

Reimagining Quality Reporting using the OMOP CDM NOTE\_NLP Table: A Pilot

PRESENTER: Kristin Kostka

INTRO

The Healthcare Effectiveness Data and Information Set (HEDIS®) is the gold standard in healthcare performance measurement, used by more than 90 percent of the nation's health plans and many leading employers and regulators [1].

THE CHALLENGE

HEDIS measures are labor intensive. Manual abstraction of required data costs health providers nearly \$15.4B annually and over 40% of their worker’s time [2].

OUR PILOT

Can hybrid measures (structured and unstructured data) be assembled in a more streamlined, standardized way?

TEST CASE

Breast Cancer Screening (BCS)

**Breast Cancer Screening (BCS)**

**THIS HEDIS MEASURE**

Assesses women 50-74 years of age who had at least one mammogram to screen for breast cancer in the past two years.

**SO WHAT?**

Aside from some forms of skin cancer, breast cancer is the leading cause of cancer death among women. Screening can improve outcomes and reduce the risk of death from breast cancer and can lead to a greater range of treatment options.

**MEASURE BCS-ADJ: BREAST CANCER SCREENING**

National Committee for Quality Assurance

**A. DESCRIPTION**

Percentage of women ages 50 to 74 who had a mammogram to screen for breast cancer.

Data Collection Method: Administrative or EHR

**Guidance for Reporting:**

- This measure applies to women ages 50 to 74 to account for the 2-year, 3-month look-back period. For the purposes of Adult Core Set reporting, states should calculate and report the measure for two age groups (all ages 50 to 64 and ages 65 to 74).
- This measure should include all women ages 50 to 74 who had a mammogram to screen for breast cancer any time on or between October 1 two years prior to the measurement year and December 31 of the measurement year.
- This measure requires a continuous enrollment period of 2 years and 3 months. Allowable gaps in enrollment may be one month or up to 45 days per full calendar year. No gap in enrollment is allowed during the first 3 months of the continuous enrollment period.
- Include all paid, suspended, pending, and denied claims.
- Beneficiaries in hospice are excluded from the eligible population. For additional information, refer to the hospice exclusion guidance in Section 8. Data Collection and Reporting of the Adult Core Set.
- HCA's Medication Use Directory (MUD) or NDC codes for Generics Medications can be found at <http://www.ohdsi.org/ohdsi-nucleus-reports/2018/06/06/medication-use-directory/>.
- The electronic specification for FFY 2019 is located on the eCDI resource center at <https://www.ohdsi.org/ohdsi-nucleus-reports/2019/01/06/e-cdi-resource-center/>.

The following coding systems are used in this measure: CPT, HCPCS, ICD-9-PCS, ICD-10-CM, ICD-10-PCS, MedRx, NDC, and UB. Refer to the Acknowledgments section at the beginning of the manual for copyright information.

Manual chart review is so 1999.

It is time to bring quality measures into

the 21<sup>st</sup> century with

the power of NLP and

the OMOP Common Data Model.

