

Medicare Care Management Performance (MCMP) Demonstration Vendor Conference



Sherry Grund

Special Projects Director

Francis Landiza

Programmer III

Mary Schrader

Special Projects Coordinator

March 27, 2007


IOWA FOUNDATION
FOR MEDICAL CARE

What Has IFMC Provided?

- In your packet if attending in-person:
 - Listing of Measures (IDs claims-based measures)
 - Algorithm for Measures Calculation-EHRS
 - EHRS to MCMP-PAT MAPPING
 - Import File Specifications
- Posted on CMS' website (in addition to above):
 - Data Abstraction Definitions*
 - Analytic Flowchart*
 - Appendices*
 - Medication Tables*
 - Downloadable Resource Table

* Created for paper medical record process



Today's Discussion:

- Review of reporting/performance measures
- Description of data distribution & collection processes
- Overview of MCMP-Performance Assessment Tool (PAT)
- Walk-through of import utility
- Description of file specifications
- Description of purpose of mapping document
- Walk-through of mapping and EHRS algorithm documents



MCMP Measure Sets

- Coronary Artery Disease (6)
- Diabetes Mellitus (8)
- Heart Failure (7)
- Preventive Care (5)



Acknowledgments

- AMA-convened Physician Consortium for Performance Improvement
- National Committee for Quality Assurance
- Centers for Medicare & Medicaid Services
- Providers who have pilot tested the collection of MCMP measures



Measure Structure Issues

- Denominator exclusions
 - Contraindications to use/performance
 - Medical, Patient, and System Reasons
- Numerator inclusions
 - First include if therapy received or test performed
 - Secondly, look for reasons why not
- Visit vs. time period (patient level) measures
- Source of data – time period



Coronary Artery Disease: CAD-1

Antiplatelet Therapy

Denominator Statement:

All patients with CAD \geq 18 years of age

Numerator Statement:

Patients who were prescribed antiplatelet therapy

Denominator Exclusions:

Medical Reason

Patient Reason



Coronary Artery Disease: CAD-2

Drug Therapy for Lowering LDL Cholesterol

Denominator Statement:

All patients with CAD \geq 18 years of age

Numerator Statement:

Patients who were prescribed lipid-lowering therapy

Denominator Exclusions:

LDL cholesterol $<$ 130 mg/dl

Medical Reason

Patient Reason

System Reason (i.e., resources to perform the services not available, insurance coverage/payor-related limitations, other reasons attributable to health care delivery system)



Coronary Artery Disease: CAD-3

Beta Blocker Therapy – Prior MI

Denominator Statement:

All patients with CAD who also have prior MI at any time \geq 18 years of age

Numerator Statement:

Patients who were prescribed beta blocker therapy

Denominator Inclusion:

Patients with CAD and prior MI

Denominator Exclusions:

Medical Reason

Patient Reason

System Reason



Coronary Artery Disease: CAD-5

Lipid Profile

Denominator Statement:

All patients with CAD \geq 18 years of age

Numerator Statement:

Patients who received at least one lipid profile (or all component tests)

Denominator Exclusions:

None



Coronary Artery Disease: CAD-6

LDL Cholesterol Level

Denominator Statement:

All patients with CAD \geq 18 years of age and at least one LDL cholesterol test

Numerator Statement:

Patients with most recent LDL cholesterol $<$ 100 mg/dl

Denominator Exclusions:

None



Coronary Artery Disease: CAD-7

ACE Inhibitor or ARB Therapy

Denominator Statement:

All patients with CAD \geq 18 years of age who also have diabetes and/or LVSD

Numerator Statement:

Patients who were prescribed ACE inhibitor or ARB therapy

Denominator Inclusion:

Patients with CAD who also have diabetes and/or LVSD (LVEF < 40% or moderately or severely depressed left ventricular systolic function)

Denominator Exclusions:

Medical Reason

Patient Reason

System Reason



Diabetes Mellitus

DM-1: HbA1c Management

- The percentage of patients 18-75 years of age with diabetes (type 1 or type 2) who had Hemoglobin A1c (HbA1c) testing

DM-2: HbA1c Control

- The percentage of patients 18-75 years of age with diabetes (type 1 or type 2) who had HbA1c in poor control (>9.0%)



Diabetes Mellitus

DM-3: Blood Pressure Management

- The percentage of patients 18-75 years of age with diabetes (type 1 or type 2) who had a blood pressure <140/80 mmHg

DM-4: Lipid Measurement

- The percentage of patients 18-75 years of age with diabetes (type 1 or type 2) who had LDL-C screening performed



Diabetes Mellitus

DM-5: LDL Cholesterol Level

- The percentage of patients 18-75 years of age with diabetes (type 1 or type 2) who had LDL-C testing <100 mg/dL

DM-6: Urine Protein Testing

- The percentage of patients 18-75 years of age with diabetes (type 1 or type 2) who had medical attention for nephropathy



Diabetes Mellitus

DM-7: Eye Exam

- The percentage of patients 18-75 years of age with diabetes (type 1 or type 2) who had an eye exam (retinal) performed

DM-8: Foot Exam

- The percentage of patients 18-75 years of age with diabetes (type 1 or type 2) who had a foot exam (visual inspection, sensory exam with monofilament, or pulse exam)



Heart Failure

HF-1: Left Ventricular Function (LVF) Assessment

- Percentage of patients with quantitative or qualitative results for LVF assessment

HF-2: Left Ventricular Ejection Fraction Testing

- Percentage of patients with LVEF testing during the current year for patients hospitalized with a principal diagnosis of HF during the measurement period



Heart Failure

HF-3: Weight Measurement

- **Percentage of patient visits with weight measurement recorded**

HF-5: Patient Education

- **Percentage of patients who were provided with patient education on disease management and health behavior changes during one or more visit(s)**



Heart Failure

HF-6: Beta-Blocker Therapy

- Percentage of patients who were prescribed beta-blocker therapy

HF-7: ACE Inhibitor or ARB Therapy

- Percentage of patients who were prescribed ACE Inhibitor or ARB therapy



Heart Failure

HF-8: Warfarin Therapy for Patients with Atrial Fibrillation

- Percentage of patients with paroxysmal or chronic atrial fibrillation who were prescribed warfarin therapy



Preventive Care

PC-1: Blood Pressure Measurement

- **Percentage of patient visits with blood pressure (BP) measurement recorded**

PC-5: Breast Cancer Screening

- **Percentage of women 40-69 years of age who had a mammogram to screen for breast cancer**



