September 22, 2016

Save Time, Improve Quality and Patient Care. It only takes the push of a button!

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Empowered Practices. Enhanced Care.

Presented by: Jesse Lamothe

Quality Improvement Decision Support Specialist (QIDSS)
HNHB LHIN FHTs

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Faculty / Presenter Disclosure

- **Faculty:** Jesse Lamothe, Quality Improvement Decision Support Specialist (QIDSS) HNHB LHIN FHTs

- **Relationships with commercial interests:**
  - No relationships with commercial interests

Disclosure of Commercial Support

- This program has not received financial support or in-kind support from any organization
- **Potential for conflict(s) of interest:**
  - Jesse Lamothe has not received payment or funding from any organization supporting this program AND/OR organization whose product(s) are being discussed in this program.

Mitigating Potential Bias

- There are no potential sources of bias.

Are you able to pull population health and chronic disease data from your EMR?

Are you confident about the queries you run on your EMR?

Do you trust that the data is correct?

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Data-Driven Decision-Making

- If we are making decisions based on data, how can we ensure that the data we are using is accurate and reliable?

Learning Objectives

- To provide practice teams with:
  - A solution that will allow them to optimize their EMRs
  - A valid and reliable tool that will more accurately & efficiently detect patients with chronic diseases
  - A starting point to prevent & manage patients with chronic diseases

afhto

ap ALGORITHM PROJECT
VALIDATED EMR QUERIES

Technical Team

- Brice Wong, QIDSS, Erie-St. Clair FHTs
- Charles Bruntz, QIDSS, North East LHIN FHTs
- Thivaher Paramsothy, Director of FHOCare, DoctorCare

Communication Team

- Sara Dalo, Manage of Quality, Experience and Patient Safety, Windsor FHT
- Greg Mitchell, QIDS Knowledge Translation and Exchange Specialist, AFHTO
- Jesse Lamothe, QIDSS, Hamilton Niagara Haldimand Brant LHIN FHTs

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AP Team Purpose

- Improve access to clinical data through the development of standard queries for five major EMRs so that teams across the province can collect data on chronic conditions

Goals of the AP Team

- Provide health teams with consistent searches for multiple disease conditions across multiple EMRs
- Be able to easily and consistently identify patients not previously identified
- Provide tools that aid in offering early treatment to mitigate disease progression
- Help teams improve patient outcomes
- Reduce cost to the healthcare system

