80% by 2018 FORUM II

Workshop:
Effectively Using Electronic Health Records

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Learning Objectives

1. Identify opportunities to improve both application and care team processes to support colorectal cancer screening improvement using electronic health records.

2. Determine when and why to use referrals versus orders, which ICD codes are most appropriate in various circumstances, effective and compliant patient follow-up procedures, proper results documentation, and other key components of the colorectal cancer screening process.

3. Access the key information points and documentation steps necessary to develop patient screening goals based on family history of cancer.

4. Describe implementation of evidence-based
EHR Best Practice Workflow & Documentation Guide

- **Key Features:**
  - Process flows for FIT/FOBT and Colonoscopy Screening and follow-up
  - Documenting follow-up outreach for incomplete tests
  - Notifying patients of test results
  - Documenting family history
FIT/FOBT Workflow – Goals

- **Track and measure:**
  - Cards distributed and returned
  - Tests done for average risk CRC Screening
  - Follow-up/communication with patients to return cards
  - Follow-up/communication with patients on test results

- Associate Lab Order with ICD-10 code
- Ensure appropriate billing for test (if billing)
- Document Test Results
- Generate Referral for follow-up colonoscopy if test result is positive
FIT/FOBT Workflow – eCW

Challenges

• Billing in eCW (may vary in other EMRs)

• Procedure codes (CPTs) can be tied to orders, users prompted upon order to include CPT.

⇒ No such prompt exists when entering results or indicating receipt of samples (necessary for FOBT/FIT). Some centers billing “accidentally” upon order due to CPT linkage, others not billing at all due to complexity.

⇒ Recommended Workflow offers options
FIT/FOBT Workflow – NextGen

- Billing is handled entirely by lab
- Completion of FIT test order when resulted meets care guideline and resets screening interval
- Provider must enter Z12.11 code into today’s assessments when ordering test
- Pairing of ICD-10 code with test meets ACO measure (charge submission)
- NextGen reporting tool able to generate lists of tests with results and/or not
FIT/FOBT Workflow – NextGen Challenges

- Bidirectional lab interface allows for order submission which must be tied to an appropriate ICD-10 code
- Billing occurs on the laboratory services provider side
- Future orders reside in the laboratory information system (not NextGen)
- Tests when resulted flow into the NextGen laboratory flowsheet. The provider is alerted to their return and can plan for patient notice and subsequent care if required.
- Sample kit distribution was a problem in our unit and our laboratory support staff
Colonoscopy Workflow - Goals

- Track and measure:
  - Tests done for average risk CRC Screening
  - Tests done as follow-up to positive FOBT
  - Tests done for high-risk patients
  - Follow-up/communication with patients to make appointment with specialist
  - Follow-up/communication with patients on test results

- Document Test Results
- Document Follow-up
Colonoscopy Workflow – Challenges

- **Reason for colonoscopy referrals**
  - Educate that for the centers’ purpose, ICD-10 Code is a *reason* code, not a *billing diagnosis code* (GI is responsible for billing) (Both systems)
  - Workflow recommends associating referral with ICD code. (eCW)
  - Workflow **requires** associating referral with ICD code. (NextGen)

- **Date test was performed**
  - Order date commonly used as the date the test was performed, which often is the date the patient was referred. (eCW)
  - Workflow recommends including date test was performed in the DI Order. (eCW)
  - Order management allows for completion of the order and entry of date test was obtained, results, and order completion. (NextGen)

- **Colonoscopy results – inconsistent capture**
  - Patient usually gets results from specialist after colonoscopy. (eCW)
  - Need to determine lines of responsibility for patients co-managed by specialist. (eCW)
  - Referrals and provider support staff are provided reports of incomplete orders and may contact patient or specialist as appropriate to determine if study was performed and retrieval of results. (NextGen)
Colonoscopy Workflow in eCW-DI Order & Colonoscopy Referral

- Associate with ICD-10 Code
- Record date test was performed
- Document follow-up attempts with Structured Data
Referrals staff reviews incomplete order report at intervals to identify patients or specialists to contact for test results or rescheduling
Colonoscopy Workflow in eCW – Documenting Results

Within the DI Order, record:
- Imaging: Select Colonoscopy
- Performed date: date the colonoscopy was performed
- Check the Received Box
- Received date: enter date results were received
- If result is Positive or Abnormal, check High Priority box
- Assign to Provider

If via interface, result should match to open DI Order and populate much of the information.

If there is an Open DI Order for the Colonoscopy?