Preventive Care

PC-6: Colorectal Cancer Screening

- **Percentage of patients screened for colorectal cancer during the one-year measurement period**

PC-7: Influenza Vaccination

- **Percentage of patients who received an influenza vaccination during the one-year measurement period**



Preventive Care

PC-8: Pneumonia Vaccination

- The percentage of patients 65 years or older who ever received a pneumococcal vaccination

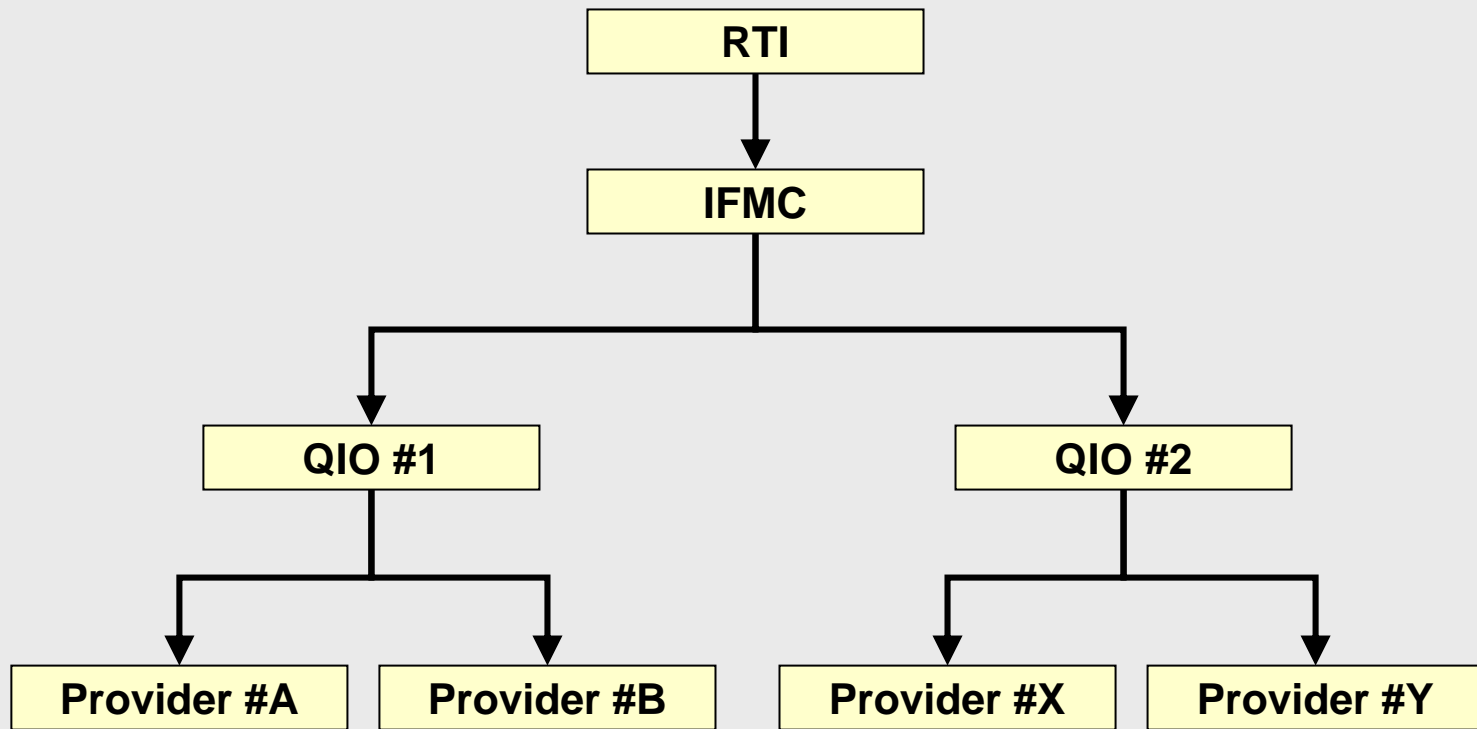


Topics

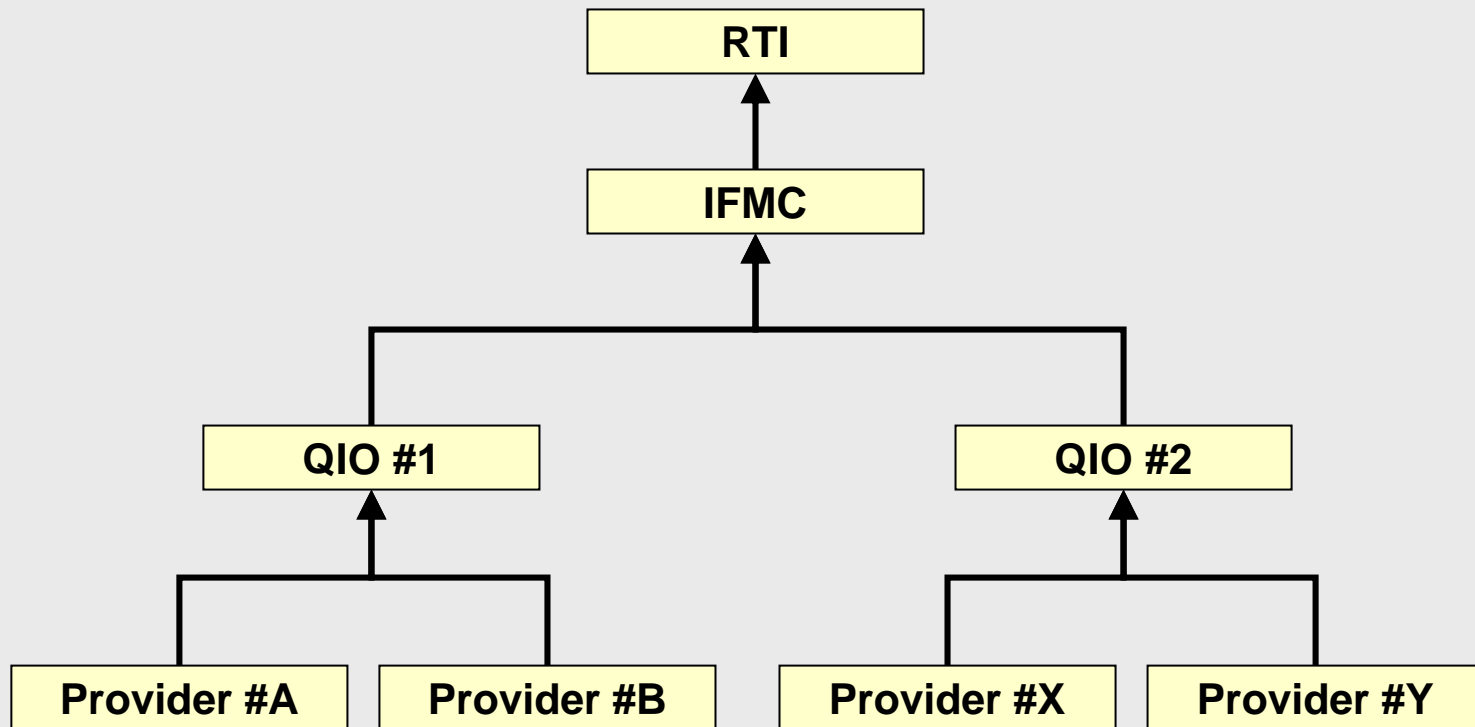
- Data Distribution & Collection
- MCMP-PAT Features
- Import Utility
- Import File Specification
- Q & A