Step 1: Extract Unstructured

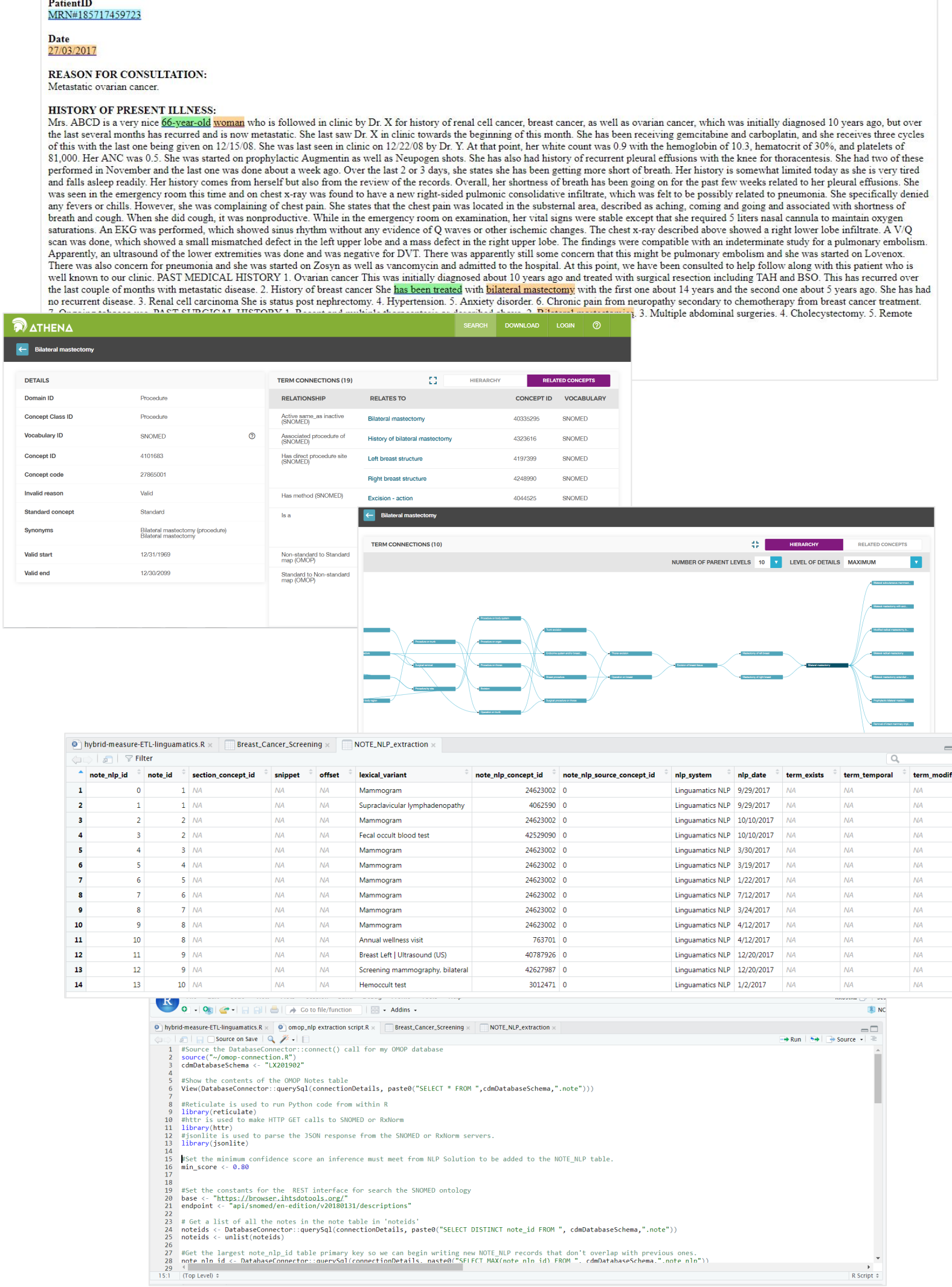
Clinical Data with a NLP Tool

NLP: Natural Language Processing



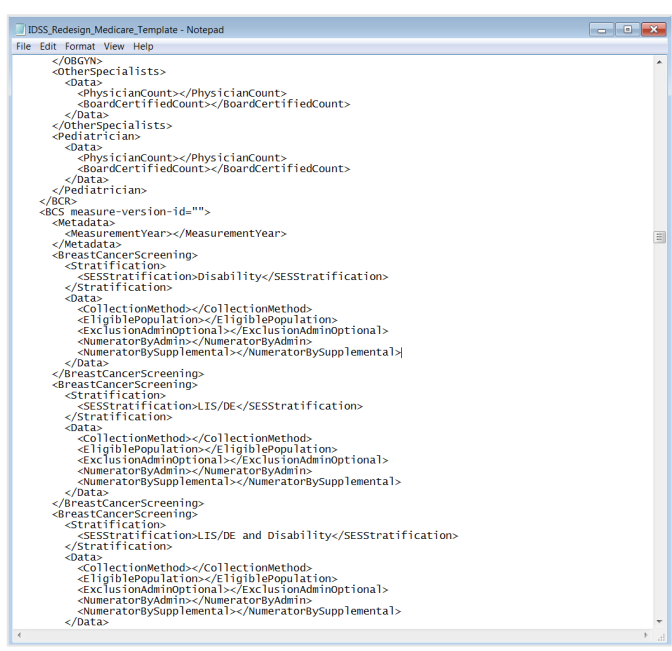
Step 2: Map NLP findings

to OMOP CDM



Step 3: Merge with Clinical Data

Step 4: Generate Reporting XML



Kristin Kostka, MPH<sup>1,2</sup>, Simon Beaulah, MSc<sup>1,4</sup>, Elizabeth Marshall, MD, MBA<sup>1,4</sup>; Benjamin N. Hamlin, MPH<sup>1,3</sup>

<sup>1</sup>Observational Health Data Sciences and Informatics, New York, NY, USA; <sup>2</sup>IQVIA, Durham, NC, USA; <sup>3</sup>National Committee for Quality Assurance, Washington, DC, USA; <sup>4</sup>Linguamatics, an IQVIA Company, Marlborough, MA, USA



References  
1. HEDIS. [Internet]. NCQA > HEDIS Publications: Overview - HEDIS & Quality Measurement. [cited 2019Jun24]. Available from: <http://store.ncqa.org/>  
2. Casalino LP, Gans D, Weber R, Cea M, Tuchovsky A, Bishop TF, et al. US Physician Practices Spend More Than \$15.4 Billion Annually To Report Quality Measures. Health Affairs. 2016;35(3):401–6.