



cypress

An Open Source Clinical Quality Measure Testing and Certification Tool



Health in the 21st Century

MITRE

Goals

- Proposed to be the rigorous and repeatable testing tool of Electronic Health Records (EHRs) and EHR modules in calculating Meaningful Use (MU) Stage 2 Clinical Quality Measures (CQMs)
- CQM certification criteria addressed by Cypress include:
 - Capture and Export – the capability of EHR technology to create a data file that can be incorporated by another EHR technology which could be used to calculate CQMs
 - Import and Calculate – the capability of EHR technology to incorporate data (from another EHR technology where necessary) and correctly calculate the result for CQMs
 - Electronic Submission – the capability of EHR technology to create a standard data file that can be electronically accepted by the Centers for Medicare and Medicaid Services (CMS)

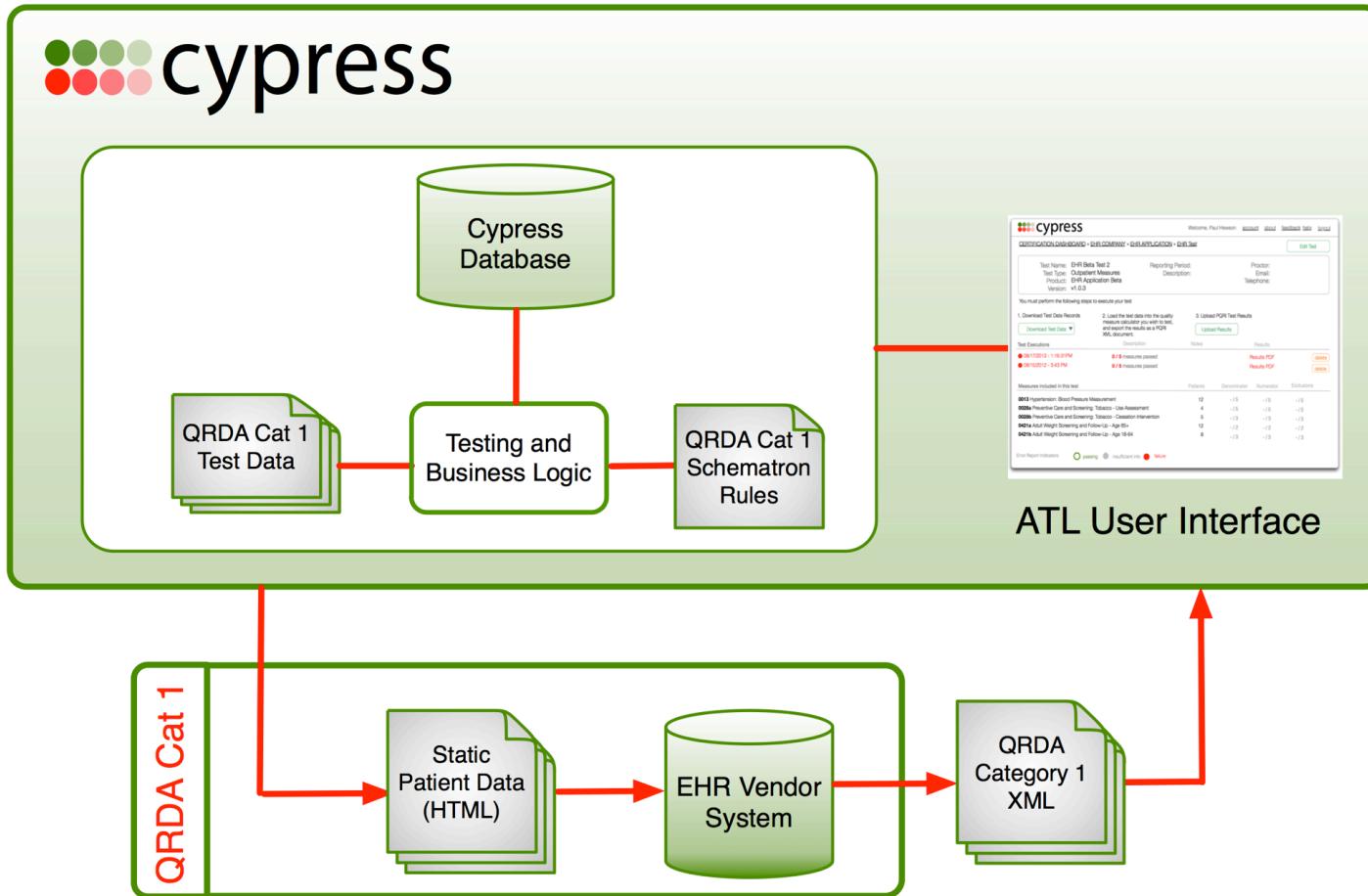
Test Capabilities

- Cypress v2 provides 4 tests in support of CQM certification:
 1. Extensible Markup Language (XML) Data conformance testing of the Quality Reporting Document Architecture (QRDA) **Category 1** standard for individual patient-level data used for CQM calculation
 2. XML Data conformance testing of the QRDA **Category 3** standard for aggregate reporting of CQM calculation
 3. Accuracy calculation testing of the Meaningful Use Stage 2 Eligible Provider (**EP**) CQMs
 4. Accuracy calculation testing of the Meaningful Use Stage 2 Eligible Hospital (**EH**) CQMs

