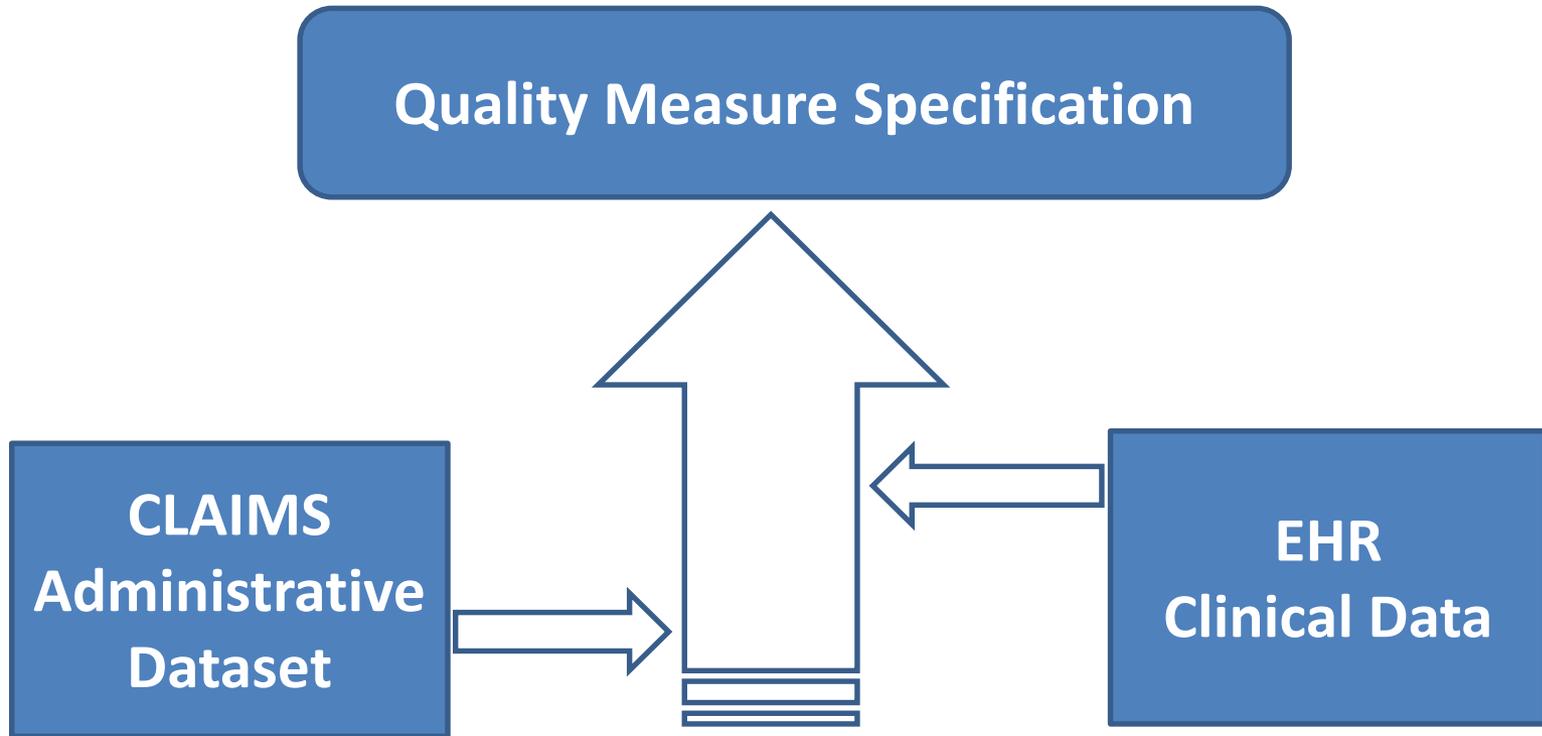# Hybrid Hospital-Wide 30-Day Readmission Measure

HSCRC Readmission Subgroup
May 28, 2019

- **Medisolv participated in Hybrid Measures & CCDE development as a subcontractor with YaleCORE**