Data Distribution



Data Collection



Logon Screen

MCMP-PAT Log On

PRA Disclaimer


According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0938-0942. The time required to complete this information collection is estimated to average 79 hours per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. If you have comments concerning the accuracy of the time estimates or suggestions for improving this form, please write to: CMS, 7500 Security Boulevard, Attn: PRA Reports Clearance Officer, Baltimore, Maryland 21244-1850.

Exp. ?????? OMB # ??????

Enter your username and password to log on.

Username:

Password:

Database: 

Demographics

MCMP | Test PGP Site | C:\Projects\MCMP\Data\Test\MCMP_DB.mcmp | admin

File Patient Report Tools Options Help

Test, Patient - 4/5/1945 DM Order 00:55:23 Save Cancel Check

Demographics
 Diabetes
 Heart Failure
 Coronary Artery Disease
 Preventive Care

Abstraction Information ?

Abs. Date:

General ?

Medicare ID:

First Name:

Last Name:

Gender:

Birth Date:

Age:

Med. Rec. #:

Other ID:

Provider Name:

Clinic Name:

Comments ?

General Comments (250 chars. max.):

No Comment

Custom Notes (50 chars. max.):

Patient Status ?

Data: Incomplete

Locked By: Unlocked

Updated: 03/18/2006 03:13 PM

Last User: User1

Topic	Dx.	Rank
DM	Yes	31
HF	Yes	10
CAD	Yes	5
PC	Yes	
PC - BP		15
PC - Mammo		10
PC - Colo.		5
PC - Flu		1
PC - Pneumo		----

Ready. Year: Sample Date Range: 01/01/2005 - 12/31/2005 Mode: Browsing 03/20/2007

Diabetes Mellitus

MCMP | Test PGP Site | C:\Projects\MCMP\Data\Test\MCMP_DB.mcmp | admin

File Patient Report Tools Options Help

Test, Patient - 4/5/1945 DM Order 00:55:23 Save Cancel Check

Demographics
 Diabetes
 Heart Failure
 Coronary Artery Disease
 Preventive Care

DM Confirmation ?

DM Confirmed: Yes

Evidence of Nephropathy ?

Nephropathy: Yes

Latest HbA1c Result ?

HbA1c Test: Yes

Date Drawn: 8/4/2005

Value: 07.0

Latest LDL-C Result ?

LDL-C Test: Yes

Date Drawn: 9/7/2005

Value: 135

Blood Pressure Management ?

Last Visit BP: Yes

Date Taken: 8/2/2005

Systolic: 140

Diastolic: 70

Eye Exam ?

Performed: No

Foot Exam ?

Performed: Yes

Patient Status ?

Data: Incomplete

Locked By: Unlocked

Updated: 03/18/2006 03:13 PM

Last User: User1

Topic	Dx.	Rank
DM	Yes	31
HF	Yes	10
CAD	Yes	5
PC	Yes	
PC - BP		15
PC - Mammo		10
PC - Colo.		5
PC - Flu		1
PC - Pneumo		----

Ready. Year: Sample Date Range: 01/01/2005 - 12/31/2005 Mode: Browsing 03/20/2007

Heart Failure

MCMP | Test PGP Site | C:\Projects\MCMP\Data\Test\MCMP_DB.mcmp | admin

File Patient Report Tools Options Help

Test, Patient - 4/5/1945 DM Order 00:55:23 Save Cancel Check

Demographics
 Diabetes
 Heart Failure
 Coronary Artery Disease
 Preventive Care

HF Confirmation ?

HF Confirmed: Yes

Patient Education ?

HF Education: Yes

LVF Assessment Result ?

LVF Result: Yes

Hospitalized for Treatment of HF ?

Hospitalized: Yes

Year Assessed: No

Left Vent. Systolic Dysfunction ?

Has LVSD: Yes

Beta Blocker: Yes

ACE-I/ARB: No - Med. Reasons

Atrial Fibrillation ?

Atrial Fibrillation: Yes

Warfarin Pres.: Yes

Patient Status ?

Data: Incomplete

Locked By: Unlocked

Updated: 03/18/2006 03:13 PM

Last User: User1

Topic	Dx.	Rank
DM	Yes	31
HF	Yes	10
CAD	Yes	5
PC	Yes	
PC - BP		15
PC - Mammo		10
PC - Colo.		5
PC - Flu		1
PC - Pneumo		----

Visits ?

	Prefilled	Visit Date	Weight	Invalid	Why Invalid
*					
▶	<input checked="" type="checkbox"/>	8/21/2005	Yes	<input type="checkbox"/>	
	<input type="checkbox"/>	3/21/2005	Yes	<input type="checkbox"/>	
	<input checked="" type="checkbox"/>	3/20/2005	Yes	<input type="checkbox"/>	

Ready. Year: Sample Date Range: 01/01/2005 - 12/31/2005 Mode: Browsing 03/20/2007

Coronary Artery Disease

MCMP | Test PGP Site | C:\Projects\MCMP\Data\Test\MCMP_DB.mcmp | admin

File Patient Report Tools Options Help

Test, Patient - 4/5/1945 DM Order 00:55:23 Save Cancel Check

Demographics Diabetes Heart Failure **Coronary Artery Disease** Preventive Care

CAD Confirmation ?

CAD Confirmed: Yes

Antiplatelet Therapy ?

Prescribed: No - Sys. Reasons

LDL Drug ?

