

# Exchange and Reconciliation of Clinical Decision Support Output in a Population Health Partnership

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# Take-Home Messages

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1. Despite of efforts to standardize measures, logic and values sets, sharing raw clinical data or clinical decision support (CDS) logic remains labor intensive and expensive.
2. Providers, patients and payers expect and deserve real time, shared CDS to reconcile patient information and improve care.

# Background

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- Deaconess Health System, an integrated health system in Evansville, Indiana
- Evolent Health, a population health services organization in Arlington, Virginia



Care Management  
and Coordination



Success in  
value-based  
care



A “Care Gap” is a major component addressed by care management and primary care clinicians in the model of value based care and population health management, usually intervening in different settings and involving different interventions

# Introduction to Evolent Population Health Service

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**\$600M+**

Capital raised

**100%**

Focused on  
Value-Based Care

**2,400+**

Employees across  
the country today

## mission

To change the health of the nation by changing the way health care is delivered

## our vision

Build a national network of providers transforming care under value-based payment initiatives

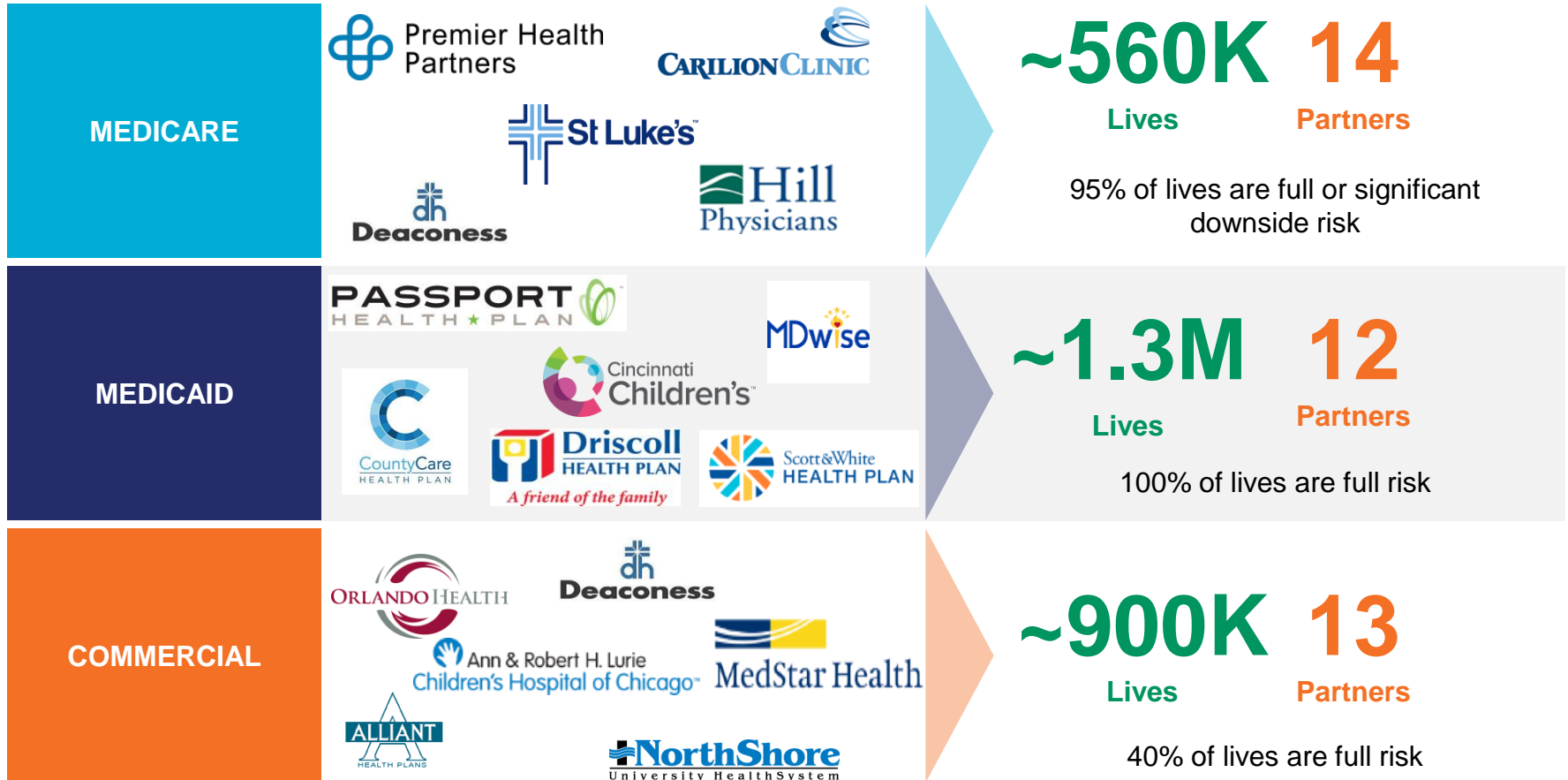
## partnership pillars

- aligned partner
- clinical value
- full solution
- proven results

\*as of March 31, 2017

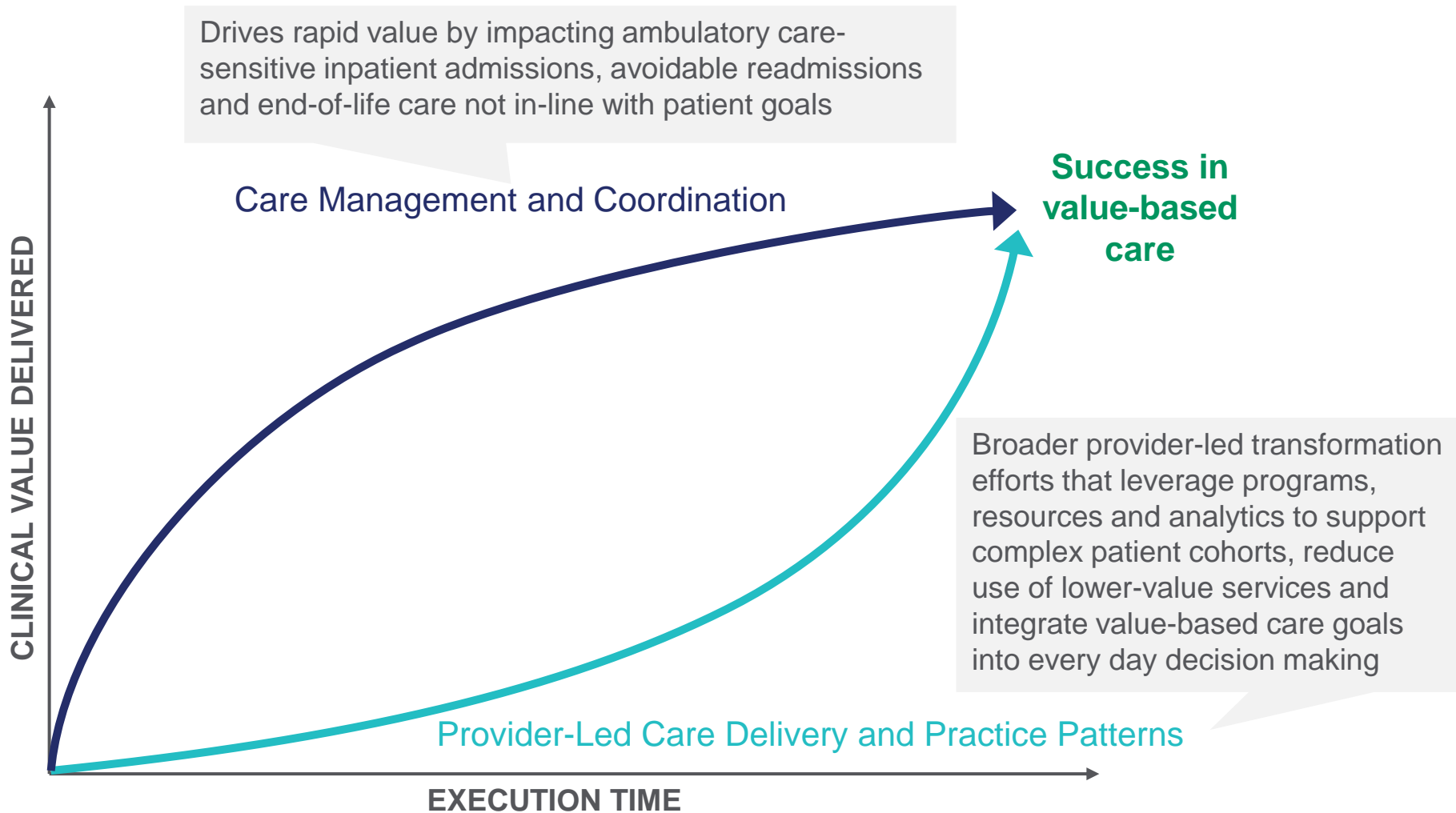
# Evolut and Deaconess Partnership is typical of our book of business