- **Zahid Butt MD was a member of the Technical Expert Panel (TEP)**

- **No Conflicts of Interest in this presentation**

Quality Measure Specification

CLAIMS Administrative Dataset

EHR Clinical Data

- **Unplanned Readmission within 30 Days of Discharge from Acute Care Facility**
- **Population**
  - *Ages 65 or Older - Medicare FFS*
  - *Discharged Alive from Non-Federal Acute Care Facilities to Non-Acute Care Settings*
  - *Key Exclusions: "Planned" Readmissions, Psychiatric Diagnosis and Cancer Treatment*
- **Risk Standardization/Adjustment**
  - *Administrative Data*
    - Case and Service Mix

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- **Risk Standardization/Adjustment**
  - *Administrative Data*
    - Case and Service Mix
  - *Clinical Data*
    - Vital Signs & Labs

Risk Standardization Variables	Claims	Hybrid
Comorbid Conditions – ICD DX	✓	✓
Age	✓	✓
Pulse Rate		✓
Systolic Blood Pressure		✓
Temperature		✓
Respiratory Rate		✓
Weight		✓
Oxygen Saturation		✓
Hematocrit		✓
White Blood Cell Count		✓
Serum Sodium		✓
Serum Potassium		✓
Serum Creatinine		✓
Blood Glucose		✓
Serum Bicarbonate		✓

Hybrid HWR Measure Reporting Requirements

Core Clinical Data Elements		Linking variables
6 Vital Signs	7 Laboratory Test Results	6 Linking Variables to Match Patient EHR Data to CMS Claims Data
• Heart rate • Respiratory rate • Temperature • Systolic blood pressure • Oxygen saturation • Weight	• Hematocrit • White blood cell count • Sodium • Potassium • Bicarbonate • Creatinine • Glucose	• CMS Certification Number (CCN) • Health Insurance Claim (HIC) Number or Medicare Beneficiary Identifier (MBI) • Date of birth • Sex • Admission date • Discharge date

- Report one QRDA I formatted file with required Data elements for each patient meeting the Initial Patient Population

- QRDA I files are distinct from eCQM reporting formats

- Data submitted through QualityNet Portal similar to eCQM Submissions

Hybrid HWR Measure CMS Reporting Status

Program	Reporting Requirement	Performance Year	Payment Year Public Reporting
IQR Final Rule	Voluntary	Jan 1 2018 – June 30 2018*	N/A
IQR Proposed Rule	Voluntary	July 1 2021 – June 30 2022	N/A
	Voluntary	July 1 2022 – June 30 2023	N/A
	Mandatory	July 1 2023 – June 30 2024**	FY 2026 (10/1/2025) Payments
			July 2025 Hospital Compare "Refresh"

* *CMS Received EHR data from 80 Hospitals for the CY 2018 Reporting. Medisolv successfully submitted for 69 hospitals*

** *CMS is proposing to Remove the Claims-based HWR Measure with the July 1 2023-June 30 2024 Mandatory Reporting for FY 2026 Payment Year*

- ## Core Clinical Data Element (CCDE)
  - *EHR Data Elements Require Mapping/Binding to Standardized Nomenclature*
  - *Requires accurate interpretation of logic in Specification applied to EHR Data Elements and Related "Attributes"*

- ## QRDA I File Format
  - *Different from fully specified eCQM Format*
  - *No Measure "Scoring"*

Clinical Data Elements	Units of Measurement	Window for First Captured Values
Patient Characteristics		
Age	Years	---
Gender	Male or female	---
First-Captured Vital Signs		
Heart Rate	Beats per minute	0-2 hours
Systolic Blood Pressure	mmHg	0-2 hours
Diastolic Blood Pressure	mmHg	0-2 hours
Respiratory Rate	Breath per minute	0-2 hours
Temperature	Degrees Fahrenheit	0-2 hours
Oxygen Saturation	Percent	0-2 hours
Weight	Pounds	0-24 hours
First-Captured Laboratory Results		
Hemoglobin	g/dL	0-24 hours
Hematocrit	% red blood cells	0-24 hours
Platelet	Count	0-24 hours
WBC Count	Cells/mL	0-24 hours
Potassium	mEq/L	0-24 hours
Sodium	mEq/L	0-24 hours
Chloride	mEq/L	0-24 hours
Bicarbonate	mmol/L	0-24 hours
Anion Gap	mEq/L	0-24 hours
BUN	mg/dL	0-24 hours
Creatinine	mg/dL	0-24 hours
Glucose	mg/dL	0-24 hours