LDL Drug: Yes

M.I. & Beta Blocker ?

History of MI: Yes

Beta Blocker: No - Med. Reasons

Lipid Profile ?

Performed: No

Latest LDL-C Result ?

LDL-C Test: Yes

Date Drawn: 9/7/2005

Value: 135.0

Diabetes, LVSD & Drugs ?

Has Diabetes: No

Has LVSD: Yes

ACE-I/ARB: No

Patient Status ?

Data: Incomplete

Locked By: Unlocked

Updated: 03/18/2006 03:13 PM

Last User: User1

Topic	Dx.	Rank
DM	Yes	31
HF	Yes	10
CAD	Yes	5
PC	Yes	
PC - BP		15
PC - Mammo		10
PC - Colo.		5
PC - Flu		1
PC - Pneumo		----

Ready. Year: Sample Date Range: 01/01/2005 - 12/31/2005 Mode: Browsing 03/20/2007

Preventive Care – Blood Pressure

MCMP | Test PGP Site | C:\Projects\MCMP\Data\Test\MCMP_DB.mcmp | admin

File Patient Report Tools Options Help

Test, Patient - 4/5/1945 DM Order 00:55:23 Save Cancel Check

Demographics
 Diabetes
 Heart Failure
 Coronary Artery Disease
 Preventive Care

Chronic Conditions ?

Conditions Confirmed: Yes

Blood Pressure
 Mammogram
 Colorectal CA
 Flu Vaccine
 Pneumo Vaccine

Visits ?

	Prefilled	Visit Date	BP	Invalid	Why Invalid
*					
	<input checked="" type="checkbox"/>	8/21/2005	Yes	<input type="checkbox"/>	
	<input type="checkbox"/>	3/21/2005	Yes	<input type="checkbox"/>	
	<input checked="" type="checkbox"/>	3/20/2005		<input type="checkbox"/>	
	<input checked="" type="checkbox"/>	10/21/2005	Yes	<input type="checkbox"/>	

Patient Status ?

Data: **Incomplete**

Locked By: **Unlocked**

Updated: 03/18/2006 03:13 PM

Last User: User1

Topic	Dx.	Rank
DM	Yes	31
HF	Yes	10
CAD	Yes	5
PC	Yes	
PC - BP		15
PC - Mammo		10
PC - Colo.		5
PC - Flu		1
PC - Pneumo		----

Ready. Year: Sample Date Range: 01/01/2005 - 12/31/2005 Mode: Browsing 03/20/2007

Preventive Care – Other Measures

Blood Pressure Mammogram Colorecta

Breast Cancer Screening ?

Mammogram Performed:

Blood Pressure Mammogram Colorectal CA

Colorectal Cancer Screening ?

Current:

Blood Pressure Mammogram Colorectal CA Flu Vaccine

Influenza Vaccination ?

Received:

Blood Pressure Mammogram Colorectal CA Flu Vaccine Pneumo Vaccine

Pneumonia Vaccination ?

Received:

Validation of Entries

Element Errors and Warnings [X]

Validated Topics: Demographics DM HF CAD PC

Topic	Element	Description
Demographics	Abstract Date	Missing value.
DM	HbA1c Date	Invalid date value.
DM	HbA1c Value	Missing value.
DM	BP Measure	Missing value.

[Close](#) [Find Element](#)


MCMP-PAT Export

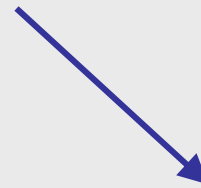
Export Data

List to Export: Patients

Filters: List only patients under these topics:

- Diabetes Mellitus
- Heart Failure
- Coronary Artery Dise
- PC - Blood Pressure
- PC - Mammogram
- PC - Colorectal CA
- PC - Flu Shot
- PC - Pneumo. Shot

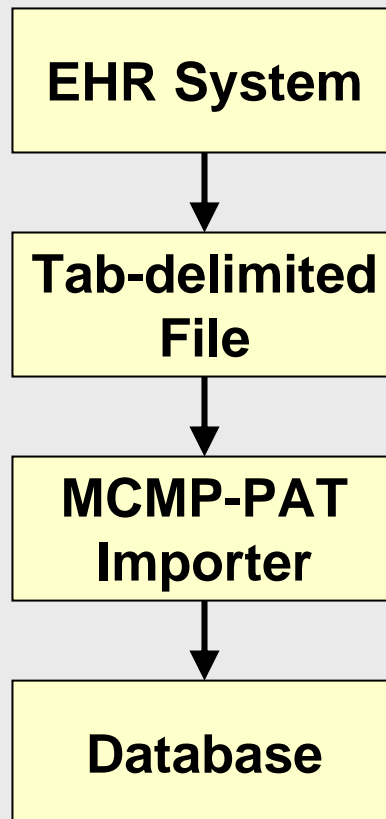
Target File:
 



