Implementing Cancer Case Reporting from Ambulatory Electronic Health Records

April Austin
New York State Cancer Registry (NYSCR)

June 16, 2016
Objectives

Describe NYSCR’s progress and challenges related to
  • Registration and Administration
  • Testing and Validation
  • Production Systems and Submissions
Registration and Administration
Meaningful Use (MU) Registration System

New York has one registration system located on NYSDOH’s Health Commerce System (secure web-based portal)

- New York State Department of Health (Cancer Reporting)
- New York City Department of Health and Mental Hygiene
- For both Eligible Professionals (EPs) and Eligible Hospitals

January 2016 – Enhanced registration system deployed (replaced simple web-based system deployed in 2014)

- Program interface under development
- Plans for providers to retrieve MU status as needed
Administrative Support
NY Medicaid 90/10 Funds, Fall 2014

NYSTEC – Technology consulting company
• Registration System
• Informatics Analysts
  • Support to public health program area (1 FTE in NYSCR)
  • Assist with registration and on-boarding activities
• NY’s public website information
• NY’s Meaningful Use (MU) Public Health Support Team
• NY Medicaid Incentive Payment Program audits
### Active Registrations, On-Boarding, and Reporting Status

**On-boarding assigned to:** Dan

**Practice specialty:** Dermatology

**Part of Current Reporting:** Physician office (HCS app)

**Details of Reporting:** Web app reporter

<table>
<thead>
<tr>
<th>Registration ID</th>
<th>1140</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice NPI</td>
<td>1341659421</td>
</tr>
<tr>
<td>Practice Name</td>
<td>William P Roberts, MD</td>
</tr>
<tr>
<td>Location Name</td>
<td>400 Patroon Creek Blvd.</td>
</tr>
<tr>
<td>Address</td>
<td>Albany NY 12206</td>
</tr>
<tr>
<td>Contact Information</td>
<td>Becky Smith 518-439-5522 nursebeckyaol.com</td>
</tr>
<tr>
<td>Secondary</td>
<td></td>
</tr>
</tbody>
</table>

**Current Process Status**

4/28/2016 Received response to request for action

**Current DOH status:** Engaged in Testing (submitted CDA)

**Initial (First) Submit Date:** 3/14/2014

**Active Registration:** 1140

**Registration Review Section**

**Vendor:** Medent

**EHR Vendor Name:** Medent

**EHR Software:**

**EHR NOT Certified:**

**Last Checked:** 4/3/2014

### Provider Information

<table>
<thead>
<tr>
<th>Registration ID</th>
<th>1140</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provider ID</td>
<td>1160</td>
</tr>
<tr>
<td>Provider NPI</td>
<td>234567896</td>
</tr>
<tr>
<td>License Number</td>
<td>945874</td>
</tr>
<tr>
<td>Speciality</td>
<td>Dermatology</td>
</tr>
<tr>
<td>Name</td>
<td>William Roberts</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:DrRoberts@yahoo.com">DrRoberts@yahoo.com</a></td>
</tr>
<tr>
<td>HCS ID</td>
<td></td>
</tr>
</tbody>
</table>

**CMS ID:** 9987987954

**Registration submitted:** 3/14/2014

**MU Stage:** 2

**MU Year:** 1

**MU Program:** Medicare

**MU Start Date:** 10/1/2014

**MU End Date:** 12/29/2014

**Cancer Reporting Intent:** Y

**Cancer Reporting Exclusion:** N
Import Registration Data and Review

- Record Practice specialty
- Record EHR certification status
- Identify existing cancer reporting
- Prioritize (High, Medium, Low)
Process Status Log