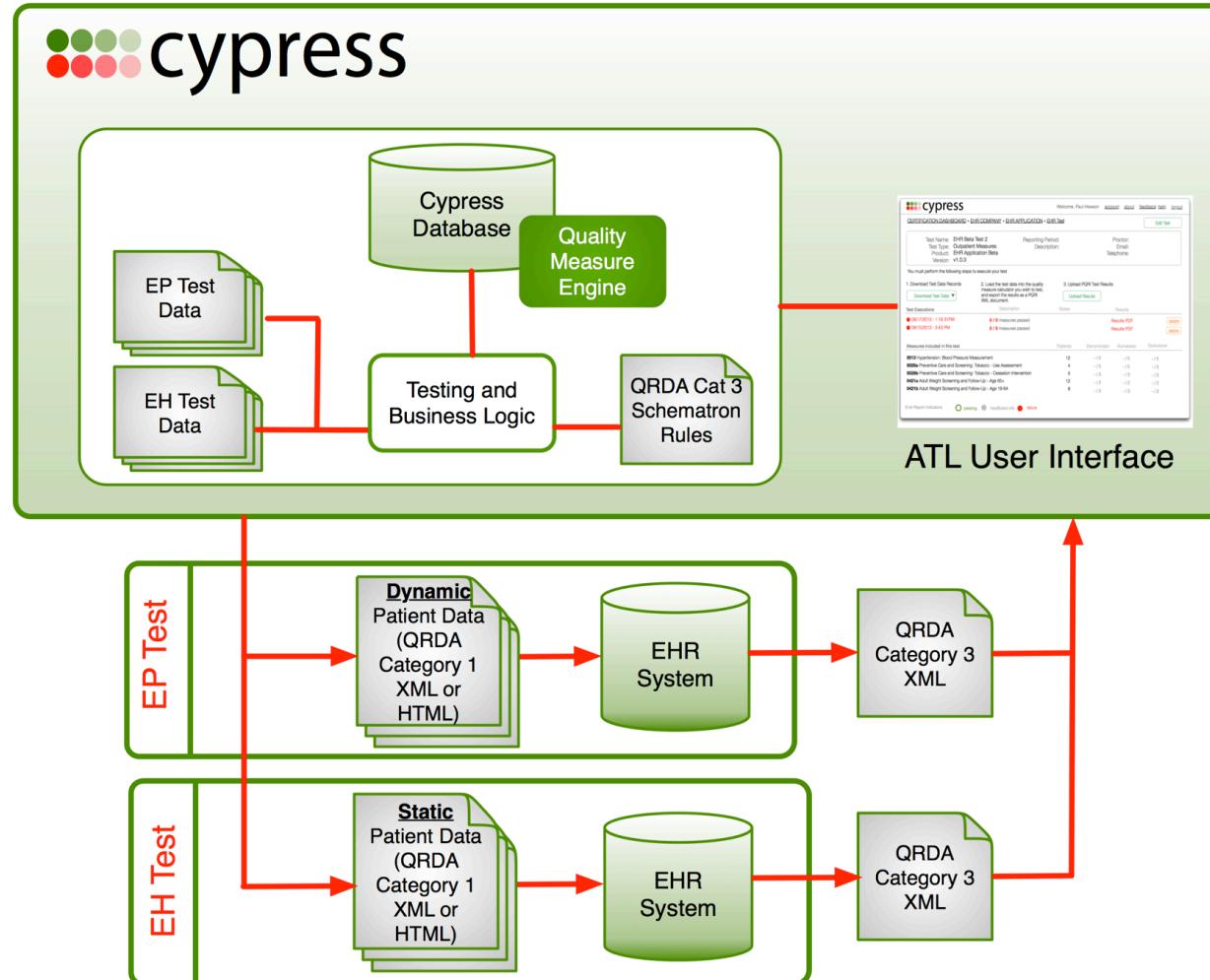
Intended Users

- Authorized Testing Labs (ATLs)
- Planned to serve as the official testing tool for the 2014 EHR Certification program supported by the Office of the National Coordinator for Health IT (ONC)
- Cypress is open source and freely available for use or adoption by the health IT community, including EHR vendors and authorized testing labs
 - Any EHR vendor may use Cypress to pre-test software packages for certification readiness
 - EHR vendors will have access to not only the Cypress service, but also the underlying source code
 - Provides transparency and accessibility to the underlying Cypress software for federal stakeholders

Concept of Operations Capture and Export



Concept of Operations Import, Calculate, Electronic Submission



Cypress v2 ATL Test Proctor Workflow

- Test Proctor will be the sole user to interact with Cypress v2 interface
- Test Proctor will work with EHR vendor (possibly remotely, possibly face-to-face) to identify CQMs to be tested under the various testing modes
- Test Proctor will provide all Cypress patient test inputs to EHR vendor
- Test Proctor will be responsible for overseeing the EHR vendor's capture/import/export during the test
- Test Proctor will be responsible for uploading any artifacts from the EHR into Cypress
 - QRDA Category 1 XML
 - QRDA Category 3 XML
- To Be Determined (TBD) - Federal stakeholder policy decision whether the ATL Test Proctor will have the ability to "manually override" Cypress test results in the Cypress tool

What is a Passing Grade in Cypress?

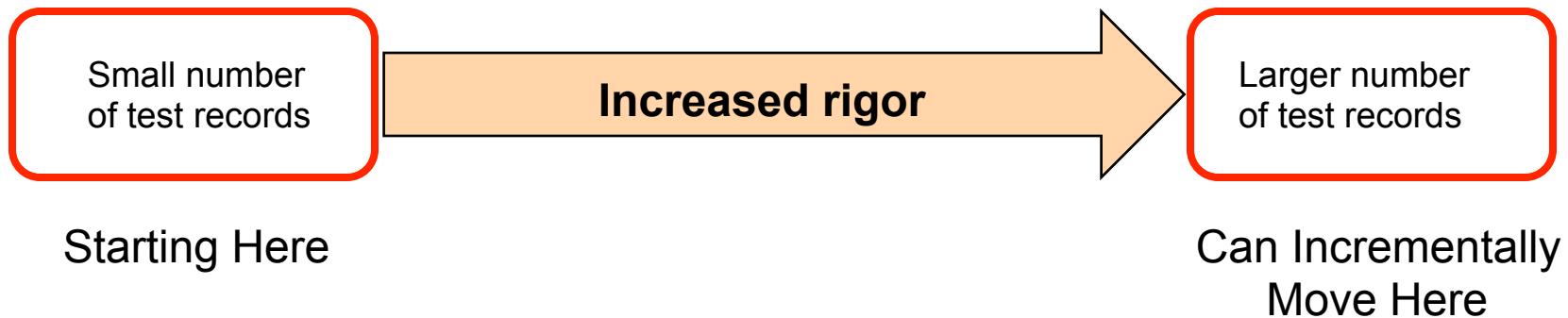
- For QRDA Category 1 and Category 3 Schematron validation:
 - Any errors constitute a failure
 - Any warnings constitute a warning
 - Cypress will highlight where in the XML the Schematron errors and warnings were encountered to allow EHR vendor to fix software issue in their product
- For CQM accuracy calculation:
 - EHR vendors will have to have the exact summary CQM results in QRDA Category 3 XML
 - For example, if the CQM expected 2 patients in numerator and 5 in denominator, then any value other than 2/5 will constitute a failure
 - Cypress will be able to provide the full details of the patients that were expected for the 2 numerator results and 5 denominator results to allow an EHR vendor to either dispute the result or to fix software issue in their product

Cypress v2 Certification Test Data Overview

- **Expected results for a set of known patients - Authoritative**
 - Conformance with standards and accuracy of CQM calculation
- **Maximum confidence from minimum data entry**
 - Minimize vendors' manual data entry burden
- **3 Cypress test decks include:**
 - QRDA Category 1 Test Data for verifying conformance with the QRDA Category 1 standard
 - EP CQM Test Data for certification testing of accurate calculation of EP measures
 - EH CQM Test Data for certification testing of accurate calculation of EH measures
- **Certification is a spot check of vendor performance – *not* an exhaustive test**

Cypress v2 Patient Test Data

- Level of confidence in accuracy of CQM calculations
 - Support manual entry of test records by vendors
 - Support future capability for automated import of test data
 - MITRE is working to balance EHR manual entry burden with rigor in exercising various logical paths through CQMs



Cypress v2 Patient Test Data

- How long will it take to test an EHR vendor with Cypress?
 - Currently an unknown, and will be valuable information to collect in beta pilots in early Dec 2012 with ATL and EHR vendors
- Manual Data Entry
 - Time to load patient data dependent on the number of CQMs that the EHR vendors wants to be certified for
 - Estimate to fully test all 64 of the EP CQMs and all 29 EH CQMs for both QRDA Validation and CQM Calculation Accuracy is approximately 2 days for manual data entry of the approximately 200 patient records
 - Fully automated import of Cypress patient data will radically reduce this time to a few minutes

QRDA Category 1 and 3 Validation

- MITRE is integrating testing files developed by a contractor into Cypress v2
 - Schematron XML validation rules
 - Errors cause failure
 - Warnings are notified to ATL user, but do not fail EHRs

QRDA Category 1 Validation

- Patient-level data

QRDA Category 3 Validation

- Aggregate-level data

EP CQM CALCULATION TEST

MU Stage 2 EP Test Deck

- **Draft version of the Cypress EP Test Data consists of 36 patients**
 - At least 2 DEN and 1 NUM patient for each of the 64 EP CQMs
 - Cypress is not testing all the Multi-Numerator permutations
 - Cypress is testing a portion of the Exclusion logic by including at least one path through each of the *Recommended Core* EP CQMs
 - Exception logic was not targeted at this time
- **Range is from 1 to 34 data points per patient**
- **This work and the patient records are currently being vetted by MU Stage 2 measure stewards**

Measure Pathway Example

- Sample mapping of a pathway through the *Cholesterol Screening – Risk measure logic* to the Cypress Test patient data on the right