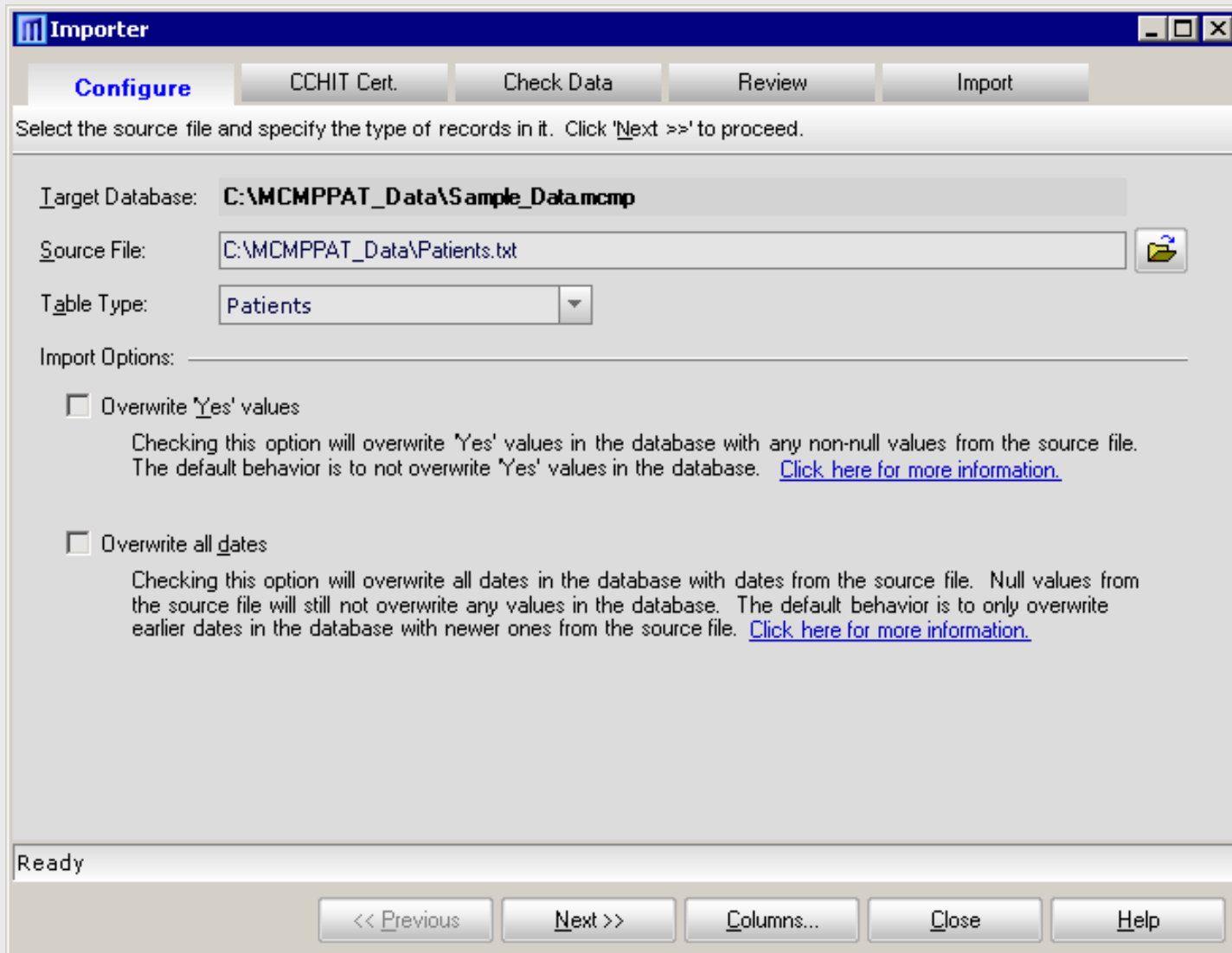
PatIDHIC	DMOrder	HFOOrder	CADOrder	PCBPMeasureOrder	PCMammogramOrder
22222222A	1	8	5	-1	2
33333333B	2	32	4	7	4
44444444C	3	-1	-1	51	-1
55555555D	-1	16	-1	4	-1

PCFOBTPerformOrder	PCFluShotOrder	PCPneumoShotOrder
-1	5	6
1	4	8
-1	-1	-1
2	-1	-1

Import Process



Import Configuration



The screenshot shows the 'Importer' application window with the 'Configure' tab selected. The window title is 'Importer'. Below the title bar are five tabs: 'Configure', 'CCHIT Cert.', 'Check Data', 'Review', and 'Import'. The 'Configure' tab is active, and the text below it reads: 'Select the source file and specify the type of records in it. Click 'Next >>' to proceed.'

The configuration fields are as follows:

- Target Database:** C:\MCMPPAT_Data\Sample_Data.mcmp
- Source File:** C:\MCMPPAT_Data\Patients.txt (with a folder icon to the right)
- Table Type:** Patients (with a dropdown arrow)

Import Options:

- Overwrite 'Yes' values
Checking this option will overwrite 'Yes' values in the database with any non-null values from the source file. The default behavior is to not overwrite 'Yes' values in the database. [Click here for more information.](#)
- Overwrite all dates
Checking this option will overwrite all dates in the database with dates from the source file. Null values from the source file will still not overwrite any values in the database. The default behavior is to only overwrite earlier dates in the database with newer ones from the source file. [Click here for more information.](#)

At the bottom left, the status bar shows 'Ready'. At the bottom right, there are five buttons: '<< Previous', 'Next >>', 'Columns...', 'Close', and 'Help'.

CCHIT Certification

Importer [-] [□] [×]

Configure **CCHIT Cert.** Check Data Review Import

Select the CCHIT certification status of the software that created the source file.

Is the software that produced the tab-delimited file CCHIT-certified?

No

Yes (supply the required information below)

Software that produced the source file:

Vendor A - EHR v. 10

If "Others" is selected, provide the software name and version:

Attestation: _____

I attest that source file shown below has been entirely created by a CCHIT-certified software.

Source File: **C:\MCMP_Patient_Results.bt**

Current User: **admin** Date: **03/20/2007**

Password: **xxxxxxxx**

Ready

<< Previous Next >> Columns... Close Help

Data Validation

Importer [Configure] [CCHIT Cert.] **Check Data** [Review] [Import]

Select the CCHIT certification status of the software that created the source file.