AP Team Methodology

Step 1

Identify priority conditions

AP Team

Step 2

Leverage existing case definitions and collaborate with experts

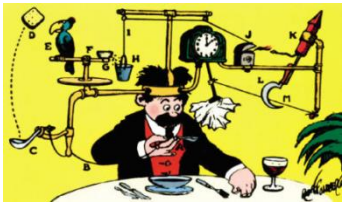
CPCSSN RCSSSP

EMRALD

AP Team

Step 3

Develop, test, and revise queries



AP Team

Step 4

Validate queries with confirmed diagnosis registries

afhto-member FHTs

Step 5

Retrieve queries from afhto

Practice Team

Step 6

Import the queries to your EMR

Practice Team

Step 7

Extract reliable and meaningful data

Practice Team

Step 8

Use the data for practical application

Practice Team

AP Team

Step 1

Identify priority conditions

AP Team

Step 2

Leverage existing case definitions and collaborate with experts

CPCSSN RCSSSP

EMRALD

AP Team

Step 3

Develop and test queries

AP Team

Step 4

Validate queries with confirmed diagnosis registries

afhto-member FHTs

High-Level Query Criteria

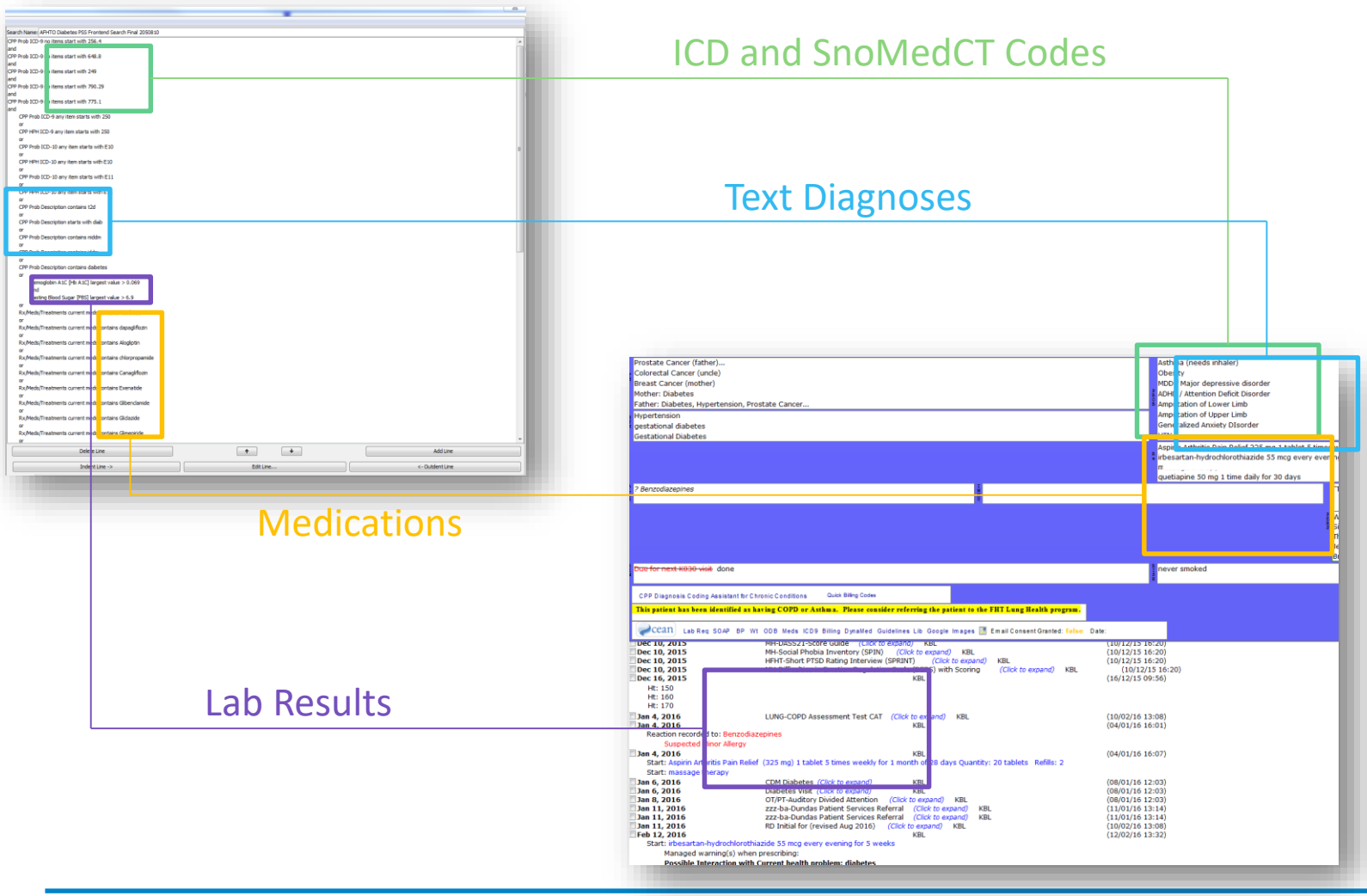
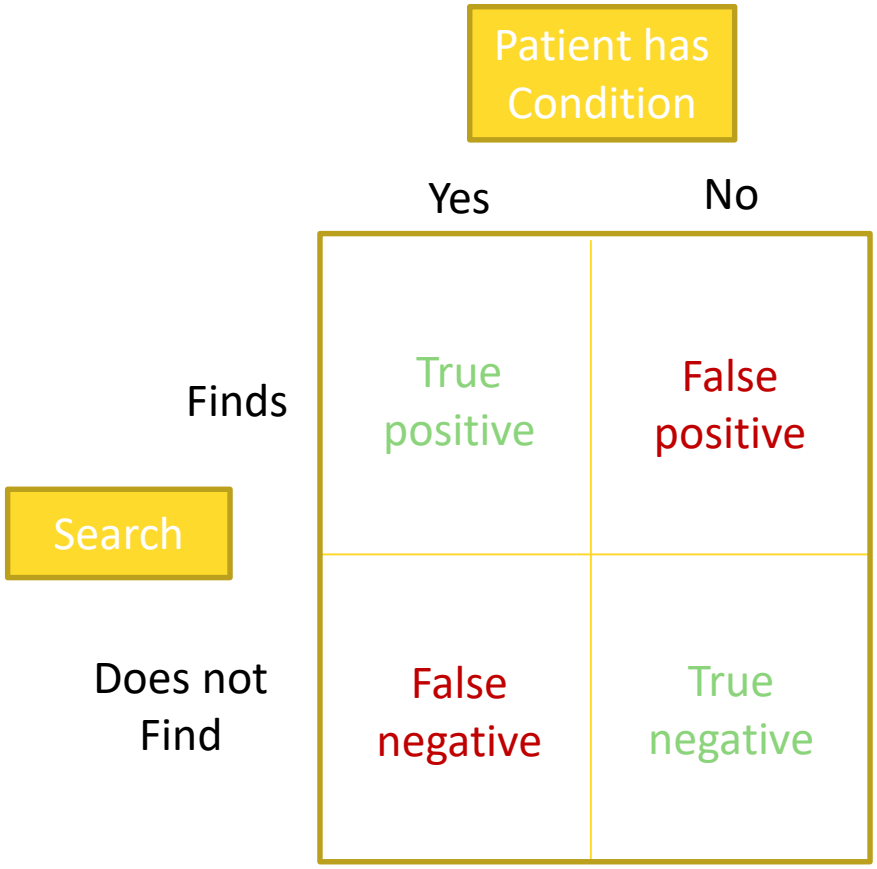