Numerator =

- AND:
  - OR:
    - OR: First:
      » "Physical Exam, Performed: Heart Rate LOINC" satisfies all:
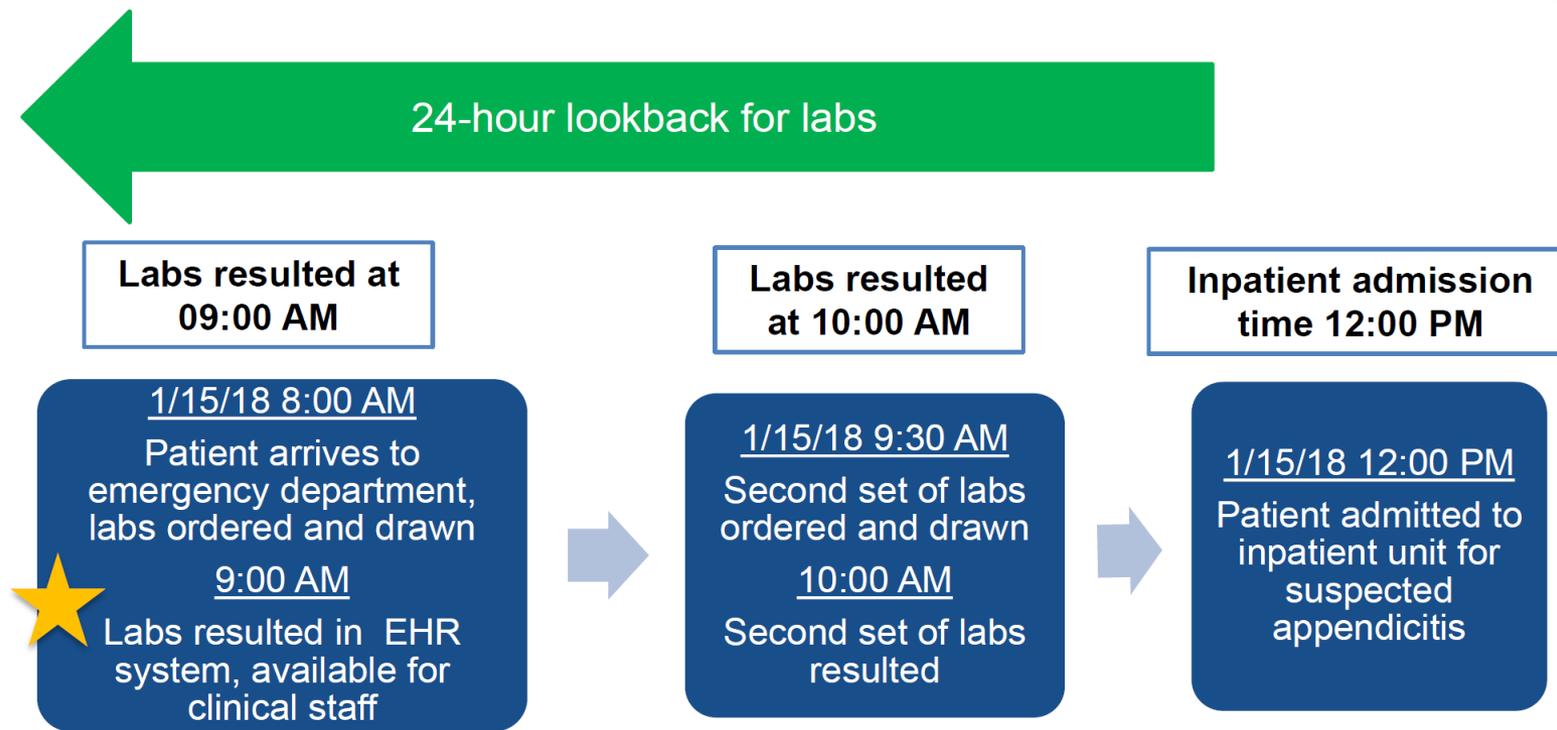   - (result)
      - <= 1440 minute(s) starts before start of "Occurrence A of Encounter, Performed: Acute care hospital Inpatient Encounter (admission datetime)"