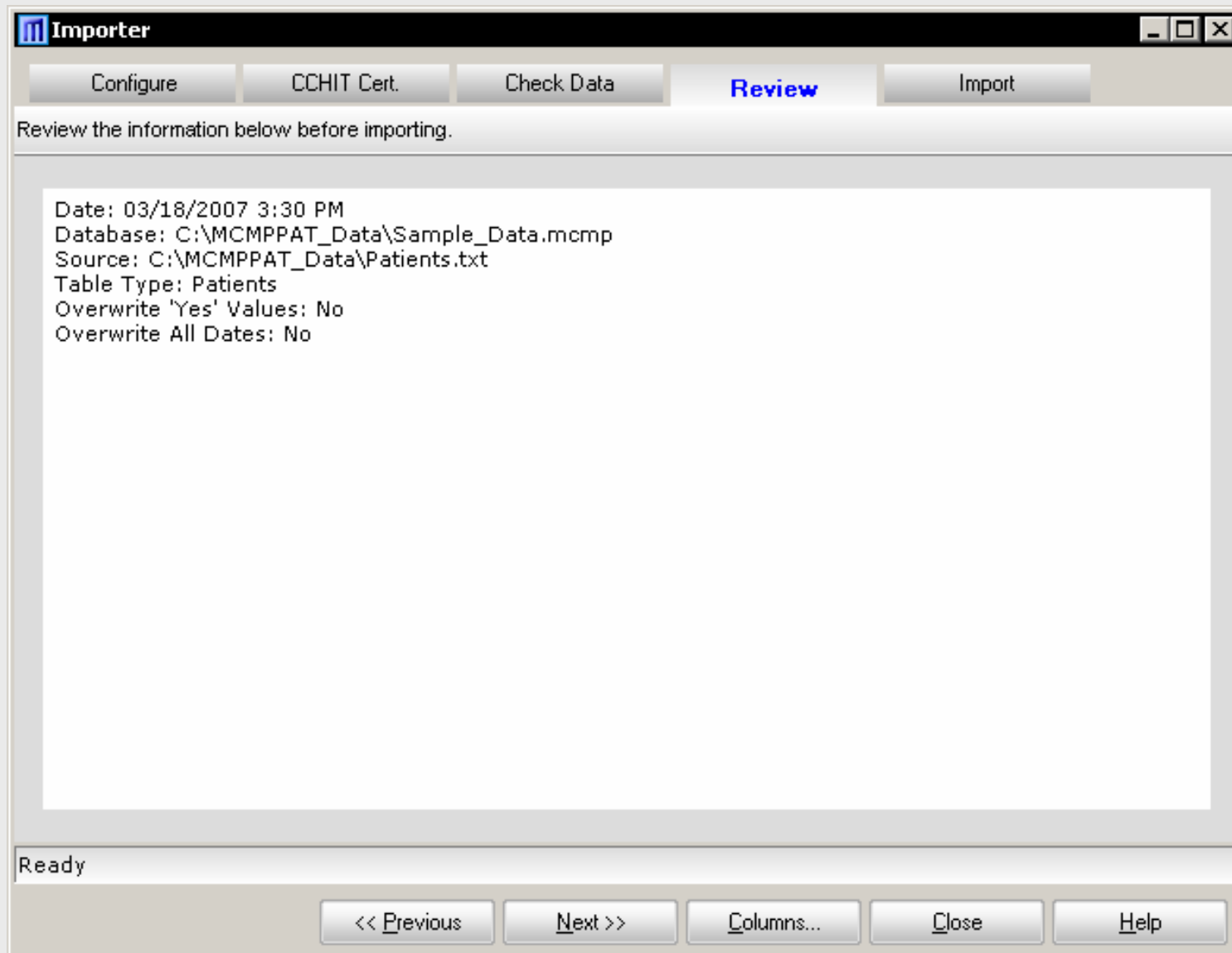
Drag a column header here to group by that column.

Row #	Has Error	PatientID	FirstName	LastName	Gender	DateOfBirth	DMBPMeasure	DMHbA1cDate	DMHbA1cValue
2	<input checked="" type="checkbox"/>	111111111YX	Patient	Out	4	09/10/1934	1	05/04/2004	4
RowID	MessageType	Column Name	Column Value	Error Description					
2		PatientID	111111111YX	Not in the list of valid patient IDs.					
2		DMHbA1cDate	5/4/2004	Less than the minimum value of 01/01/2005.					
2		Gender	4	More than the maximum value of 3.					
Row #	Has Error	PatientID	FirstName	LastName	Gender	DateOfBirth	DMBPMeasure	DMHbA1cDate	DMHbA1cValue
3	<input checked="" type="checkbox"/>	123456789P	All	All	2	04/05/1932	1	11/24/2005	100
RowID	MessageType	Column Name	Column Value	Error Description					
3		DMHbA1cValue	100	More than the maximum value of 25.					
Row #	Has Error	PatientID	FirstName	LastName	Gender	DateOfBirth	DMBPMeasure	DMHbA1cDate	DMHbA1cValue
6	<input checked="" type="checkbox"/>	444444444R	Bet	Good	1	04/28/1931	5	01/02/2005	8
RowID	MessageType	Column Name	Column Value	Error Description					
6		DMBPMeasure	5	More than the maximum value of 1.					
Row #	Has Error	PatientID	FirstName	LastName	Gender	DateOfBirth	DMBPMeasure	DMHbA1cDate	DMHbA1cValue
1	<input type="checkbox"/>	000111111X	Guy	Poor	1	06/13/1930	0		
4	<input type="checkbox"/>	222222222X	Bee	New	1	08/08/1954	1	08/08/2005	6
5	<input type="checkbox"/>	333333333T	Gal	Nice	1	05/05/1945	1	02/02/2005	7
7	<input type="checkbox"/>	555555555X	Testing	Another	1	08/29/2022	1	08/12/2005	7
8	<input type="checkbox"/>	777777777P	Public	Test	1	08/12/2005	1	08/05/2005	5

Ready

<< Previous Next >> Columns... Close Help

Import Review



Errors

- Critical Errors
 - Missing required column
 - Extra column
 - Duplicate values in required columns
 - Missing values in required columns
- Non-critical Errors
 - Non-existing HIC Number
 - Invalid Values (non-numeric, values outside of range)



File Specifications – Patients Table

Column Name	Data Type	Max Chars	Min Value	Max Value	Valid Values	Unknown Value	Requirement	Comments
Diabetes								
DMConfirmed	INTEGER				0, 1, 2, 3			If 0, 2 or 3, no need to set the values of DM columns
DMHbA1cTest	INTEGER				0, 1			
DMHbA1cDate	DATE	10				X	DMHbA1cTest=1	Must be in MM/DD/YYYY format
DMHbA1cValue	INTEGER		1	25		0	DMHbA1cTest=1	
DMBPMeasure	INTEGER				0, 1			
DMBPDate	DATE	10				X	DMBPMeasure=1	Must be in MM/DD/YYYY format
DMBPSystolic	INTEGER		0	350		0	DMBPMeasure=1	
DMBPDiastolic	INTEGER		0	200		0	DMBPMeasure=1	
DMLDLCTest	INTEGER				0, 1			
DMLDLDate	DATE	10				X	DMLDLCTest=1	Must be in MM/DD/YYYY format
DMLDLValue	INTEGER		1	500		0	DMLDLCTest=1	
DMNephropathy	INTEGER				0, 1, 2			

Column Name	Data Type	Max Chars	Min Value	Max Value	Valid Values	Unknown Value	Requirement	Comments
Heart Failure								
HFCConfirmed	INTEGER				0, 1, 2			If 0 or 2, no need to set the values of HF columns
HFCADLVSD	INTEGER				0, 1			Used under HF and CAD topics
Coronary Artery Disease								
CADConfirmed	INTEGER				0, 1, 2			If 0 or 2, no need to set the values of CAD columns
CADDiabetes	INTEGER				0, 1			
[blank]								This blank row is a placeholder for the column HFCADLVSD. This column name must only exist once but may be used under HF and CAD.
CADACEARBDDrug	INTEGER				0, 1, 3, 4, 5		CADDiabetes=1 OR HFCADLVSD=1	This is dependent on both CADDiabetes and HFCADLVSD