Current Process Status
4/28/2016  Received response to request for action

<table>
<thead>
<tr>
<th>Date</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/14/2016 11:44:22 AM</td>
<td>Process Status Log</td>
</tr>
<tr>
<td>4/28/2016 9:48:33 AM</td>
<td>Received response to request for action</td>
</tr>
<tr>
<td>4/16/2016 11:04:17 AM</td>
<td>Request for action email sent</td>
</tr>
<tr>
<td>1/20/2016 2:17:47 PM</td>
<td>Engaged in testing (test CDA submitted, response to invite #1)</td>
</tr>
<tr>
<td>12/8/2015 11:36:43 AM</td>
<td>Invitation to test #1 email sent</td>
</tr>
<tr>
<td>12/4/2015 2:18:06 PM</td>
<td>Assigned staff for testing/onboarding</td>
</tr>
<tr>
<td>5/2/2014 10:48:32 AM</td>
<td>Awaiting invite to test email sent (likely to diag/treat)</td>
</tr>
<tr>
<td>4/3/2014 11:03:10 AM</td>
<td>Registered - likely to diagnose/treat cancer</td>
</tr>
</tbody>
</table>

Tracks process steps, including requests for action and EP responses.

Series of Process Statuses

Registration
- Likely/unlikely to diagnose/treat cancer
- Uncertified EHR

Initial Communications
- Active Engagement Option 1 (awaiting invitation)
- EHR not certified

Invitations to Test and Requests for Action
- Response to requests
- Production submissions
Contact Log

- Documentation of all contacts with the practice.
- Place to save email communications as attachments, which can be provided back to EPs for audit purposes.

<table>
<thead>
<tr>
<th>Date</th>
<th>Contact method</th>
<th>Contact with</th>
<th>Reason for Contact</th>
<th>Initials</th>
<th>Additional Comments</th>
<th>Attachments</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/14/2016</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4/28/2016</td>
<td>Secure file transfer via HCS received</td>
<td>Laurie</td>
<td>Responded to request for action</td>
<td>dpv</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/16/2016</td>
<td>Email initiated</td>
<td>Laurie</td>
<td>Request for action communication</td>
<td>dpv</td>
<td>A request to send a second test CDA to evaluate updates in Medent</td>
<td></td>
</tr>
</tbody>
</table>

NEW YORK STATE OF OPPORTUNITY. Department of Health
Action Reports and Status Reports (examples)

**Registration Review and Initial Contact(s)**
- New registration for review
- EHR vendor to be identified
- Due for Software not Certified contact - by registration ID
- Due for Software not Certified contact - by contact email
- Awaiting Invitations to Test - Lists

**Invitations to Test**
- Ready for Invite to Test 1
- Reminder: 21-30 days since Invite 1
- Responded to Invite 1 or 2 WITHOUT test CDA
- >30 days since Invite 1 / Ready for Invite to Test 2
- Reminder: 21-30 days since Invite 2
- Alert: >30 days since Invite 2
- Needs Non Responsive to Invites to Test communication

**Practice/Provider Status Summaries**
- Practice - MU status by priority
- Provider - MU status by priority
- Practice - NYSCR process status by priority
- Provider - NYSCR process status by priority

**Vendor/Specialty Distributions**
- High/med priority - vendors
- High/med priority - specialties
- Vendors by certification status
- Specialties by certification status
- Overall specialty distribution
MU Registrations 2014 – May 31, 2016

1,077 Practices

3,056 Eligible Professionals (EPs)
  • MU incentive payment program at registration
    • Medicare: 2,152
    • Medicaid: 904

[Time will tell if this distribution will play a role in 2017 and forward based on the proposed Medicare Access & CHIP Reauthorization Act of 2015 (MACRA).]
Registrations by Practice Specialty

- *Dermatology (6%)
- *Gastroenterology (5%)
- *Hematology/Oncology (4%)
- *Urology (3%)
- *Multiple Specialty (with targeted, 3%)
- Family/Internal Medicine (36%)
- Pediatrics (6%)
- Other (37%)
Further breakout of “Other” Specialties

- Multiple Specialty (non-targeted, 92)
- OB/Gynecology (59)
- Otolaryngology (55)
- Surgery (44)
- Cardiology (30)
- Other (27)
- Neurology (16)
- Ophthalmology (16)
- Orthopedics/Orthopedic Surgery (14)
- Pulmonary - Critical Care (13)
- Radiology/Radiation Oncology (12)
- Endocrinology (10)
- Podiatry (10)
Prioritization