Population criteria

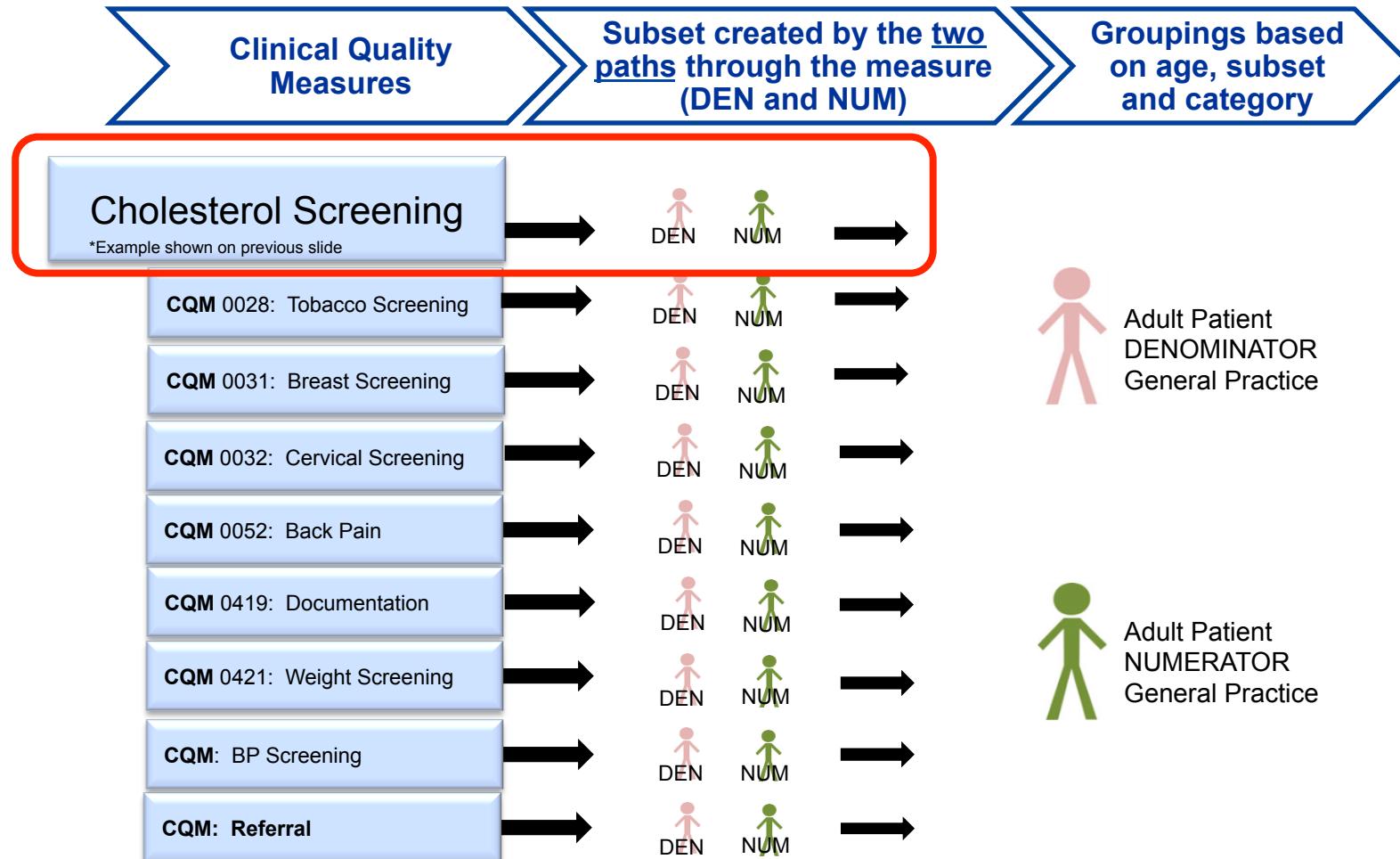
----- Population Criteria 1 ----- <High Risk>

- Initial Patient Population 1 = <Patients are 20-80 years old at start of measurement period, plus encounter>
 - AND: "Occurrence A of Encounter, Performed: Cholesterol Measure Encounter Codes" during "Measurement Period"
 - AND:
 - AND: "Patient Characteristic Birthdate: birth date" \geq 20 year(s) starts before start of "Measurement Period"
 - AND: "Patient Characteristic Birthdate: birth date" $<$ 80 year(s) starts before start of "Measurement Period"
- Denominator 1 =
 - AND: "Initial Patient Population 1"
 - AND: <fasting LDL-C or a calculated LDL-C test>
 - OR: "Laboratory Test, Performed: LDL Test" during "Measurement Period"
 - OR:
 - AND: "Laboratory Test, Performed: Total Cholesterol"
 - AND: "Laboratory Test, Performed: High Density Lipoprotein (HDL)"
 - AND: "Laboratory Test, Performed: Triglycerides"
 - during "Measurement Period"
 - AND:
 - OR: "Diagnosis, Active: CHD or CHD Risk Equivalent" starts before or during "Occurrence A of Encounter, Performed: Cholesterol Measure Encounter Codes" <CHD or CHD Risk Equivalent>
 - OR:

Cypress Test Patient data will be listed in this column:

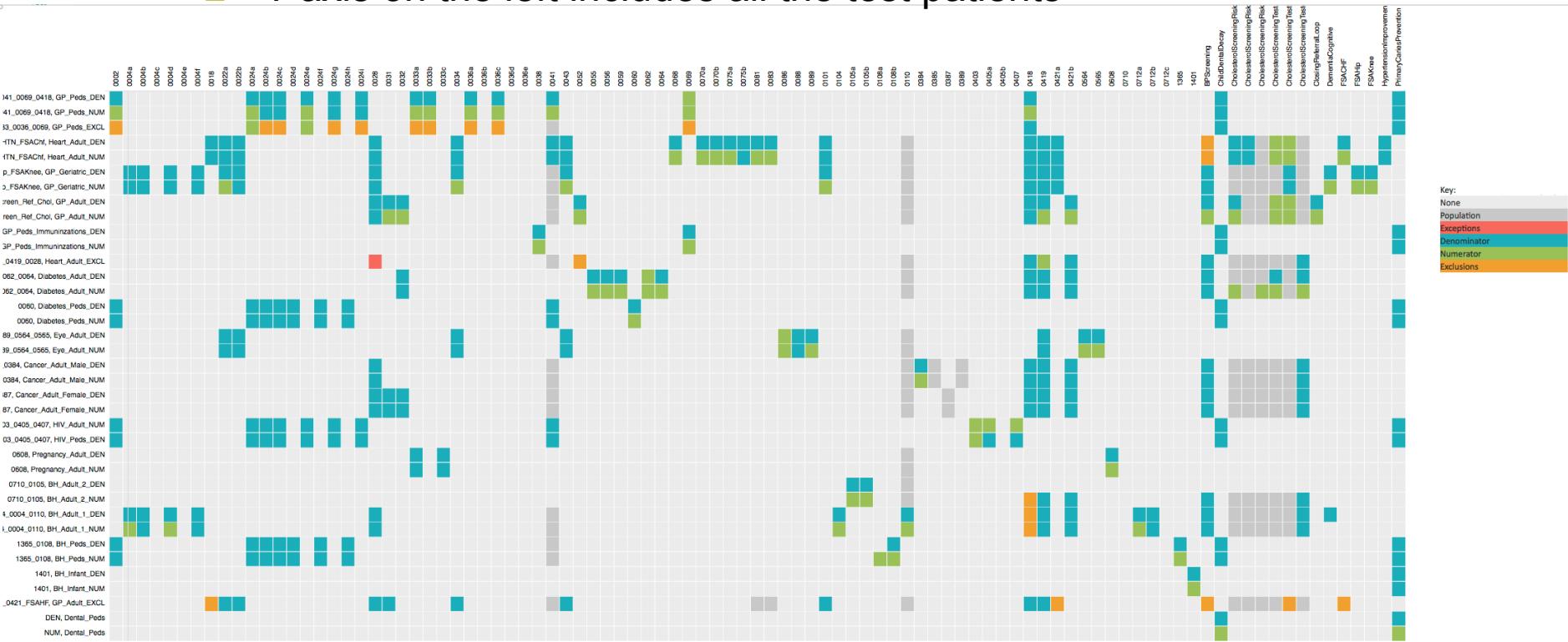
- Patient has a cholesterol encounter
- Patient is 45 years old
- Patient has an LDL test
- Patient is diagnosed with CHD