Sample Patient Import File

PatIDHIC	FirstName	LastName	Gender	DateOfBirth	ClinicNumber
000111111X	Testing	Another	1	06/13/1930	Clinic1
123456789A	Meplez	Try	2	11/08/1935	Clinic2
444444444E	Jane	Dontt	2	07/12/1935	
000123456P	Patient	Test	2	04/05/1945	Clinic3
333333333T	Guy	Poor	1	08/08/1954	
444444444R	Gal	Nice	2	04/28/1931	Clinic3
777777777P	Bet	Good	1	08/29/1922	
888888888Z	Do-Itt	Just	1	08/13/1922	
999999999X	Beesee	Aye	1	01/20/1937	Clinic1
222222222X	NewGuy	InDBlock	1	05/05/1980	

**Broken into
2 lines**

ProviderNumber	MPNumber	DMConfirmed	DMHbA1cTest	DMHbA1cDate	DMHbA1cValue
N11111	01234567	1	1	6/4/2005	4
W44444		0			
		1	1	9/8/2005	7
T77777	03072001A	1	1	10/9/2005	8
		0			
T77777		0			
W44444		1	1	9/8/2005	5
		1	1	7/2/2005	4
T77777		1	0		
		1	1	5/5/2005	5

File Specifications and Sample – Patient Visits

Column Name	Data Type	Valid Values	Max. Chars.	Requirements	Comments
PatIDHIC	TEXT		30		REQUIRED. Value must exist in the Patient table.
HFPCVisitDate	DATE			PCConfirmed=1 OR HFConfirmed=1	REQUIRED. Valid value depends on performance year. Must be in MM/DD/YYYY format. The combination of PatIDHIC and HFPCVisitDate must be unique for each row in the import file. This column does <u>not</u> accept "X" to represent an unknown date.
HFWeight	INTEGER	0, 1, 3		HFConfirmed=1	Used only under the HF topic
PCBPMeasure	INTEGER	0, 1		PCConfirmed=1	Used only under the PC topic
HFPCInvalid	INTEGER	0, 1			0 = visit is not invalid. 1 = visit is invalid Default value is 0. May only be set to 1 if the visit record is pre-filled. Only pre-filled visits may be marked as invalid. User-added visits can't be marked as invalid.

PatIDHIC	HFPCVisitDate	HFWeight	PCBPMeasure	HFPCInvalid
444444444E	09/13/2005	1	1	
444444444E	01/13/2005	0		
999999999X	12/13/2005	1	8	
222222222X	01/10/2005	1	0	1
222222222X	06/01/2002	1		

Analytic Documents

- **Algorithm for Measures Calculation-EHRS**
- **Downloadable Resource Table**
- **EHRS to MCMP-PAT Mapping**



Algorithm for Measures Calculation-EHRS

CORONARY ARTERY DISEASE (CAD) Algorithm for Measures Calculation-EHRS

Antiplatelet Therapy (*CAD-1): Percentage of patients with CAD who were prescribed antiplatelet therapy

Denominator: All patients with CAD \geq 18 years of age

Denominator Inclusions

All patients with a documented diagnosis of CAD and patient is 18 years or older at the beginning of the measurement period.

TOPIC_EVALUATION_CODES Table lists applicable ICD-9 (I9) and CPT (C4) codes for inclusion:

[CADCONFIRMED]=1

DX CODE (I9)	PROC CODE (C4)
414.00-414.07, 414.8-414.9,	92980-92982, 92984,
410.00-410.92, 412,	92995-92996, 33140,
411.0-411.89, 413.0-413.9,	33510-33514, 33516-33519,
V45.81, V45.82	33521-33523, 33533-33536

Downloadable Resource Table

TOPIC TYPE	TOPIC INDICATOR	VARIABLE NAME	CODING SYSTEM	CODE	CODE DESCRIPTION	EFFECTIVE DATE	END DATE	MINIMUM VALUE	MAXIMUM VALUE
CAD	1	DX_CODE	I9	410.00	AMI ANTEROLATERAL, UNSPEC	10/1/1989			
CAD	1	DX_CODE	I9	410.01	AMI ANTEROLATERAL, INITIAL	10/1/1989			
CAD	1	DX_CODE	I9	410.02	AMI ANTEROLATERAL, SUBSEQ	10/1/1989			
CAD	1	DX_CODE	I9	410.10	AMI ANTERIOR WALL, UNSPEC	10/1/1989			
CAD	1	DX_CODE	I9	410.11	AMI ANTERIOR WALL, INITIAL	10/1/1989			
CAD	1	DX_CODE	I9	410.12	AMI ANTERIOR WALL, SUBSEQ	10/1/1989			
CAD	1	DX_CODE	I9	410.20	AMI INFEROLATERAL, UNSPEC	10/1/1989			
CAD	1	DX_CODE	I9	410.21	AMI INFEROLATERAL, INITIAL	10/1/1989			
CAD	1	DX_CODE	I9	410.22	AMI INFEROLATERAL, SUBSEQ	10/1/1989			
CAD	1	DX_CODE	I9	410.30	AMI INFEROPOST, UNSPEC	10/1/1989			
CAD	1	DX_CODE	I9	410.31	AMI INFEROPOST, INITIAL	10/1/1989			
CAD	1	DX_CODE	I9	410.32	AMI INFEROPOST, SUBSEQ	10/1/1989			
CAD	1	DX_CODE	I9	410.40	AMI INFERIOR WALL, UNSPEC	10/1/1989			
CAD	1	DX_CODE	I9	410.41	AMI INFERIOR WALL, INITIAL	10/1/1989			
CAD	1	DX_CODE	I9	410.42	AMI INFERIOR WALL, SUBSEQ	10/1/1989			
CAD	1	DX_CODE	I9	410.50	AMI LATERAL NEC, UNSPEC	10/1/1989			
CAD	1	DX_CODE	I9	410.51	AMI LATERAL NEC, INITIAL	10/1/1989			

38	CAD	1	DX_CODE	I9	413.1	PRINZMETAL ANGINA	1/1/1984		
39	CAD	1	DX_CODE	I9	413.9	ANGINA PECTORIS NEC/NOS	1/1/1984		
40	CAD	1	DX_CODE	I9	414.00	COR ATH UNSPEC VESSEL NTV/GRAFT	10/1/1994		
41	CAD	1	DX_CODE	I9	414.01	COR ATH NATVE VESSEL	10/1/1994		
42	CAD	1	DX_CODE	I9	414.02	COR ATH ATLG VN BPS GRAFT	10/1/1994		
43	CAD	1	DX_CODE	I9	414.03	COR ATH UNCALC BIP GRAFT	10/1/1994		