    - OR: First:
      » "Physical Exam, Performed: Heart Rate LOINC" satisfies all:
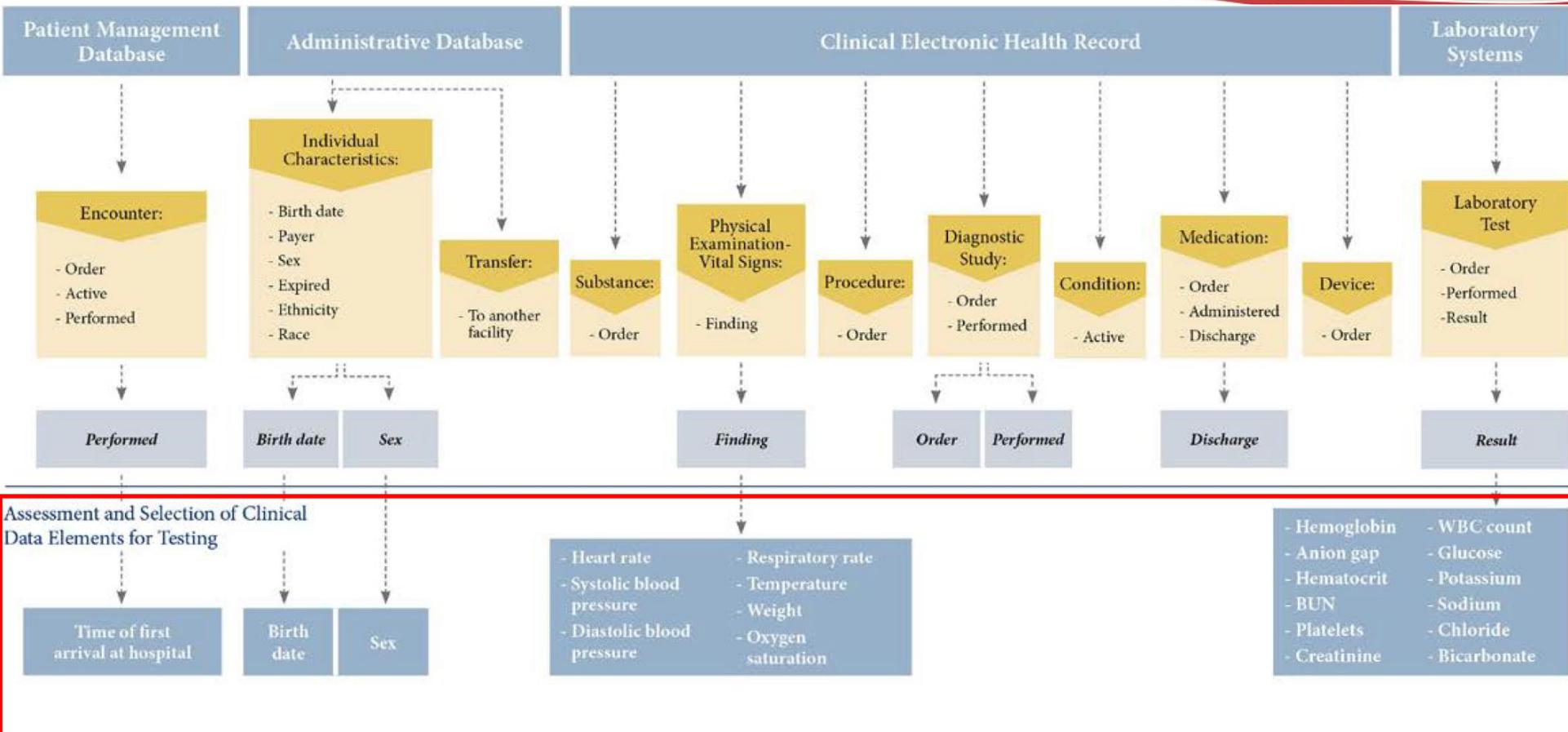   - (result)
      - <= 120 minute(s) starts after start of "Occurrence A of Encounter, Performed: Acute care hospital Inpatient Encounter (admission datetime)"