Measure Pathway Grouping Example



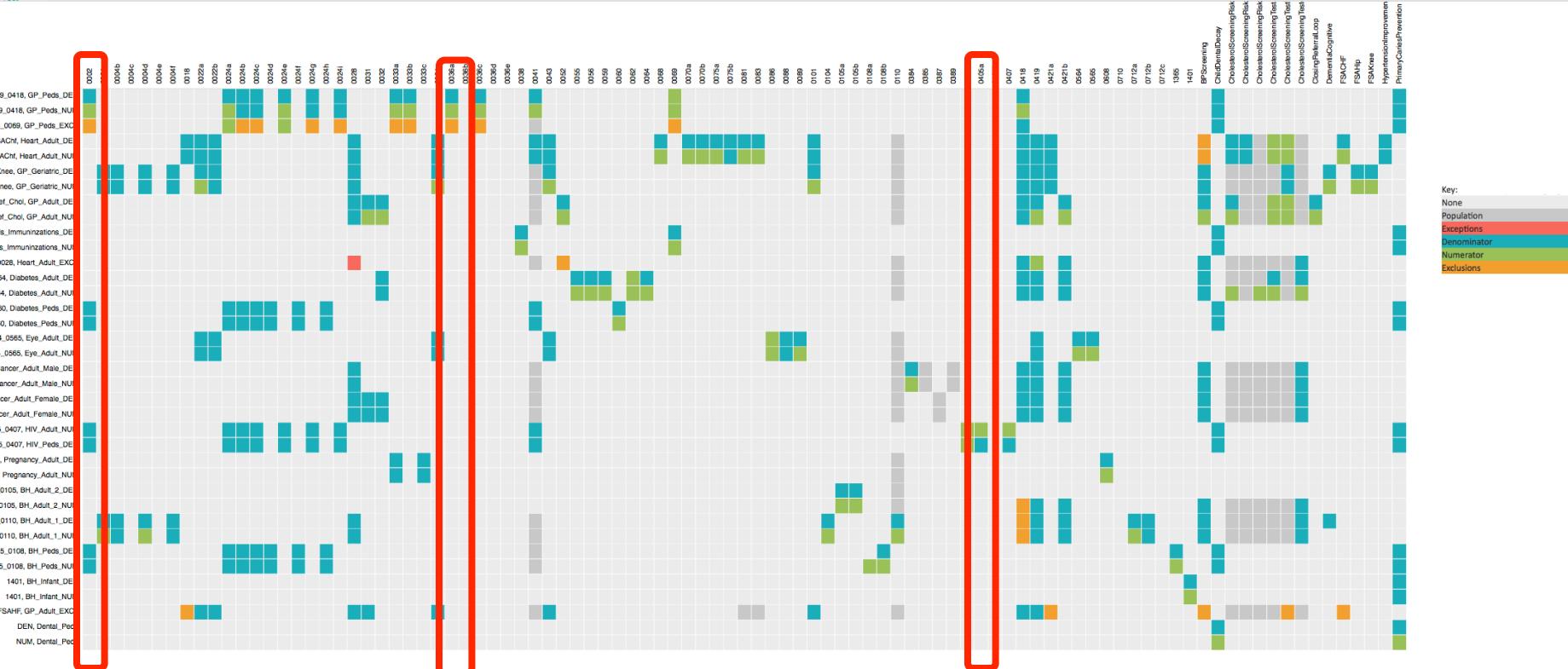
Cypress Test Data Alignment

- Below is a matrix of the Cypress MU Stage 2 EP Test Data applied against the MU EP CQM space
 - X-axis on the top includes all the MU CQMS
 - Y-axis on the left includes all the test patients



Measure Selection

- Measures selected by vendor will determine which patients to use... assume these 3 EP CQMs are selected



Patient Identification

- Cypress will identify 9 patients that can exercise numerator/denominator and some exclusion for the 3 CQMs



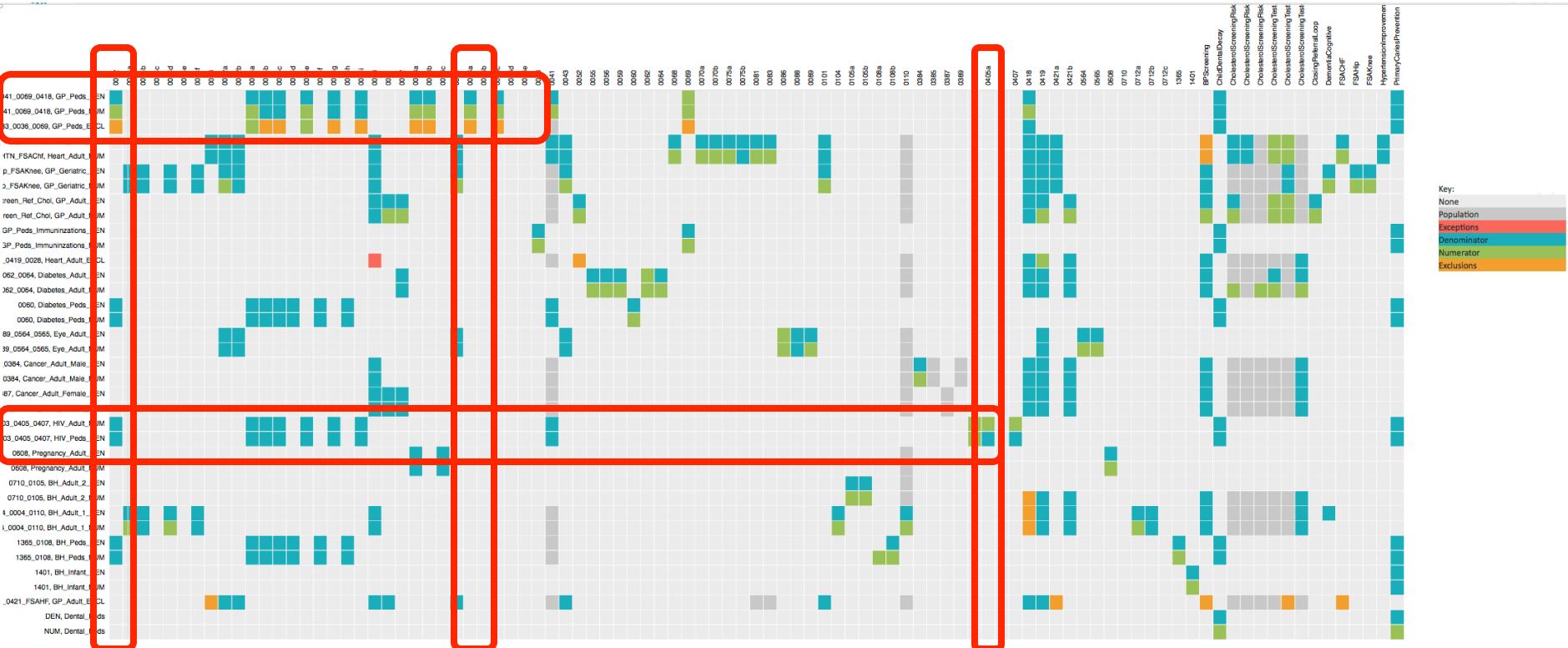
Patient Matching

- When possible, Cypress will remove additional patients if other patients can provide more coverage and still have 1 numerator and 2 denominator matches