◀ ▶ ◀ ▶
TOPIC_DRUG_CODES TOPIC_EVALUATION_CODES TOPIC_MEDICAL_EXCLUSION

EHR to MCMP-PAT Mapping

- A concise version of the algorithm document
- Designed to guide data extraction from EHR
- Assumption: data is stored using standard coding systems (e.g., CPT, ICD-9, SNOMED, LOINC, etc)
 - If not, data definition document should be utilized



DRAFT

EHR TO MCMP-PAT MAPPING
CORONARY ARTERY DISEASE

Measure #	Descriptive Name	Variable Name	Value	EHR Mapping
CAD	Diagnosis of coronary artery disease	CADCONFIRMED	0	(DX_CODE=I9 AND PROC_CODE=C4) not found
			1	DX_CODE=I9 OR PROC_CODE=C4
			2	Record not found
CAD-1	Antiplatelet therapy	CADANTIPLATDRUG	0	(TOPIC_DRUG_CODES=NDC AND ANTIPLATELET_THERAPY_CODE=C4) not found and no reason documented
			1	TOPIC_DRUG_CODES=NDC OR ANTIPLATELET_THERAPY_CODE=C4
			3	EXCLUSION_CODE=SNM OR (ADVERSE_EFFECT_1_CODE=I9 AND ADVERSE_EFFECT_2_CODE=I9) OR ALLERGY_CODE=SNM OR MEDICAL_REASON=C4
			4	PATIENT_REASON=C4
			5	SYSTEM_REASON=C4

DRAFT

EHR TO MCMP-PAT MAPPING
CORONARY ARTERY DISEASE

Measure #	Descriptive Name	Variable Name	Value	EHR Mapping
CAD-2	Drug therapy for lowering LDL cholesterol	CADLDCDRUG	0	(TOPIC_DRUG_CODES=NDC AND STATIN_THERAPY_CODE=C4) not found and no reason documented
			1	TOPIC_DRUG_CODES=NDC OR STATIN_THERAPY_CODE=C4
			3	(ADVERSE_EFFECT_1_CODE=I9 AND ADVERSE_EFFECT_2_CODE=I9) OR [(LDL_CODE=LN OR C4) AND LDL Value <130] OR LDL_<130_CODE=C4 OR MEDICAL_REASON=C4
			4	PATIENT_REASON=C4
			5	SYSTEM_REASON=C4

DRAFT

**EHR TO MCMP-PAT MAPPING
CORONARY ARTERY DISEASE**

Measure #	Descriptive Name	Variable Name	Value	EHR Mapping
CAD-3	Beta-blocker therapy - prior myocardial infarction (MI)	CADMI	0	MI_DX_CODE=I9 not found
			1	MI_DX_CODE=I9
		CADBLOCKDRUG	0	(TOPIC_DRUG_CODES=NDC AND BETA_BLOCKER_THERAPY_CODE=C4) not found and no reason documented
			1	TOPIC_DRUG_CODES=NDC OR BETA_BLOCKER_THERAPY_CODE=C4
			3	(EXCLUSION_CODE=I9 OR SNM) OR (HEART_RATE_CODE=SNM <u>AND</u> 2 Consecutive Heart Rate Readings <50 bpm) OR (AV_BLOCK_CODE=I9 <u>WITHOUT</u> PERM_PACEMAKER_CODE=I9) OR MEDICAL_REASON=C4
			4	PATIENT_REASON=C4
			5	SYSTEM_REASON=C4
CAD-5	Lipid profile	CADLIPID	0	Lipid profile not performed
			1	(LIPID_PROFILE_CODE=C4 OR LN) OR [(CHOL_CODE=C4 <u>AND</u> TRIG_CODE=C4 <u>AND</u> HDL_CODE=C4 <u>AND</u> LDL_CODE=C4)] OR [(CHOL_CODE=LN <u>AND</u> TRIG_CODE=LN <u>AND</u> HDL_CODE=LN <u>AND</u> LDL_CODE=LN)]
			2	Not abstracting this claims-based measure

DRAFT

**EHRS TO MCMP-PAT MAPPING
CORONARY ARTERY DISEASE**

Measure #	Descriptive Name	Variable Name	Value	EHRS Mapping
CAD-6	LDL cholesterol test	CADLDLCTEST	0	(LDL_CODE=C4 <u>AND</u> LN) not found
			1	LDL_CODE=C4 <u>OR</u> LN
		CADLDLDATE	MM/DD/YYYY	If CADLDLCTEST=1, record most recent date
		CADDLCV ALUE	Numeric	If CADLDLCTEST=1, record most recent numeric value

DRAFT

**EHR TO MCMP-PAT MAPPING
CORONARY ARTERY DISEASE**

Measure #	Descriptive Name	Variable Name	Value	EHR Mapping
CAD-7	ACE inhibitor or ARB therapy for patients with diabetes and/or LVSD	CADDIABETES	0	(DM_DX_CODE=I9 AND TOPIC_DRUG_CODES=NDC) not found
			1	DM_DX_CODE=I9 OR TOPIC_DRUG_CODES=NDC
		HFCADLVSD	0	Patient does not have LVSD
			1	[(LVF_ASSESS_CODE=SNM <u>OR</u> C4) AND (EJEC_FRAC_CODE=SNM <u>AND</u> LVEF Value <40%)] OR EJEC_FRAC_CODE=C4
		CADACEARBDRUG	0	(TOPIC_DRUG_CODE=NDC AND ACE_ARB_THERAPY_CODE=C4) not found and no reason documented
			1	TOPIC_DRUG_CODE=NDC OR ACE_ARB_THERAPY_CODE=C4
			3	EXCLUSION_CODE=I9 OR PREGNANCY_CODE=I9 OR (ACE_ALLERGY_CODE=SNM <u>AND</u> ARB_ALLERGY_CODE=SNM) OR MEDICAL_REASON=C4
			4	PATIENT_REASON=C4
			5	SYSTEM_REASON=C4

Contact Information

Sherry Grund, Director Special Projects

- sgrund@ifmc.org
- 515-223-2112

Francis Landiza, Programmer III

- flandiza@ifmc.org
- 515-440-8216

Mary Schrader, Special Projects Coordinator

- mschrade@ifmc.org
- 515-223-2891