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24-hour lookback for labs

Labs resulted at 09:00 AM	**Labs resulted at 10:00 AM**	**Inpatient admission time 12:00 PM**

1/15/18 8:00 AM
Patient arrives to emergency department, labs ordered and drawn
9:00 AM
Labs resulted in EHR system, available for clinical staff

→

1/15/18 9:30 AM
Second set of labs ordered and drawn
10:00 AM
Second set of labs resulted

→

1/15/18 12:00 PM
Patient admitted to inpatient unit for suspected appendicitis

In this case, we would use the labs resulted at **09:00 AM** as they are part of the same hospital visit and are the earlier of the two values.

Core Clinical Data Elements

Table A.1: Evaluating Electronic Health Record (EHR) Data Elements for use in Hospital Quality Measures: Technical Expert Panel Members

Name	Organization (Title)	Location
Howard Bregman, MD, MS	Epic	Verona, WI
Ralph Brindis, MD, MPH, MACC, FSCAI	The American College of Cardiology National Cardiovascular Registry *Senior Medical Officer, External Affairs*	San Francisco, CA
Zahid Butt, MD	Medisolv, Inc. *CEO*	Columbia, MD
Christopher Chute, MD, DrPH	Mayo Clinic *Professor of Biomedical Informatics*	Rochester, MN
Richard P. Dutton, MD, MBA	Anesthesia Quality Institute *Executive Director*	Park Ridge, IL
David Kaelber, MD, PhD, MPH, FAAP, FACP	MetroHealth System *Chief Medical Informatics Officer*	Shaker Heights, OH
Saul Kravitz, PhD	MITRE *Principal Health IT Engineer*	McLean, VA
Adam Landman, MD, MS, MIS, MHS	Brigham and Women's Hospital *Chief Medical Information Officer for Health Information Innovation and Integration*	Boston, MA
David Levine, MD	University HealthSystem Consortium *Vice President of Informatics and Medical Director of Comparative Data and Informatics*	Chicago, IL
Maggie Lohnes, RN	McKesson Corporation *Clinical Quality Executive*	Fox Island, WA
Rute Martins, MS	The Joint Commission *Associate Project Director*	Oakbrook Terrace, IL
Clement McDonald, MD	Lister Hill National Center for Biomedical Communications *Director*	Bethesda, MD
Meg McElroy, MBA, RHIA	American Health Information Management Association (AHIMA) *System Program Manager*	Milwaukee, WI
Mary Beth Mitchell, MSN, RN-BC, CPHIMS	Texas Health Resources *Chief Nursing Informatics Officer*	Dallas, TX
Karen Nielsen, MBA, MPA	Siemens Medical Solutions USA, Inc. *R&D, Analytics, and Business Intelligence*	Malvern, PA
Kim Nolen, PharmD	Pfizer, Inc. *Medical Outcomes Specialist*	Peachtree City, GA
David Shahian, MD	Massachusetts General Hospital Center for Quality and Safety *Vice President*	Boston, MA
Christopher Snyder, DO	Peninsula Regional Medical Center *Chief Medical Information Officer*	Ocean City, MD

- EHR Data Elements Add Significant Power to Existing Methods of Risk Standardization/Adjustment in Claim-based Outcome Measures

- Core Clinical Data Elements Are Feasible for Extraction from Existing EHR's and Reporting for Quality Measures

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