## Select Evolut Partners



Note: Partners counted in multiple lines of business

# 4. Integration into Evolent Population Health Service



# “Care Gaps”: automated notifications of an opportunity to provide evidence-based care

The Five Rights	Deaconess EHR System	Evolut Pop Health Platform
Right Information	Gaps derived from quality measure, calculated by EHR CDS engine using data available to the EHR	Gaps defined by quality measure, calculated by Evolut’s CDS engine using claims data and lab results
Right People	Clinicians (EHR users) Clinical practice staff	Care Managers Population Health Managers Community-based Clinicians
Right Channels	Patient-specific EHR views (Epic)	Population Health Management views (rosters, aggregate reports, and portals)
Right Intervention Formats	Alerts in Health Maintenance Module	On-screen notifications in Pop Health Management System's patient profile Patient roster
Right Points in Workflow	Point of care during face-to-face encounters Outreach	Point of outreach Between encounters (care coordination) Review by providers of patient panels

# The Care Gap Notifications were Derived from Quality Measures used in National Quality Reporting Programs

Care Gap Rules	National Identifiers of the Reference Measures
Appropriate Medications for Patients with Asthma	NQMC: 009940, or NQF:0036
Diabetes Care - HbA1c Test	NQMC: 010520, or NQF: 0057
Diabetes Care - Eye Exam	NQMC: 010524, or NQF: 0055
Diabetes Care - Nephropathy Screening	NQMC: 010525, or NQF: 0062
Breast Cancer Screening	NQMC: 009931, or NQF: 2372
Colorectal Cancer Screening	NQMC: 009933, or NQF: 0034
Cervical Cancer Screening	NQMC: 010930, or NQF: 0032
Chlamydia Screening	NQMC: 009934, or NQF: 0033
Annual Flu Vaccination	NQMC: 010565 & 010566, or NQF: 0039 & 0040
Pneumococcal Vaccination	NQMC: 010570, or NQF: 0043
Annual Monitoring for Patients on ACE/ARB	NQMC: 010542 Rate 1, or NQF: 2371 Rate 1
Annual Monitoring for Patients on Digoxin	NQMC: 010542 Rate 2, or NQF: 2371 Rate 2
Annual Monitoring for Patients on Diuretics	NQMC: 010542 Rate 3, or NQF: 2371 Rate 3
Well-Child Visits 3 to 6 years-old	NQMC: 010611, or NQF: 1516
Adolescent Well-Care Visits	NQMC: 010612