Diagram for Term Definitions



Practice Team

Step 5	Step 6	Step 7	Step 8
Retrieve queries from afhto	Import the queries to your EMR	Extract reliable and meaningful data	Use the data for practical application
Practice Team	Practice Team	Practice Team	Practice Team

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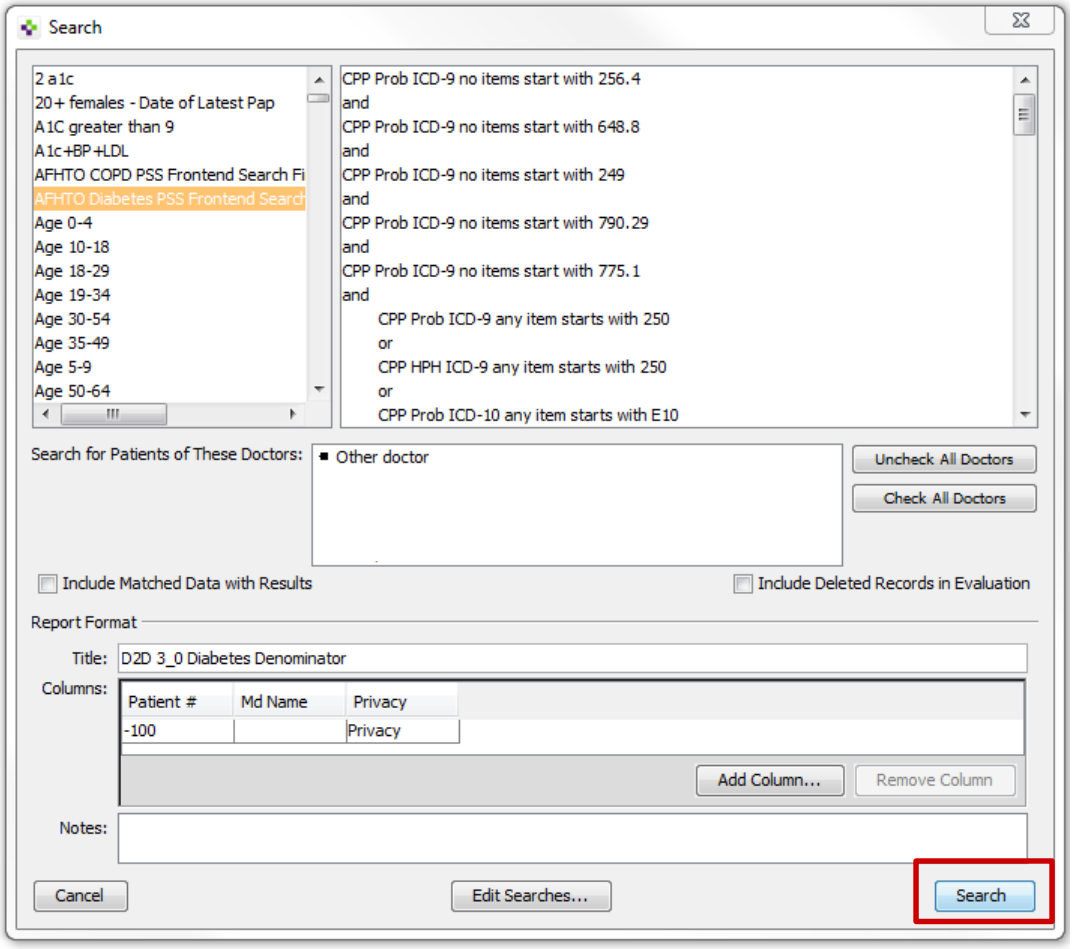