Final Test Patients

- These 5 patients can now provide a minimal test to exercise the 3 selected EP CQMs



Testing Randomization

■ Guarding against gamesmanship with randomization

- Cypress will introduce some variability and randomness by “cloning” a patient that meets numerator logic for each CQM
- Final randomization for EP Data will be ready for January release
 - Random removal of conditions/encounters/medications/etc. from “cloned” patient
 - Random modification of values like blood pressure (BP)/labs from “cloned” patient
- Cypress v2 Quality Measure Engine (QME) software is key to this recalculation of randomized data
 - Machine executable logical code driven from the Healthcare Quality Measure Format (HQMF) definitions of the EP CQMs on CMS site
 - Capable of recalculating expected results for any of the EP CQMs
 - Capable of calculating results for any part of the EP CQMs

EH TEST DATA

MU Stage 2 EH Test Deck

- Requires manual inspection of the 29 EH CQMs by MITRE staff and measure stewards
- Draft version of the EH Test Data currently consists of 20 patients covering 29 measures
 - At least 2 DEN and 1 NUM patient per measure
- MITRE is currently reviewing to verify results of test data to the EH measures as well as updating patients according to any logic changes
 - EH measures have less overlap in the populations than the EP measures
 - Result is a higher patient to measure ratio in the EH deck just to test denominator and numerator pathways
- EH CQM testing will not be dynamic/random until April 2013 because the Quality Measure Engine will not be enhanced to support non numerator/denominator CQM calculation

QRDA CATEGORY 1 TEST DATA

QRDA Category 1 Test Data

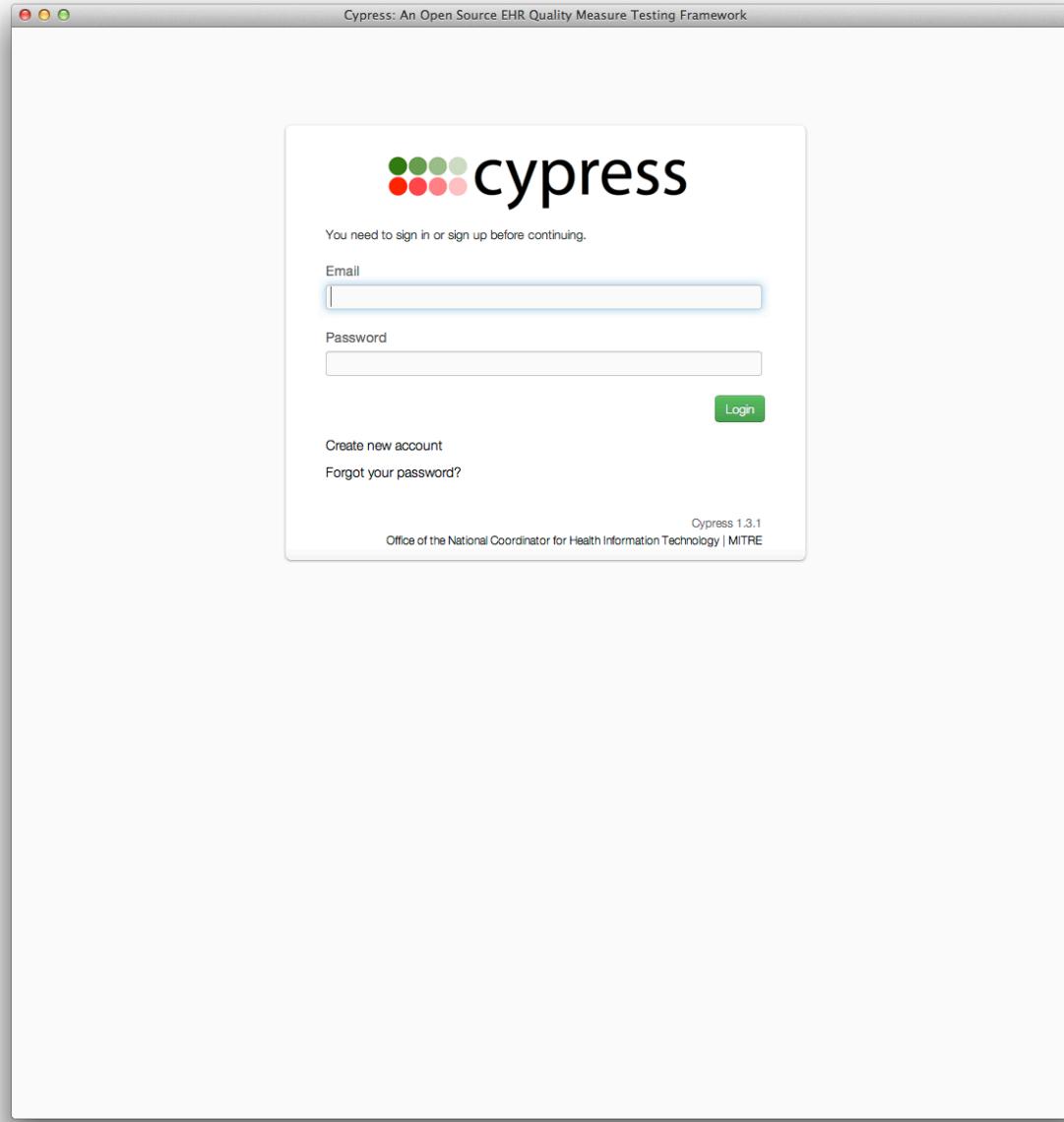
- Cypress presents a single patient record to fully exercise all clinical attributes in a CQM for generation of a single QRDA Category 1 XML document
- These patient records represent all the clinical attributes which could be used for a CQM, and are not designed to be realistic patient records

TESTING AND PILOTS

Cypress v2 Testing and Pilots

- Cypress v2 Beta Pilots
 - Require both ATL **and** EHR vendor
 - Meant to test both workflow but also maturity of Cypress software
 - Ideally, pilots start early December 2012
 - EHR vendor readiness for December and MU Stage 2 CQMs and data standards is a risk to this plan
 - ATL feedback is welcome on this plan

EP TEST SCREENSHOTS



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* First name

* Last name

* Email

Telephone

* Password Must be at least 5 characters long.