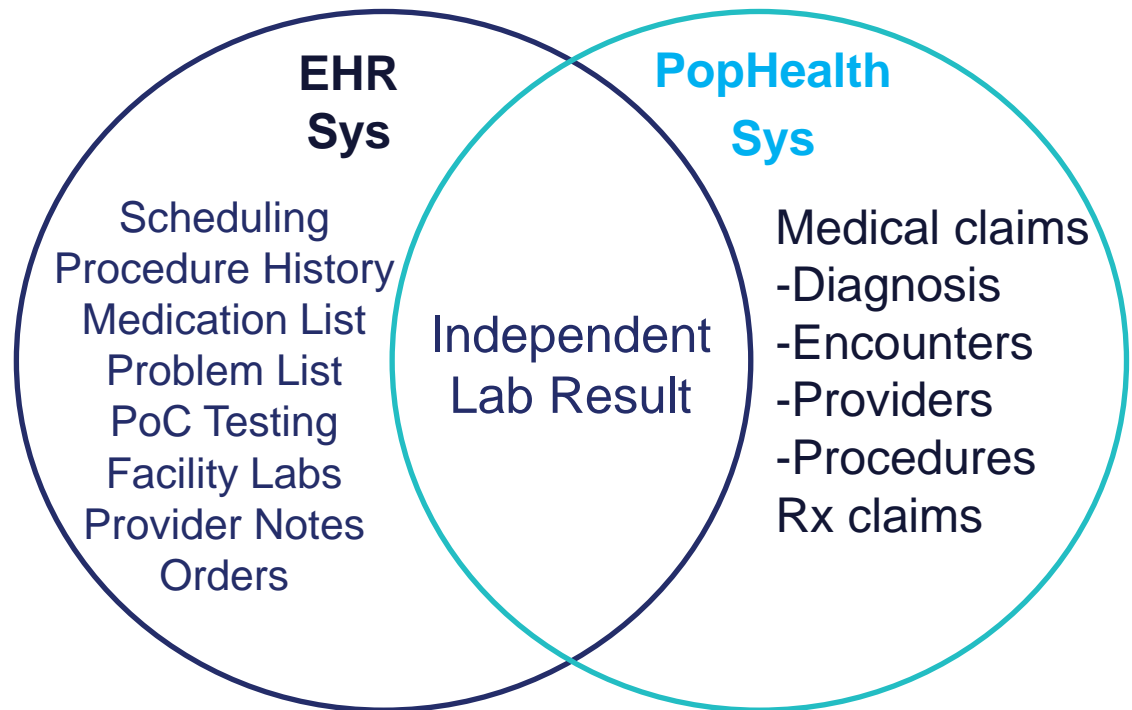


# Motivation to exchange care gap information

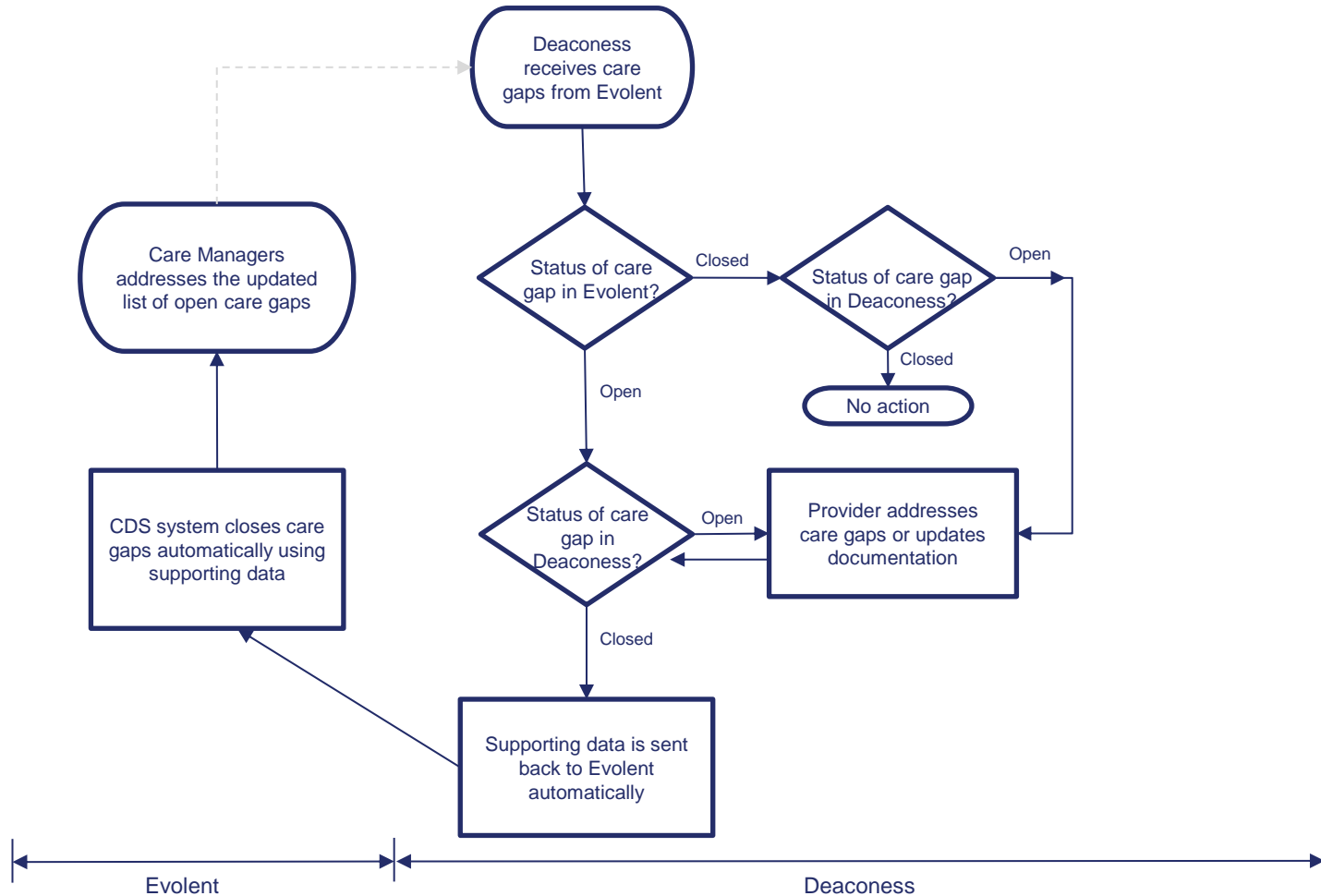
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1. Different data sets
2. Different CDS engines
3. Different logic

