding character
809M	9	Missing Message Type
810M	10	Missing Message control ID
811M	11	Missing processing ID
812M	12	Missing version ID
	51	PL Print List
	rk Error as Checked/Corrected	
· ·		DP(Deselect Record(s)for retransmit)
1	elect All for Retransmit)	,
	ange Error Processing Status	
CS Cha	ange Sort By Criteria	PL Print List
ı		

# PCMM Transmission Error Processing (SCMC PCMM TRANS ERROR PROC)-

This option permits users to review transmission errors logged in the PCMM HL7 TRANSMISSION LOG file. The status of an error may be changed with this option.

# **Example:**

PCMM Transmission ErrorsMar 20, 2003@14:51:38Page: 1 of 5Sort By: Data Error ReceivedDate Range: (None) List All ErrorsError Processing Status: New/Checked\* - Marked for re-transmit

	Patient Name	PATID Date Rec'd Provider Type EP	Stat
1	Unknown Error: 703M - MAXIMUM	01/16/03 N/A N/A New WORKLOAD INVALID	
2	Workload Error: 602M - Invalid	02/03/03 Doe, John PC Checked Organization Unit Code	
3	Workload Error: 608M - Invalid	02/03/03 Doe, Jane PC Checked Area of Specialization	
4	Workload Error: 602M - Invalid	02/03/03 Test, Mike PC Checked Organization Unit Code	
5	Workload Error: 602M - Invalid	02/03/03 Test,Barb PC Checked Organization Unit Code	

```
+ Enter ?? for more actions
>>>

SP (Select Record(s) for Retransmit) DP(Deselect Record(s) for Retransmit)
SA (Select All for Retransmit) DA(Deselect All for Retransmit)
CE Change Error Processing Status CD Change Date Range
CS Change Sort By Criteria PL Print List
```

## PCMM Transmission Error Report (SCMC PCMM TRANS ERROR REPORT)-

This report prints a list of patients for which HL7 transmission errors were received from the Austin Automation Center (AAC). The user will have the ability to print all transmission errors or may print errors for a selected date range. Users will also have the ability to sort the error list by patient name, date/time error received, or provider name.

# **Example:**

Select PCMM Reject Transmission Menu Option: er PCMM Transmission Error Report

```
Select one of the following:

A All Errors
D Date Range

Select all errors or a date range: All Errors

Select one of the following:

N Patient Name
D Date Error Received
P Provider

Select sort criteria for listing PCMM Transmis
```

Select sort criteria for listing PCMM Transmission Errors: Data Error Received

Select one of the following:

NewCheckedBoth

Select Error Processing Status: **b** Both DEVICE: HOME// TELNET TERMINAL

See report on the following page.

Sort By: Data Error Error Processing S					
Patient Name	PATID	Date Rec	Provider	Туре	EP Stati
Test, Mike Error: 703M-MAXIMU			N/A	N/A	New
Test, Car Error: 602M-Invali	d Organi		N/A Code	N/A	Check
Test, Don Error: 608M-Invali		- , ,	N/A zation	N/A	Checked
Test, Ed Error: 602M-Invali		02/03/03 zation Uni		N/A	Checked
Test, Lou Error: 602M-Invali	d Organi	- , ,	N/A Code	N/A	Checked
Test, Abe Error: 602M-Invali	d Organi	- ,	/03 N/A Code	N/A	Check
Test, Jay		02/03	/03 N/A	N/A	Checke

Enter RETURN to continue or '^' to exit:

# 4. Troubleshooting Tips

Consider these items when determining if PCMM provider workload data is being transmitted to AAC:

### 1. Required Patches- Installation:

- Verify that the site installed PCMM Baseline Seeding patch SD\*5.3\*212 and INCORRECT PRECEPTOR ASSIGNMENT HISTORY patch SD\*5.3\*224.
- Ensure that the PCMM Baseline Seeding [SCMC PCMM BASELINE SEEDING] option from patch SD\*5.3\*212 was run. This may be accomplished by performing a FileMan inquiry on the entry in the PCMM PARAMETER (#404.44) file and determining if the BASELINE RUN DATE (#17) field has been populated.
- If the BASELINE RUN DATE (#17) field does not contain a date indicating that the PCMM Baseline Seeding [SCMC PCMM BASELINE SEEDING] option had run, please log a NOIS or contact the National Help Desk at 1-888-596-HELP (4357) for assistance.
- SD\*5.3\*264
- SD\*5.3\*278
- XM\*DBA\*251

# 2. Local PCMM Reports:

- PCMM Inconsistency Report
- PCMM Transmission Error Processing (See example in section 3.2.3 Error Processing)

**Note:** that data will be held in **V***ISTA* and <u>not</u> transmitted to Austin (via HL7 message) until corrections are made to the errors identified in above reports.

#### 3. HL7 PCMM links and filers:

It is important to monitor the HL7 PCMM links and filers. If the **V***ISTA* system is rebooted or has had an error the links and filers may be shut down and need to be restarted. If the HL7 PCMM links and filers are not running then data is not being transmitted to the AAC.

These are some other items to consider when transmitting and validating workload data.

1. **Patient Team Position Assignment Review** This option compares all PATIENT TEAM POSITION ASSIGNMENT (#404.43) file entries with the corresponding PATIENT TEAM ASSIGNMENT(#404.42) file entries. This comparison checks to make sure that the position assignment active timeframe is within the team assignment active

timeframe. This report lists those position assignments that fall outside the team assignment active timeframe.

The report list discrepancies between team assigned and unassigned date.

	Assigned Date	Unassigned Date
Team Assignment	01/01/1997	10/31/1997
Position Assignment	02/15/1997	<none></none>

- 2. **EP PCMM Transmission Error Process** This option permits users to review transmission errors, logged in the PCMM HL7 TRANSMISSION LOG file that were rejected from the AAC due to demographic errors.
- 3. **INCR PCMM Inconsistency Report** Option to print the Inconsistencies that may exist according to the new Business Rules that were established in Phase II of PCMM (Patch # 177).
- 4. **Reading HL7 Messages** It is also important to be able to read HL7 messages properly. On the following page is a sample of a HL7 message with its segments identified in parentheses.

 Transmission of Pr	ovider Workload to	AAC	