

Improving Quality Outcomes Using SNOMED CT

David A. Rocha



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Acknowledgements



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 - ▶ Nick Egarhos - Vendor Engagement Lead
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- ▶ Guillermo I Rocha MD
- ▶ Rio Grande Valley Accountable Care Organization, LLC

The logo for SNOMED International consists of a solid blue square. Inside the square, the word "SNOMED" is written in a large, white, sans-serif font, and the word "International" is written below it in a smaller, white, sans-serif font.

SNOMED
International

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The logo for RVMC Rocha Medical Clinic features the letters "RVMC" in a large, bold, dark blue font. A white stylized graphic of a person's head and neck is integrated into the "V". To the right of "RVMC", the word "Rocha" is written in a large, bold, dark blue font, and "MEDICAL CLINIC" is written below it in a smaller, dark blue font.

RVMC Rocha
MEDICAL CLINIC

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

- ▶ David A. Rocha- 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)

Colonoscopy completed	Y
Colonoscopy abnormal	adenocarcinoma
Colonoscopy	Colonoscopy abnormal 313172000
FOB screen	SNOMED, 2014.2
Fecal occu	73761001
Fecal occu	SNOMED,

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. grooming- independent (704437004) or dependent on assistance (704440004))

	08/17/16	
Independent bathing		
Requires bathing assistance	Y	
Independent grooming		
Unable to groom self	Y	
Able to feed self		
Unable to feed self		
Able to dress self		
Difficulty dressing		
Unable to dress		
Independent walking		
Difficulty walking		
Dependent for walking	Y	
Transfers independently		
Difficulty transferring		
Dependent for transferring	Y	
Able to use toilet	Dependent for transferring	
Difficulty using toilet	714916007	
Unable to use toilet	SNOMED,	

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
 - Echo abnormal: 169241000
 - Echo normal: 169240004
- ▶ 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 %

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**

	08/02/17
FEV1/FVC Ratio Pre	93 %
FEV1 Pre	87 %
FVC Pre	94 %
FEV1/FVC Ratio Post	
FEV1 Post	
FVC Post	
Spirometry completed	

FEV1/FVC Ratio Post
407603001
SNOMED,

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	Malignant neoplasm of prostate <ul style="list-style-type: none">- Primary tumor staging category (T2a, T2b, T2c, etc.)- Regional lymph node staging (No, NX)- Distant metastasis staging (M0, M1)

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



0

No
Hurt



2

Hurts
Little Bit



4

Hurts
Little More



6

Hurts
Even More



8

Hurts
Whole Lot



10

Hurts
Worst

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



Spirometry completed



Blood pressure monitoring education



Abnormal mammogram:
168749009



Normal mammogram:
168750009

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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