Yes:
- Create DI order from the document window and attach consult report. Order date must be changed from today’s date to the actual date ordered or date performed. Refer to Attaching Results to Order.
- Is there an Open DI Order for the Colonoscopy?

No:
- Consult Reports Received
- From Document window, attach consult report to appropriate DI Order
- Assign DI to Provider
- Timestamp and Review Document
- Provider documents within the DI Order
- Notify patients of results
- Mark Referral as “Addressed” (update Structured Data fields according to center’s procedures)

- Result (Negative, Abnormal, Positive or Cancer)
  - If positive for polyps, select “abnormal”
  - Add diagnosis to Problem List
  - Create patient-specific alert for follow-up screening colonoscopy in 3-5 years
  - If positive for cancer, select “positive” or “cancer”
  - Add diagnosis to Problem List
  - Initiate referral to oncologist

- Date test was performed
- Date results were received
- Positive or Abnormal – High Priority
- Positive for polyps – Abnormal
- Create patient specific alert for more frequent screening
- Positive for cancer – Positive or Cancer
- Add diagnosis to Problem List
- Referral to oncologist
RECORDING COLONOSCOPY RESULTS

Colonoscopy Report Received

- Use order management to record results and complete order
  - Yes
  - No
  - Is there a colonoscopy order in the chart?
    - Yes
      - Complete referral in order management
    - No
      - Is there a GI referral in the chart?
        - Yes
          - Complete referral in order management
        - No
          - Add item ordered elsewhere (colonoscopy) in order management

Report filed

- Positive findings?
  - Yes
    - RProvider records diagnosis in CPL and adjusts testing interval to that recommended by specialist
  - No
    - No
      - Patient contacted with results documented in EHR using Provider Test Action template
Tracking, Follow-up & Closing the Loop

Challenges

- Automated messaging in eCW
  - Task lists for referrals and orders are available. Letters, automated messaging (SMS, phone, portal) can be used.
  - No clear best practice; challenging to design efficient workflow utilizing the right fields to support automated messaging.
  - Workflow recommends using Structured Data in...

- Automated messaging in NextGen
  - Patient messaging occurs by portal message, telephone call, or postal mail.
  - Documentation occurs on Provider Test Action Template
  - There is potential to develop a population health campaign using our population health software (also a NextGen product)
Closing the Loop in eCW – Structured Data

- Notes from the follow-up attempts can be entered in the notes field for each of the structured data questions.
- When creating the follow-up call questions in the structured tab, choose the first date option from the drop-down menu.

**Was appointment made?**

- Yes

**Document follow-up attempts from pending file in structured data tab in referral window**

- No

**Document attempts to reach patient or specialist in structured data field of referral window.**

- Attempt to contact patient and specialist 3 times to confirm patient went to appointment

Additional notes for each attempt can be added by clicking on the notes field.
Notes are entered in order management reflecting communication attempts with both patient and consultant. The order will remain uncompleted until the report is received or the order is cancelled.
CRC Data Capture Challenges

• Growing desire to work within the EHR rather than from external registries to improve efficiency

• Years of creative workflows and poor data capture to overcome, primarily with Results documentation

Query of patients seen in August 2015 with an FOBT/FIT result on file showed only 162 of the 5,356 results (3%) were “junk results”. HUGE improvement from 3 years ago!
Family History – Cancer Goals

Key elements for minimum adequate cancer family history:

- First-degree relatives: siblings, parents, children
- Second-degree relatives: grandparents, aunts, uncles, grandchildren, nieces, nephews, half siblings
- Both maternal and paternal sides
- For each cancer case in the family establish:
  - Age at cancer diagnosis
  - Type of primary cancer
Family History Challenges

- Limited views of structured data capture
  - Identified vendor enhancement requests.
- Age at diagnosis exists, but is not intuitive
  - Identified vendor enhancement requests.
- Doesn’t allow for ICD-10 code entry and doesn’t link to problem list
  - Workflow recommends documenting family history of colon cancer and other risk factors for CRC in Medical History and Problem List using the ICD-10 code.
Documenting Family History in eCW
Documenting Family History in eCW – Medical History and Problem List
Documenting Family History in NextGen

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Documenting Family History in NextGen (continued)
Documenting Family History in eCW – Medical History and Problem List
CRC Screening – Current Measures

• Colorectal Cancer Screening – Past 12 Months and Past Month (UDS; NQF 0034)

• % of CRC Screenings that are Colonoscopy – Past 12 Months and Past Month

• % of CRC Screenings that are FIT/FOBT – Past 12 Months and Past Month
Colorectal Cancer Screening – UDS Measure