* Password confirmation

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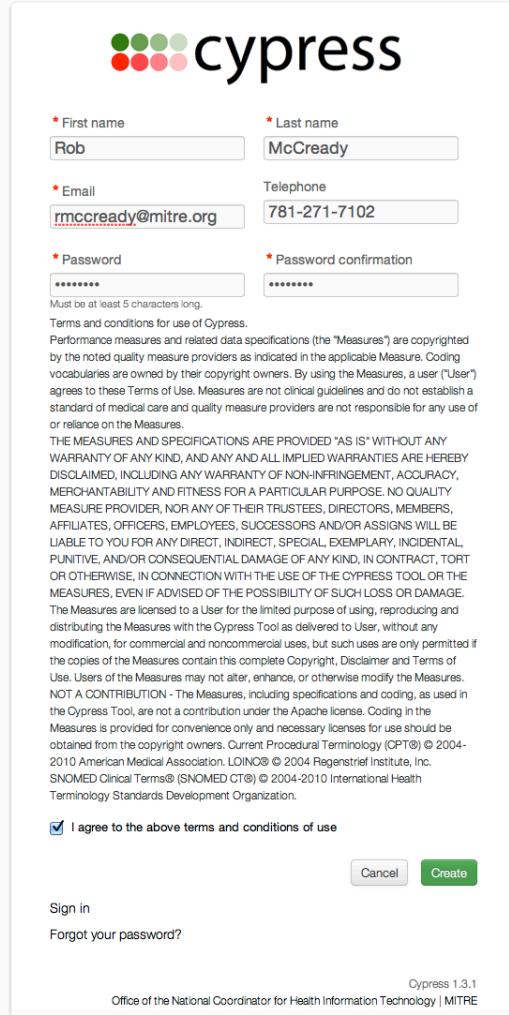
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Cypress: An Open Source EHR Quality Measure Testing Framework



The screenshot shows a registration form for the Cypress tool. The form includes fields for First name (Rob), Last name (McCreedy), Email (rmccready@mitre.org), Telephone (781-271-7102), Password, and Password confirmation. Below the form is a detailed Terms and conditions of use for Cypress, which states that the measures are provided "AS IS" without warranty, and disclaims liability for damages. It also mentions copyright by noted quality measure providers and coding vocabularies owned by their copyright owners. The form also includes a checkbox for agreeing to the terms and conditions, and buttons for Cancel and Create.

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* First name * Last name

* Email Telephone

* Password * Password confirmation

Must be at least 5 characters long.

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Vendor Information

* Vendor Name:

EHR POC:

Vendor ID:

Email:

Url:

Phone:

Address:

Fax:

State:

ZIP:

alternate POCS

Main EHR POC:

Technical POC:

Email:

Email:

Phone:

Phone:

Press POC:

Email:

Email:

Phone:

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CERTIFICATION DASHBOARD

Candidate EHR: EHR Vendor 4
Vendor ID:
URL: www.ehrvendor4.com

EHR POC: Fred Simpson
Email: fsimpson@ehrvendor4.com
Phone: 555-555-5555

PRODUCTS

There are no products for this vendor. [Add Product](#)

Error Report Indicators: ○ passing ● insufficient info ● failing

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CERTIFICATION DASHBOARD » EHR VENDOR 4 » CREATE NEW PRODUCT

Product Information

* Product Name:

Description:

Version:

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CERTIFICATION DASHBOARD

EHR POC: Fred Simpson
Email: fsimpson@ehrvendor4.com
Phone: 555-555-5555

PASSING PRODUCTS

	DESCRIPTION	TESTS
<input checked="" type="radio"/>	Vendor 4 Product	Ambulatory Product4 0 / 0

Delete

Error Report Indicators: passing insufficient info failing

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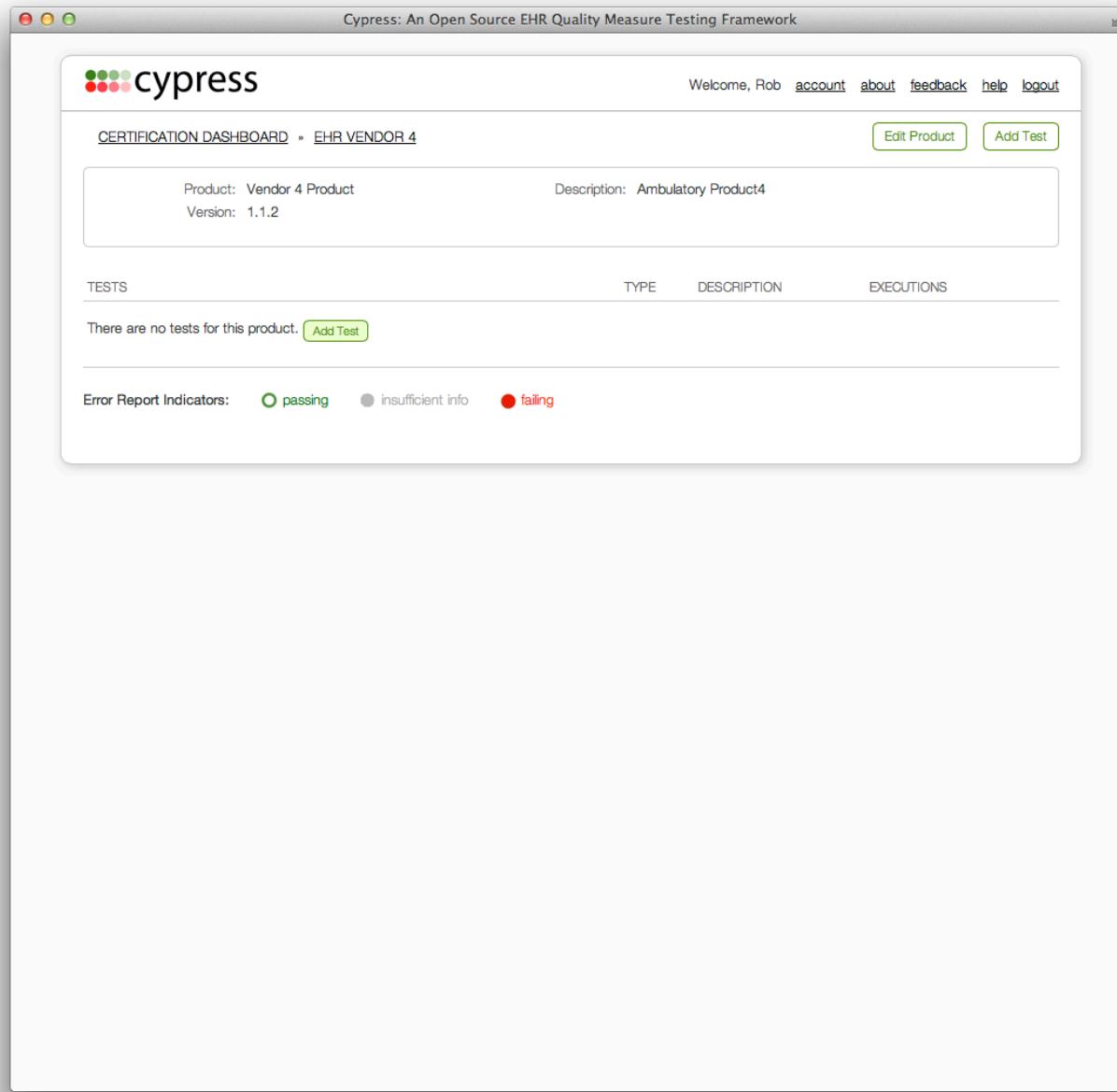
[CERTIFICATION DASHBOARD](#) > [EHR VENDOR.4](#)

Product: Vendor 4 Product Description: Ambulatory Product4
Version: 1.1.2

[Edit Product](#) [Add Test](#)

TESTS	TYPE	DESCRIPTION	EXECUTIONS
There are no tests for this product. Add Test			

Error Report Indicators: passing insufficient info failing



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[Back](#) Step 1 of 2 [Next](#)

Describe the test...

* Test Name:

Reporting Period: from 10/01/2010 to 01/01/2011

Description:

Test Type: Outpatient - to test quality measures for Eligible Professionals (EP)
 Inpatient - to test quality measures for Eligible Hospitals (EH)
 QRDA Category I - to test using the QRDA Category I format

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[Back](#) Step 2 of 2 [Done](#)

You must choose at least one quality measure.