At the push of a button!

Practical Application of Queries

- We can use the queries to:
  - Identify patients with chronic diseases and code them with ICD-9, ICD-10, SnoMedCT
  - Develop and maintain disease registries
  - Quickly generate call lists for preventative health measures
  - Ultimately improve patient outcomes

AP Queries
(Across multiple EMRs)

- Currently Available
  - Diabetes
  - COPD
  - CHF
- In Development
  - Depression
  - Hypertension

Partners in development

St. Michael's
Inspired Care. Inspiring Science.

THE LUNG ASSOCIATION™ Ontario

CPCSSN RCSSSP
EMRALD

CARDIAC CARE NETWORK

eHealth CENTRE OF EXCELLENCE

ICES Data Discovery Better Health

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How do I get them?

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Obtaining the Queries

- Telus Queries - https://telushealthcommunity.force.com/pssuitecommunity/thsitelogin
- Accuro - Alert Publisher
- OSCAR – contact Greg
- Greg Mitchell greg.Mitchell@afhto.ca

Thank you!

The views expressed in this publication are the views of OntarioMD and do not necessarily reflect those of the Province.

Technical Note – Positive Predictive Value (PPV) and Sensitivity

The definitions for PPV and Sensitivity are based on the terms defined as follows:

- True Positive: A patient who has the condition and is found in the search results.
- False Positive: A patient who does not have the condition but is found in the search results.
- True Negative: A patient who does not have the condition and is not found in the search results.
- False Negative: A patient who has the condition but is not found in the search results.

- **PPV:** ratio of true positives divided by the sum of the true positives and the false positives.

Example 1: we run the AFHTO diabetic search on a Physician's Practice. If 80 patients have diabetes and are found in the search results, and 20 patients don't have this condition but are found in the search results, then the PPV in this hypothetical scenario is 80%.

The PPV is used to indicate the probability that the patient really has the specified disease when it is found in the search results.

Sensitivity: ratio of true positives divided by the sum of the true positives and false negatives.

Example 2: Same search results as in example 1. Now, we learn that 80 additional patients have this condition in this Physician's Practice but are not found in the search results: The sensitivity in this hypothetical scenario would be 50%.

The sensitivity indicates the proportion of people who are found in the search results for the disease among those who have the disease.

Condition	Gold Standard		AP EMR Testing
COPD	CPCSSN	Sensitivity: 41%	Sensitivity: 80%
		PPV: 80%	PPV: 59%
Diabetes	CPCSSN	Sensitivity: 100%	Sensitivity: 80%
		PPV: 95%	PPV: 88%
CHF	EMRALD	Sensitivity: 83%	Sensitivity: 61%
		PPV: 46%	PPV: 74%
Depression	CPCSSN	Sensitivity: 39%	Sensitivity: 96%
		PPV: 79%	PPV: 62%