# Improving Quality Outcomes Using SNOMED CT David A.Rocha





#### Acknowledgements



- SNOMED International
  - ▶ Nick Egarhos Vendor Engagement Lead
  - ▶ Peter Hendler Head of Clinical Engagement for the Americas
- Guillermo I Rocha MD
- ► Rio Grande Valley Accountable Care Organization, LLC





Leading healthcare terminology, worldwide

## **Our Current State of Capturing Data**

- Report mammogram result to eight different quality initiatives
- Report depression screening score to five quality initiatives
- Doctors want a true solution to streamline quality (using one standard)
- SNOMED CT is the answer to optimal documentation for structured data capturing

#### **Presentation Outline**

- ▶ Dr. Guillermo Rocha and Accountable Care Organization
- Quality Measure Standards- Government and Private Insurance
- Creation of Custom Templates by Rocha Medical Clinic
- Current Point of Care and Population Health Analytics
- Patient Care Plans for Improving Heart and Lung Functions
- Benefits of using SNOMED CT to provide the most accurate method in tracking patient care across databases
- ► The future use of SNOMED CT for Medical Practitioners

## Professional Background

- ▶ <u>David A. Rocha</u>- Health IT/Care Coordinator at Rocha Medical Clinic, San Antonio, Texas (analyze quality measure data, including SNOMED CT, strategize improving diagnoses on claims to help identify medical risk scores)
- Certification of Completion in SNOMED CT Content Development Theory
- ► Bachelors of Business Administration in Operations Management, University of Texas at San Antonio, 2012
- ▶ Bachelors of Business Administration in Corporate Finance, University of Texas at Austin, 2009

#### Dr. Guillermo Rocha and Accountable Care

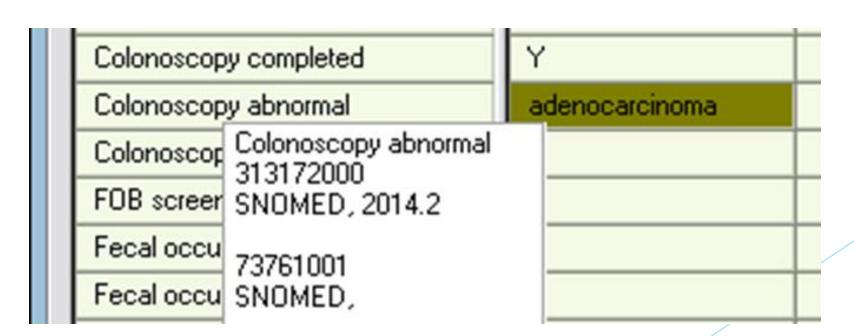
- Internal Medicine doctor for 32 years in San Antonio, Texas
- Manages chronic disease for patients in underserved communities in Texas
- Current Board Member of Rio Grande Valley Accountable Care Organization, LLC (RGV ACO)
- ► Rio Grande Valley ACO named 2016 "ACO of the Year" by Darwin Health and ranked #1 in quality nationwide
- ▶ RGV ACO savings in 2015:
  - Saved Medicare 21.6 million in 2015
  - ► Earned shared savings payment of 12.6 million

#### **Accountable Care Organizations**

- Medicare Shared Savings Program
  - ► Reduce excess hospitalizations and unnecessary testing
  - ► Incentives based on quality measure performance

## Tracking Measures for Medicare Patients

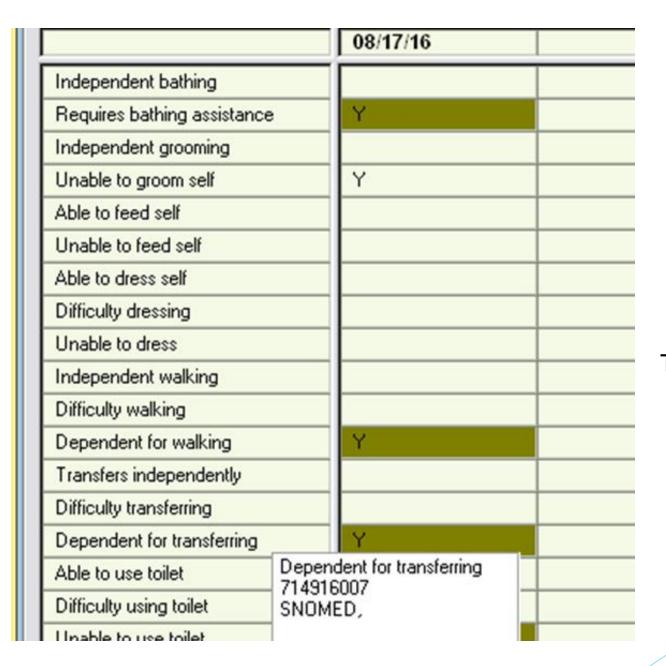
- Procedures
  - ► Mammogram (completed, benign, negative)
  - Colonoscopy (completed, normal, abnormal)
  - Diabetic Eye Exam (no retinopathy, retinopathy by severity)