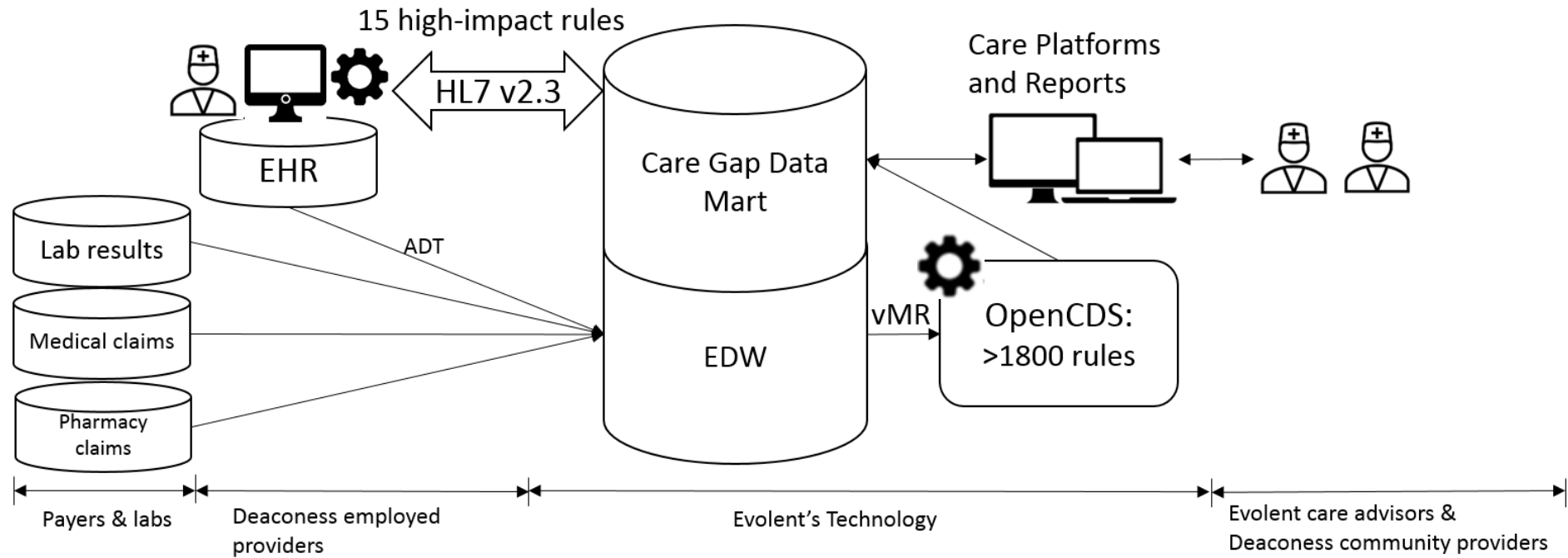
**Goal: reduce false positive and improve quality of care management**



# Overview of the automated reconciliation process



# Data systems involved in the exchange of CDS output



 Clinical Decision Support Engine

# Data Elements Involved in Automated Reconciliation

- Patient demographics\*
- Care Gap ID\*
- Status\*
- Open Date\*
- Close Date\*
- Close By [Name]
- Close By [ID]
- Close Reason
- Reason Details

```
MSH|^~\&|EvolutUpdate|EPH|EHR|EHR|20160713144101||ADT^A04|20160630144101.1|P|2.3
EVN|||||2016MMDD
PID|1||MRN||Lastname^Firstname^Minitial^||DOB|GENDER|||STREET^^CITY^STATE^ZIP||PHONE^^PH^^^|||
OBX||ST|CARE_GAP_517_STATUS||CLOSED
OBX||ST|CARE_GAP_517_RULE_ID||517
OBX||ST|CARE_GAP_517_KEY||760766
OBX||ST|CARE_GAP_517_OPEN_DATE||2016MMDD
OBX||ST|CARE_GAP_517_CLOSE_DATE||2016MMDD
OBX||ST|CARE_GAP_517_CLOSE_BY|| ProviderLastname, ProviderFirstname
OBX||ST|CARE_GAP_517_CLOSE_BY_ID||NPI NUMBER GOES HERE (if available)
OBX||ST|CARE_GAP_517_CLOSE_REASON||Lab Documented in EMR
OBX||ST|CARE_GAP_517_CLOSE_REASON_DETAIL||MICROALBUMIN: 30 MG/L
```