Identify **at least one** quality measure to test from the list of available measures for this product...

all quality measures

ADE	
<input type="checkbox"/> all ADE measures	
<input type="checkbox"/> ADE_TTR - ADE Prevention and Monitoring: Warfarin Time in Therapeutic Range	
ADHD	
Alcohol and Drug	
Asthma	
Back Pain	
Blood Pressure	
CAD	
Cancer	
Cataracts	
Cholesterol	
Dementia	
Dentistry	
Depression	
Diabetes	
Diabetic Retinopathy	
Elderly	
Falls	
Glaucoma	
HF	
HIV	

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[Back](#) Step 2 of 2 [Done](#)

Identify **at least one** quality measure to test from the list of available measures for this product...

all quality measures

ADE	1	<input checked="" type="checkbox"/> all ADE measures
ADHD	1	<input checked="" type="checkbox"/> ADE_TTR - ADE Prevention and Monitoring: Warfarin Time in Therapeutic Range
Alcohol and Drug	1	
Asthma	1	
Back Pain	1	
Blood Pressure	1	
CAD	1	
Cancer	6	
Cataracts	2	
Cholesterol	1	
Dementia	1	
Dentistry	2	
Depression	6	
Diabetes	3	
Diabetic Retinopathy	2	
Elderly	1	
Falls	1	
Glaucoma	1	
HF	2	
HIV	1	
Home Health	1	

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Back Step 2 of 2 Done

Identify **at least one** quality measure to test from the list of available measures for this product...

all quality measures

ADE	1	<input checked="" type="checkbox"/> all Depression measures
ADHD	1	<input checked="" type="checkbox"/> 0710 - Depression Remission at Twelve Months
Alcohol and Drug	1	<input checked="" type="checkbox"/> 0105 - Anti-depressant Medication Management
Asthma	1	<input checked="" type="checkbox"/> 1365 - Child and Adolescent Major Depressive Disorder (MDD): Suicide Risk Assessment
Back Pain	1	<input checked="" type="checkbox"/> 0712 - Depression Utilization of the PHQ-9 Tool
Blood Pressure	1	<input checked="" type="checkbox"/> 1401 - Maternal Depression Screening
CAD	1	<input checked="" type="checkbox"/> 0104 - Major Depressive Disorder (MDD): Suicide Risk Assessment
Cancer	6	
Cataracts	2	
Cholesterol	1	
Dementia	1	
Dentistry	2	
Depression	6	
Diabetes	3	
Diabetic Retinopathy	2	
Elderly	1	
Falls	1	
Glaucoma	1	
HF	2	
HIV	1	
Homeless	1	

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CERTIFICATION DASHBOARD » EHR VENDOR.4

Product: Vendor 4 Product Description: Ambulatory Product4
Version: 1.1.2

Edit Product Add Test

INCOMPLETE TESTS	TYPE	DESCRIPTION	EXECUTIONS
<input checked="" type="radio"/> All MU Stage 2 EP CQMs	EP	All of the Meaningful Use Stage 2 Eligible Professional Clinical Quality Measures	Delete

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Test Name: All MU Stage 2 EP CQMs	Reporting Period: 10/01/2010 - 01/01/2011	Proctor: Rob McCready
Test Type: EP	Description: All of the Meaningful Use Stage 2 Eligible Professional Clinical Quality Measures	Email: rmccready@mitre.org
Product: Vendor 4 Product		Telephone: 781-271-7102
Version: 1.1.2		

You must perform the following steps to execute your test:

1. Download Test Data
2. Load Test Data into your quality measure calculator
3. Upload Results

[Test Data](#) [Upload Results](#)

Notes: [add note](#)

TEST EXECUTIONS	DESCRIPTION	RESULTS
There are no test executions		

Error Report Indicators: **passing** insufficient info **failing**

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Test Name: All MU Stage 2 EP CQMs Reporting Period: 10/01/2010 - 01/01/2011 Proctor: Rob McCready
Test Type: EP Description: All of the Meaningful Use Email: rmccready@mitre.org
Product: Vendor 4 Product Stage 2 Eligible Professional Telephone: 781-271-7102
Version: 1.1.2 Clinical Quality Measures

You must perform the following steps to execute your test:

1. Download Test Data
2. Load Test Data into your quality measure calculator
3. Upload Results

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[Upload Results](#) [add note](#)

ITIONS	DESCRIPTION	RESULTS
test executions		

Indicators: ○ passing ● insufficient info ● failing

Open "http://wiggy.mitre.org:3000/product_tests/5089a9143054cf1a12000357/download.html" in a new tab

Test_5089a9143054cf1a12000357

	Name	Date Modified	Size	Kind
	0_10_11_12_Eye_Adult_NUM_0086_0088_0089_0564_0565.html	Today 5:21 PM	25 KB	HTM
	1_10_11_12_Cancer_Adult_Male_DEN_0385_0389_0384.html	Today 5:21 PM	26 KB	HTM
	2_10_11_12_Diabetes_Adult_N...5_0056_0059_0062_0064.html	Today 5:21 PM	17 KB	HTM
	3_10_11_12_GP_Adult_DEN_00...0421_BPScreen_Ref_Chol.html	Today 5:21 PM	27 KB	HTM
	4_10_11_12_GP_Peds_DEN_000...3_0036_0041_0069_0418.html	Today 5:21 PM	27 KB	HTM
	5_10_11_12_Diabetes_Peds_NUM_0060.html	Today 5:21 PM	15 KB	HTM
	6_10_11_12_BH_Infant_DEN_1401.html	Today 5:21 PM	8 KB	HTM
	7_10_11_12_GP_Geriatric_DEN_...ementia_FSAHip_FSAKnee.html	Today 5:21 PM	20 KB	HTM
	8_10_11_12_Dental_Peds_DEN.html	Today 5:21 PM	8 KB	HTM
	9_10_11_12_Heart_Adult_DEN_..._0083_0075_HTN_FSAChf.html	Today 5:21 PM	31 KB	HTM
	10_10_11_12_Pregnancy_Adult_DEN_0608.html	Today 5:21 PM	8 KB	HTM
	11_10_11_12_BH_Peds_DEN_1365_0108.html	Today 5:21 PM	15 KB	HTM
	12_10_11_12_GP_Peds_Immunicizations_DEN_0038.html	Today 5:21 PM	8 KB	HTM
	13_10_11_12_Cancer_Adult_Female_DEN_0387.html	Today 5:21 PM	16 KB	HTM
	14_10_11_12_HIV_Peds_DEN_0403_0405_0407.html	Today 5:21 PM	14 KB	HTM
	15_10_11_12_Eye_Adult_DEN_0086_0088_0089_0564_0565.html	Today 5:21 PM	18 KB	HTM
	16_10_11_12_Diabetes_Peds_DEN_0060.html	Today 5:21 PM	12 KB	HTM
	17_10_11_12_GP_Peds_Immunicizations_NUM_0038.html	Today 5:21 PM	74 KB	HTM
	18_10_11_12_BH_Infant_NUM_1401.html	Today 5:21 PM	10 KB	HTM
	19_10_11_12_Dental_Peds_NUM.html	Today 5:21 PM	13 KB	HTM
	20_10_11_12_Pregnancy_Adult_NUM_0608.html	Today 5:21 PM	16 KB	HTM
	21_10_11_12_GP_Geriatric_NUM...Dementia_FSAHip_FSAKnee.html	Today 5:21 PM	36 KB	HTM
	22_10_11_12_BH_Peds_NUM_1365_0108.html	Today 5:21 PM	23 KB	HTM
	23_10_11_12_Cancer_Adult_Male_NUM_0385_0389_0384.html	Today 5:21 PM	28 KB	HTM
	24_10_11_12_HIV_Peds_NUM_0403_0405_0407.html	Today 5:21 PM	18 KB	HTM
	25_10_11_12_Cancer_Adult_Female_NUM_0387.html	Today 5:21 PM	24 KB	HTM
	26_10_11_12_Diabetes_Adult_...55_0056_0059_0062_0064.html	Today 5:21 PM	11 KB	HTM
	27_10_11_12_BH_Adult_1_DEN_0712_0104_0004_0110.html	Today 5:21 PM	21 KB	HTM
	28_10_11_12_GP_Adult_NUM_0...0421_BPScreen_Ref_Chol.html	Today 5:21 PM	45 KB	HTM
	29_10_11_12_Heart_Adult_NUM_0...1_0083_0075_HTN_FSAChf.html	Today 5:21 PM	40 KB	HTM
	30_10_11_12_GP_Peds_NUM_0...3_0036_0041_0069_0418.html	Today 5:21 PM	42 KB	HTM
	31_10_11_12_BH_Adult_1_NUM_0712_0104_0004_0110.html	Today 5:21 PM	29 KB	HTM
	32_10_11_12_BH_Adult_2_DEN_0710_0105.html	Today 5:21 PM	17 KB	HTM
	33_10_11_12_BH_Adult_2_NUM_0710_0105.html	Today 5:21 PM	21 KB	HTM
	34_10_11_12_GP_Peds_EXCL_0...4_0033_0036_0069, 0108.html	Today 5:21 PM	40 KB	HTM
	35_10_11_12_GP_Adult_EXCL_18_FSAHF.html	Today 5:21 PM	17 KB	HTM
	36_10_11_12_Heart_Adult_EXCL_0052_0418_0419_0028.html	Today 5:21 PM	18 KB	HTM