**Colorectal Cancer Screening**

**Percentage of patients aged 50 to 75 who had appropriate screening for colorectal cancer**

**Numerator:** Number of patients aged 51 through 74 with appropriate screening for colorectal cancer

**Denominator:** Number of patients who were aged 51 through 74 at some point during the measurement year, who had at least one medical visit during the reporting year

Colorectal Cancer Screening has been revised to align with CMS 130v5 (NQF 0034)
## Reporting Challenge – “Aligned Measures”

<table>
<thead>
<tr>
<th>Measure</th>
<th>CRC Denominator</th>
<th>Age Specification</th>
<th>Interpretation of Age Specification (2016)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UDS (HRSA/BPHC)</td>
<td>Patients who were aged 50-75 during the measurement period.</td>
<td>People who were born between January 1, 1941 and December 31, 1965.</td>
<td>Dates correspond to individuals who were 51-75 during the measurement period (or individuals who were age 50 at the start of the measurement period and 75 at the end of the measurement period).</td>
</tr>
<tr>
<td>eCQMS (CMS)</td>
<td>Individuals between the ages of 50-75 in the measurement period</td>
<td>Individuals &gt;=50 and &lt;75 as of the measurement period</td>
<td>Individuals between the ages of 50-74, with birthdate ranges between January 1, 1942 and December 31, 1966</td>
</tr>
<tr>
<td>To align both measures:</td>
<td>Adults as of their 51\textsuperscript{st} birthday through their</td>
<td>People who were born between January 1, 1941 and December 31, 1965.</td>
<td>include patients who were 50 years old in 2016 (patients aged 50-75), Individuals in the denominator should be</td>
</tr>
</tbody>
</table>
CRC Screening – Exploratory Measures

• Screening Colonoscopy Referrals

• Screening Colonoscopy Referral to Completion Time

• Adenomas detected during colonoscopy

• Positive FIT/FOBT

• Number of Referrals for follow up colonoscopies after positive FIT/FOBT
eCW Enhancement Requests

- Family History
  - Add column to capture ICD-10 code in a structured manner
  - **eCW response:** Columns can be customized manually; can change and convert to ICD-10.
  - Indicate that the box to the right of the checkbox is for age of diagnosis
  - **eCW response:** in 10e - can only type in numbers; earlier versions can type anything. **eCW Idea:** Provide label for age at diagnosis.

- Results Fields
  - Create structured results field in addition to the free-form results field available today

- Order Screens
  - Provide access to Dx field regardless of where launched
  - **eCW response:** Users have access to the Dx field from the Order Screen (Treatment>lab/DI/Procedure/Rx)

- Lab Order - FIT/FOBT Results
  - Option for CPT Code association upon result entry
  - **eCW response:** CPT code association is possible, but must be setup before ordering the specific lab. **eCW Idea:** CPT code association
eCW Enhancement Requests (continued)

- **Clinical Decision Support System (CDSS)**
  - Improve alerts to allow for more granular logic such as Colonoscopy in 10 years OR FOBT/FIT in 1 year..., OR screening in XX years if they have a diagnosis of xxx
  - At a minimum, order the colonoscopy and FOBT alerts sequential in the CDSS display
NextGen Enhancement Requests

- **Family History**
  - We use IMO (Intelligent Medical Objects) overlay program to simplify location and addition of diagnoses to CPL. These are SNOMED codes that, when selected, can locate associated ICD-10 code.

- **Results Fields**
  - Create structured results field in addition to the free-form results field available today

- **Order Screens**
  - Customized labs template mandates an order for test. In addition, we have customized our template to automagically enter the “Screening for Colon Cancer” (Z12.11) diagnosis when a FIT test is ordered

- **Reporting**
  - Simplify reporting tool
Lessons Learned - ECW

• Billing with FOBT/FIT Testing
• Providing affordable options for patients and capturing in eCW
• Process for follow-up on FOBT/FIT
• Closing the Loop on Referrals for Colonoscopy
• Moving towards using more structured data fields
• Team-based care
Lessons Learned – NextGen

• Adequate reporting requires SQL savvy team to locate the colonoscopy orders that may be either diagnostic or referral orders

• Software add-ons such as IMO and CareSentry can improve the end-user experience
Next Steps

**Immediate**
- Disseminate EHR Best Practice Guide
- Submit enhancement requests to vendor
- Leverage automated features of EHR for outreach and follow-up

**Future**
- Further define & develop exploratory measures
- Develop outcome measures
- Assess workflow implementation
- Further explore quality of family history in EHRs
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