High Priority (N = 108 practices)
- Targeted specialty (dermatology, urology, hem/oncology, gastroenterology)
- EHR software certified for cancer reporting
- No established reporting other than physicians using our web-based application

Medium Priority (N = 105 practices)
- Targeted specialty - EHR software not certified
- Targeted specialty - hospital-based possible

Low Priority (N = 864 practices)
- Non-targeted specialty
- EPs with established reporting (hospital, radiation treatment center, ambulatory surgery center)
Registrations - EHR Software

61 different EHR vendors/products

- 16 (26%) are certified for cancer case reporting and used by 541 practices
- 45 (74%) are not certified for cancer case reporting and used by 514 practices
- 22 practices: EHR vendor unknown

Note: Certification status published on the Office of the National Coordinator for Health Information Technology Certified Health IT Product List (http://oncchpl.force.com/ehrcert).
## Top EHRs Registered, Certified/Not Certified

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Certified (n = 541)</th>
<th>N (%)</th>
<th>Not Certified (n= 514)</th>
<th>Vendor</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medent</td>
<td>187</td>
<td>34.6</td>
<td>eClinicalWorks</td>
<td>278</td>
<td>54.1</td>
</tr>
<tr>
<td>NextGen</td>
<td>121</td>
<td>22.4</td>
<td>Practice Fusion</td>
<td>38</td>
<td>7.4</td>
</tr>
<tr>
<td>Epic (Beacon Oncology)</td>
<td>71</td>
<td>13.1</td>
<td>Allscripts</td>
<td>31</td>
<td>6.0</td>
</tr>
<tr>
<td>MDLand</td>
<td>53</td>
<td>9.8</td>
<td>Greenway Health/Vitera</td>
<td>29</td>
<td>5.6</td>
</tr>
<tr>
<td>Modernizing Medicine</td>
<td>41</td>
<td>7.6</td>
<td>Chartlogic</td>
<td>21</td>
<td>4.1</td>
</tr>
</tbody>
</table>
### Specialty Distribution - High and Medium Priority Practices

<table>
<thead>
<tr>
<th>Specialty</th>
<th>High N (%)</th>
<th>Medium N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermatology</td>
<td>57 (53)</td>
<td>10 (10)</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td>17 (16)</td>
<td>33 (31)</td>
</tr>
<tr>
<td>Hem/Oncology</td>
<td>15 (14)</td>
<td>18 (17)</td>
</tr>
<tr>
<td>Urology</td>
<td>10 (9)</td>
<td>21 (20)</td>
</tr>
<tr>
<td>Multiple specialty</td>
<td>9 (8)</td>
<td>23 (22)</td>
</tr>
</tbody>
</table>

### EHRs used by High Priority Practices

<table>
<thead>
<tr>
<th>Vendor</th>
<th>N</th>
<th>Vendor</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modernizing Medicine</td>
<td>37</td>
<td>Athenahealth</td>
<td>3</td>
</tr>
<tr>
<td>Medent</td>
<td>34</td>
<td>Epic</td>
<td>2</td>
</tr>
<tr>
<td>NextGen</td>
<td>12</td>
<td>Meditab</td>
<td>2</td>
</tr>
<tr>
<td>MDLand</td>
<td>8</td>
<td>GeniusDoc</td>
<td>1</td>
</tr>
<tr>
<td>NexTech</td>
<td>5</td>
<td>Not Provided</td>
<td>1</td>
</tr>
<tr>
<td>Flatiron</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Challenges
CMS MU rules (lack of clarity, changes)
• Update communication documents and web-site information
• Create additional guidance documents for providers
• Respond to numerous inquiries from providers, hospitals, vendors, consultants

NY decisions beyond NYSCR control
• 2015 Re-registrations & 2016 Deployment of new registration system
  • Required modifications to our tracking database
  • Required identification of re-registrations and updated review and documentation in tracking database

Anticipating and planning for Stage 3 and proposed MACRA
NYSCR Approach

Begin on-boarding with high priority practices.
  • Dermatology (53%)
  • Users of Modernizing Medicine or Medent EHRs (66%)

Provide fictional patient information for 3 melanoma test cases with invitations to test and requests for action.