# Tracking Measures for Commercial Insurance

#### Some Similarities with Medicare (except):

- Care of Older Adults
  - Activities of daily living- creation of custom template to match answers (dependent or independent assistance)
  - ► Use of SNOMED detailed coding to provide a complete functional assessment: (i.e. <u>grooming</u>- independent (704437004) or dependent on assistance (704440004))



Clinical elements
custom template
The software came from
Lytec MD (software
founded by McKesson
and now owned by
eMDs)

#### **Custom Templates as Short Term Solution**

- ► Tailor to Providers Needs
  - Quality Measures
  - ► Patient Care Plans

Modify templates to match clinical guidelines and standards

Provided a streamlined solution for insurance reporting

## **Point of Care Analytics**

- Created quality measures template in electronic health record (EHR)
- ► Able to Display:
  - Labs
  - Procedure findings
  - Provider education counseling for patients
    - Insulin administration education counseling
    - ► Glucose and blood pressure monitoring education counseling

## **Population Health Analytics**

- Query the practice by primary insurance
  - Medicare patients
  - ► Medicare replacement plans (i.e. Humana Medicare Advantage)
- Query the practice by disease
  - Congestive heart failure patients
  - Diabetic patients
    - ► Hemoglobin A1C less than 9 percent
    - ► Eye exam screening

#### **Patient Care Plans**

- Medications
- Referrals
- ► Lab Tests
- Procedures
- ► Health Education Counseling

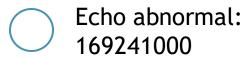
## Congestive Heart Failure Care Plan

- Echocardiogram- track ejection fraction percentages
- Medications tracked to SNOMED CT codes
  - Cardio-selective beta blockers
    - i.e. Bisoprolol, Carvedilol, Metoprolol Succinate
- New York Heart Association CHF Class
- ► The combination of the ejection fraction tracking and medication adherence helps to reduce repeated hospital visits