Cypress Certification Patient Test Record: 10_11_12_GP_Geriatric_DEN 0022_0043_0101_0034_Dementia_FSAHip_FSAKnee

Cypress Certification Patient Test Record: 10_11_12_GP_Geriatric_DEN
0022_0043_0101_0034_Dementia_FSAHip_FSAKnee

Patient	10_11_12_GP_Geriatric_DEN 0022_0043_0101_0034_Dementia_FSAHip_FSAKnee		
Date of birth	January 2nd, 1943 19:30	Sex	Male
Contact info	Primary Home: 202 Burlington Rd. Bedford, MA 01730 Tel: +1-781-271-3000	Patient IDs	5089a9153054cf1a120003ae Cypress
Document Id	5089a9153054cf1a120003ae 2.16.840.1.113883.3.72		
Document Created:	October 25th, 2012 21:21		
Author	Auto Generated		
Contact info	Tel: +1-781-271-3000		
Document maintained by	Cypress		
Contact info	202 Burlington Rd. Bedford, MA 01730 Tel: +1-781-271-3000		

View By Encounter

Diagnoses

Description	Codes	Time	Status	Results	Fields
Diagnosis, Active: Dementia & Mental Degenerations (Code List: 2.16.840.1.113883.3.526.3.1005)	ICD-9-CM: 094.1 ICD-10-CM: A52.17 SNOMED-CT: 281004	January 29th, 2010 05:00 - January 29th, 2010 05:00	active		causeOfDeath: () free_text: () name: () ordinality: () ordinality_code: () priority: () severity: () specifics: () type: ()

Encounters

Description	Codes	Time	Status	Results	Fields
Office Visit (Code List: 2.16.840.1.113883.3.464.1003.101.12.1001)	CPT: 99201	August 1st, 2009 04:00 - August 1st, 2009 04:00	performed		admitType: () admit_time: () dischargeDisposition: () discharge_time: () free_text: () performer_id: () specifics: ()
Office Visit (Code List: 2.16.840.1.113883.3.464.1003.101.12.1001)	CPT: 99201	October 1st, 2009 04:00 - October 1st, 2009 04:00	performed		admitType: () admit_time: () dischargeDisposition: () discharge_time: () free_text: () performer_id: () specifics: ()
Office Visit (Code List: 2.16.840.1.113883.3.464.1003.101.12.1001)	CPT: 99201	January 29th,	performed		admitType: ()

Fri: 63°F Sat: 63°F Sun: 54°F Mon: 51°F

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Test Name: All MU Stage 2 EP CQMs	Reporting Period: 10/01/2010 - 01/01/2011	Proctor: Rob McCreedy
Test Type: EP	Description: All of the Meaningful Use Stage 2 Eligible Professional Clinical Quality Measures	Email: rmcready@mitre.org
Product: Vendor 4 Product		Telephone: 781-271-7102
Version: 1.1.2		

You must perform the following steps to execute your test:

1. Download Test Data
2. Load Test Data into your quality measure calculator
3. Upload Results

[Test Data](#) [Upload Results](#)

Notes:

TEST EXECUTIONS
There are no test executions

Error Report Indicators: passing

Upload Results

1. Results File [Choose File](#)

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Test Name: All MU Stage 2 EP CQMs Reporting Period: 10/01/2010 - 01/01/2011 Proctor: Rob McCready
 Test Type: EP Description: All of the Meaningful Use Email: rmccready@mitre.org
 Product: Vendor 4 Product Stage 2 Eligible Professional Telephone: 781-271-7102
 Version: 1.1.2 Clinical Quality Measures

You must perform the following steps to execute your test:

1. Download Test Data 2. Load Test Data into your quality measure calculator 3. Upload Results

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Notes: [add note](#)

TEST EXECUTIONS	DESCRIPTION	RESULTS
2012-10-25 21:24:52 UTC		Results

TEST RESULTS

PASSING MEASURES

MEASURES INCLUDED IN THIS TEST	PATIENTS	DENOMINATOR	DEN. EXCLUSIONS	NUM. EXCLUSIONS	EXCEPTIONS
HypertensionImprovement - Hypertension: Improvement in Blood Pressure	0/0	0 / 0	0 / 0	0 / 0	- / - /
FSACHF - Functional Status Assessment for Complex Chronic Conditions	3/3	33 / 2	0 / 1	1 / 1	- / - /
ClosingReferralLoop - Closing the referral loop: receipt of specialist report	2/2	2 / 2	- /	1 / 1	- / - /
0608 - Pregnant women that had HBsAg testing	2/2	2 / 2	- /	1 / 1	- / - /
0043 - Pneumonia Vaccination Status for Older Adults	5/5	5 / 5	- /	1 / 1	- / - /
0086 - Primary Open Angle Glaucoma (POAG): Optic Nerve Evaluation	2/2	43 / 2	- /	1 / 1	- / - /
0083 - Heart Failure (HF): Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)	3/3	2 / 2	- /	1 / 1	- / - /
PrimaryCariesPrevention - Primary Caries Prevention Intervention as Offered by Primary Care Providers, including Dentists	15/15	15 / 15	- /	1 / 1	- / - /
ChildDentalDecay - Children Who Have Dental Decay or Cavities	15/15	15 / 15	- /	1 / 1	- / - /
1365 - Child and Adolescent Major Depressive Disorder (MDD): Suicide Risk Assessment	3/3	3 / 3	- /	1 / 1	- / - /
1401 - Maternal Depression Screening	2/2	2 / 2	- /	0 / 0	- / - /
0101 - Falls: Screening for Future Fall Risk	5/5	5 / 5	- /	1 / 1	- / - /
0088 - Diabetic Retinopathy: Documentation of Presence or Absence of Macular Edema and Level of Severity of Retinopathy	2/2	2 / 2	- /	1 / 1	- / - /
0000 - Bulk All Data - No Data Available	0/0	0 / 0	- /	- /	- /

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CERTIFICATION DASHBOARD » EHR VENDOR 4

Product: Vendor 4 Product Description: Ambulatory Product4
Version: 1.1.2

[Edit Product](#) [Add Test](#)

FAILING TESTS	TYPE	DESCRIPTION	EXECUTIONS
● ► All MU Stage 2 EP CQMs	EP	All of the Meaningful Use Stage 2 Eligible Professional Clinical Quality Measures	Delete

Error Report Indicators: passing insufficient info failing