Sample message from Deaconess to Evolent

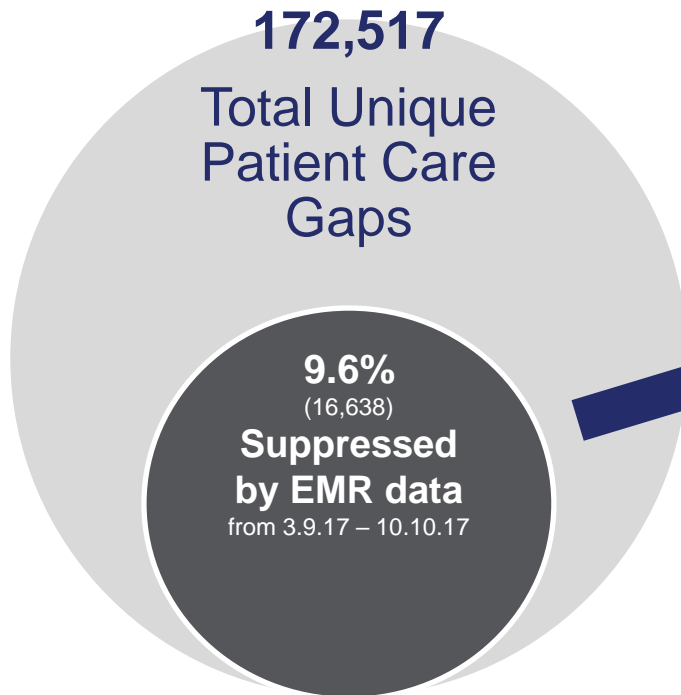
\* Mandatory

RuleID 517 = Diabetes Care - Nephropathy Screening (Evolent)

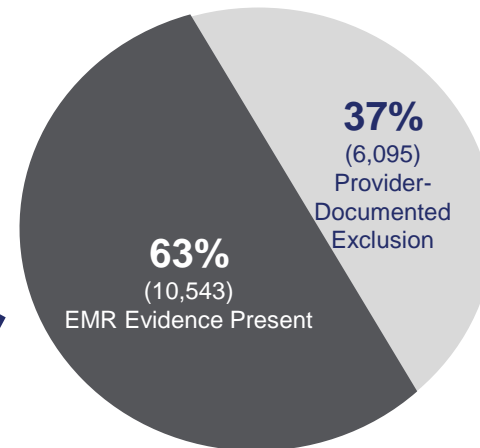
# How EMR Data Impacts Open Care Gaps

Accepting EMR Data Reduced the Overall Number of Open Care Gaps by about 10%

## Open/Suppressed Care Gap Totals



## EMR Suppression Breakdown



**EMR Evidence Present**- closure criteria met within the EMR dataset (latest A1c value in EMR, colon cancer screening completed and study within EMR)

**Provider-Documented Exclusion**– EMR lacks evidence and provider documents reason for non-completion/excluding patient from the care gap (patient refusals, external care, and non-candidacy)

# Impact of EMR Data on Providers and Practices using the POC Report

Before EMR suppression, 1 in 10 Care Gaps on the POC were false-positives

Impact to a provider. . .



Impact across the entire network. . .



# Breakdown of EMR Care Gap ‘Closures’ – What’s Really Occurring

For quality measures where EMR data has the most impact

RULE_ID	MEASURE	EMR_CLOSURES	% OF EMR CLOSURES CLOSED WITHOUT CLAIMS
721	Annual Flu Vaccine Gap CMS	4837	89%
1122	Pneumococcal Vaccination for Elderly Gap CMS	4628	70%
1158	Cervical Cancer Screening 2015 No Elig Gap	3029	90%
514	Diabetes No Eye Exam No Spec Prospective Evolent N	1289	75%



Care Gap	% Completed/ Results in EMR	% Refused by Patient	% Completed Externally	% Patients Not Candidate
Annual Flu Vaccine Gap CMS	60.9%	39.1%		
Pneumococcal Vaccine for Elderly	83.6%	16.3%		0.1%
Cervical Cancer Screening	46.6%	6.4%	20.6%	26.4%
Diabetes No Eye Exam	46.6%	3.8%	48.6%	1.0%

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Capturing completions we may not see otherwise without EMR data



# Future Work with HL7 CDS Workgroup and other stakeholders

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- Establish a core set of data elements for care gap exchange to:
  - Enable automated reconciliation of care gap status across systems
  - Inform appropriate action based on provider roles across settings
  - Enable other use cases (such as quality measure calculation & reporting)
- Define a universal identifier system for care gaps & other CDS output
- Develop a taxonomy to classify CDS artifact's variations from reference quality measures from which care gap detection logic is defined

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