LVEF 40 and above normal

LVEF under 40 abnormal

25 %



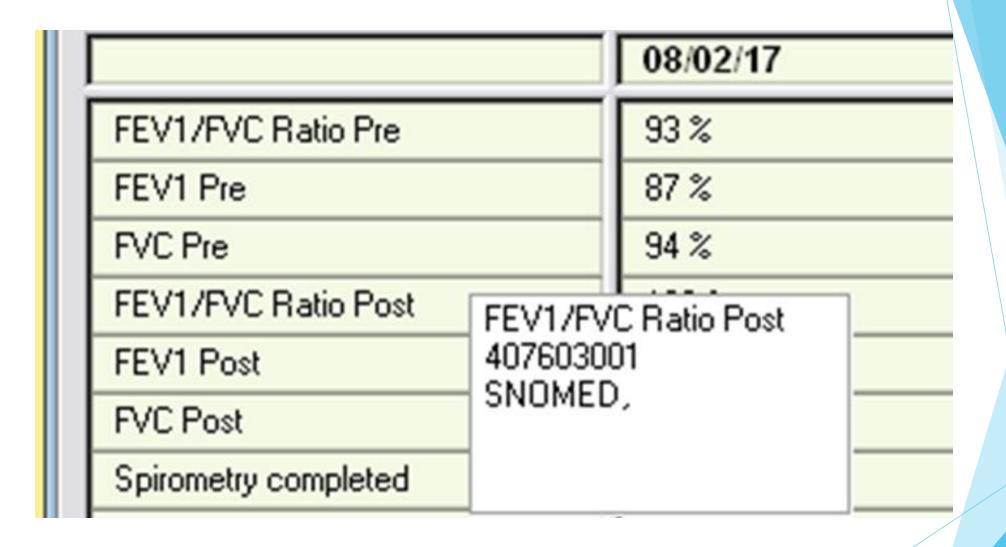
Echo normal: 169240004

#### Chronic Obstructive Pulmonary Disease Care Plan

- Spirometry Testing (pre and post rescue inhaler)
  - Forced expiratory volume- forced air volume after one second
  - ▶ Forced vital capacity- amount of air exhaled after one deep breath
  - ► FEV1/FVC- size of air lungs exhaled in one second
- Classify COPD Severity
  - Mild, Moderate, Severe, End Stage

Pre rescue inhaler	Post rescue inhaler
FEV1 % pre	FEV1 % post
FVC % pre	FVC % post
FEV1/FVC % pre	FEV1/FVC % post

Tracking the Spirometry Percentages: reduces excess
 emergency room and hospital visits



# Improved Outcomes: Financial Reimbursement

▶ Dr. Guillermo Rocha was ranked #1 in quality care in medicine for the San Antonio clinics in RGV ACO in 2015

Dr. Rocha was a recipient of the Humana Gold STAR rating for high and improved performance in patient quality care measures

# Improved Outcomes: Medical Risk Score

Diagnose patients more accurately with SNOMED CT terms that are not in ICD-10

- Stable Angina
- Dependence on continuous positive airway pressure (CPAP) ventilation
- Bare Metal and Drug Coated Cardiac Stent
- Clinically Significant Macular Edema
- Diverticulosis of Sigmoid Colon

#### ICD-10 vs. SNOMED CT

ICD-10	SNOMED CT
Disease classification	Clinical terminology Situation, clinical findings
Billing, reimbursement, statistics	Point of care and population health

ICD-10	SNOMED CT
Malignant neoplasm of prostate	<ul> <li>Malignant neoplasm of prostate</li> <li>Primary tumor staging category (T2a, T2b, T2c, etc.)</li> <li>Regional lymph node staging (No, NX)</li> <li>Distant metastasis staging (M0, M1)</li> </ul>

# **Created Content After Learning SNOMED CT**

- Adverse reaction caused by Atorvastatin
- Wong-Baker FACES pain assessment scale
- Referral to cardiologist refused (721111001)
- Referral to respiratory physician declined by subject (726698006)

#### Wong-Baker FACES® Pain Rating Scale



# **Created Content After Learning SNOMED CT**

- > PHQ-9 score (depression score)
- Minimal depression
- Moderately severe depression
- Chronic care management minutes (71981009)

Previous year	Current year
Score: 18	Score: 3
Moderately Severe Major Depression	Minimal Major Depression

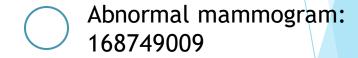
Month 1	Month 2
Chronic Care Management (CCM) minutes	CCM minutes
60	90

# Benefits of SNOMED CT for the Healthcare Industry

- Most accurate clinical terminology to track events across databases
  - History of surgeries
  - Radiology findings
- SNOMED CT terms were created by doctors, for all patients
- Affiliate agreement with the American Medical Association to map CPT to SNOMED CT

#### Future of SNOMED CT for Providers

- More software will import SNOMED CT release files into databases
  - Query by quality measures
- Continue structured data with SNOMED CT codes behind options below:
  - Check boxes
  - Radio buttons



Normal mammogram: 168750009



Spirometry completed



Blood pressure monitoring education

#### Future of SNOMED CT for Providers

- ► ICD-11 More Aligned to SNOMED CT
- Design to further complement each other
  - "Concepts in ICD-11 will be logically defined using SNOMED CT concepts"- Dr. Kin Fung at the National Library of Medicine (Chavis, Selena, For The Record Vol. 25 No. 14 P. 10, October 2013)
- ► ICD-11 will be a database-driven classification

## **Summary- How to Improve Outcomes?**

- Track quality measures closer to "real time"
- ► Link SNOMED CT codes to dates of service
- Analyze point of care and population health
- Monitor patient care with chronic disease health care plans
- Create content via a national request web based system
- Review benefits of SNOMED CT for healthcare industry and providers
- Establish relationship mapping between ICD-11 and SNOMED CT

#### **Questions or Comments?**

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