Adhere to *Implementation Guide for Ambulatory Healthcare Provider Reporting to Central Cancer Registries* (no additional requirements).

57 (74%) Registered dermatology practices use our web-based system – need to ensure that we receive similar data quality.
Progress and Findings

12 Practices engaged in testing and validation
- Ensure structural validation and content validation.
- Ensure practices are completing “critical” data elements.
- Ensure necessary staff are involved in testing.

Attend several workgroups with CDC, vendors, other states
- Learn about how workflow processes developed/expected by vendors affect cancer case reporting.
- Learn about experiences of other states.
- Provide more test cases for discussion and problem solving with vendors.
Progress and Findings

Visit to a local practice

- Test data were missing for most cancer diagnosis elements.
- They had received no training and were not aware of training tools. They did not realize there was a Cancer Registry form.
- They were using an IPad; vendor later informed us that the IPad version did not have the cancer reporting functionality.

Another practice – Request for Action/missing diagnosis date

- Provider could not find diagnosis date on the form.
- Vendor informed us they were using an earlier version of EHR that did not have a field to enter diagnosis date.
Challenges
Vendors and/or providers need:
• A clear understanding of the data elements that are necessary to constitute a cancer case report.
• To understand the importance of EHR workflow processes to data quality.
  • Workflow processes might be related to automated data element completion.
  • Timing of closing out patient encounters in relation to recording cancer information affects data quality.
• To ensure that providers are using most up-to-date versions of the software.
Challenges

Providers are not always aware of vendor training materials available to them, if they exist.

Testing and validation is an iterative process with both vendors and providers, which takes Registry time and resources.

As more EHR vendors become certified for cancer case reporting, the burden of on-boarding to Cancer Registries will be greater.

Stage 3 – additional tracking/validation processes anticipated.
CDA Upload Application

2014: Developed simple application for providers to upload single CDAs or zipped batch CDA files.

2015- 2016: Using 90/10 Medicaid funding for enhancements:

- Administration module for NYSCR to record information about practices/individuals approved for production submissions and to maintain permissions
- Automated processing (movement) of CDAs
- Notification emails to submitters and NYSCR
- Dashboard reports and data exports
- Ability to receive CDAs using DIRECT transport
Automated Processing

1. Receive Cancer CDA
2. Validate with CDC’s CDA Validation Plus
3. Compare to NYSCR Validation Rules
   - NYSCR Rule: Fail
   - NYSCR Rule: Pass or Alert
4. Import into CDC’s eMaRC Plus

NYSCR Validation Rules based on combinations of Data Element and Error Type generated:
- Fail - related to critical patient and/or cancer diagnosis data elements
- Alert - OID or formatting errors of non-critical elements
- Pass - errors of less importance to the NYSCR
Challenges

It is time consuming to work with contracted business analysts and developers, planning began in January 2015.

There are risks related to funding and project completion.

MU Stage 3 has different standards and different validation tools. We hope to receive continued funding for further development this fall.

Ongoing funds are required for continual maintenance and IT resources.

There are many uncertainties (volume, vendor and provider commitment beyond MU, staff resources).
Conclusions

Successful implementation of cancer case reporting from EHRs requires *extensive time and effort* by Cancer Registries and IT services, EHR vendors, and providers.

Successful implementation requires *extensive time and effort* for activities related to the project:

- Receiving and reviewing registrations, and maintaining necessary documentation as required by CMS;
- Becoming knowledgeable about the reporting specifications (IG) and undertaking testing and validation processes with numerous practices and many EHR products;
- Developing and maintaining infrastructure for receiving production level submissions;
- Integrating cancer cases from EHRs into existing Cancer Registry data stream.

The biggest challenge is that Cancer Registries do not have the resources to devote the *extensive time and effort* that this initiative demands.
Acknowledgements

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Questions?