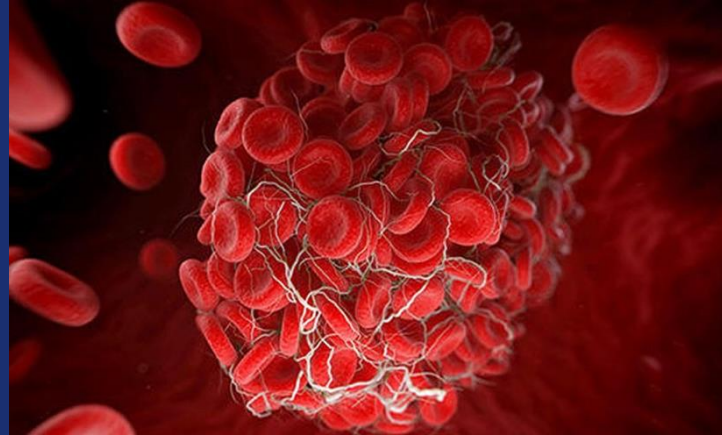


“Stop the Clot”

Using Data & Analytics to Decrease Inpatient Complications



Paul Lewis, MD, FAAFP, CPE, CPHIMS

Director, Evidenced Based Medicine & Quality Baycare Health



Learning Objectives

- Understand how BayCare collects, regulates and uses EDW data to drive clinical outcomes for VTE patients and Identify hospitalized patients at highest risk for VTE events
- Describe strategies using physician and nursing analytics to give feedback to providers and track & trend data for quality & cost
- Demonstrate how to Individualize risk assess patients for blood clots including use of the order sets and clinical decision support tools.

BayCare Health System

BayCare is a leading not-for-profit health care system that connects individuals and families to a wide range of services at 15 hospitals and hundreds of other convenient locations throughout the Tampa Bay and West Central Florida regions.



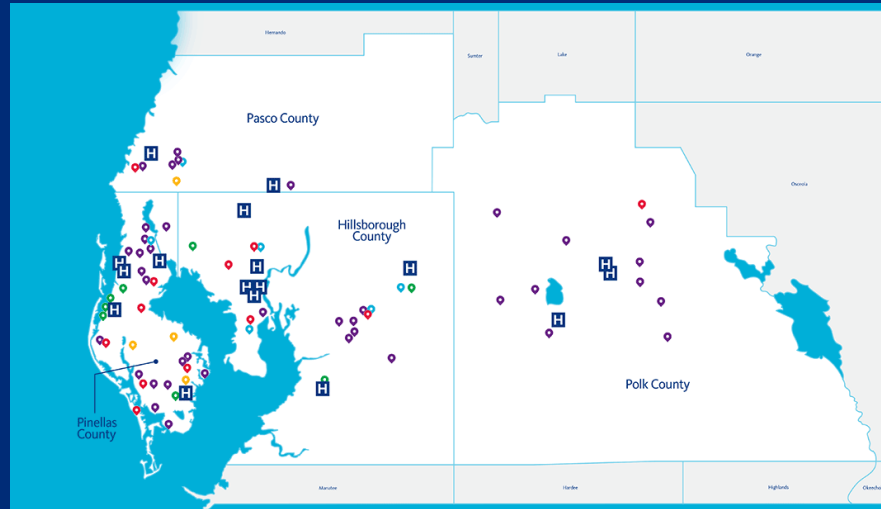
About Us

\$4 Billion Revenue

27,600 Team Members

36% Market Share

AA₂ Credit Rating

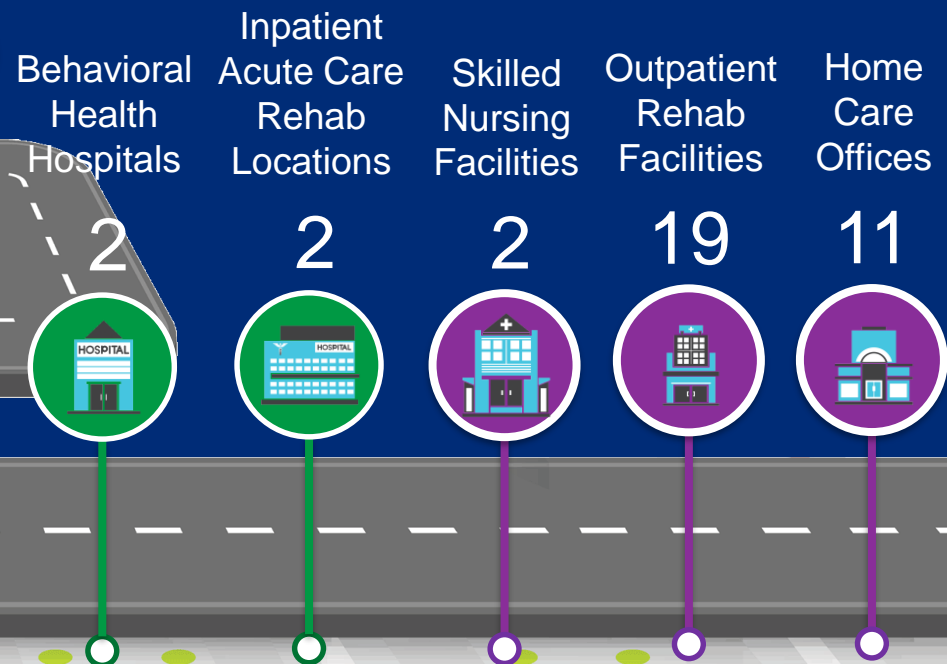


Focused On Entire Care Continuum

Community-Based Care



Acute Care





Mission

Improve the health of all we serve through community-owned services that set the standard for high-quality, compassionate care.

Vision

BayCare is an extraordinary team leading the way to high-quality care and personalized, customer-centered health.

Values

The values of BayCare are trust, respect, and dignity, and reflect our responsibility to achieve health care excellence.

By the Numbers - 2017



Team Members

27,600



ER Visits

675,645



858,576

HomeCare Visits

3,459
Beds***



5,240

Physicians and
Medical
Professionals*



\$391

million

Community Benefit**

Outpatient
Surgeries



63,165

\$3.9 billion Operating
Revenue



380

Locations In
4 Counties



15,065

Births

176,228

Discharges



*Includes employed, credentialed and community-based physicians, and medical professionals (PAs, ARNPs, CRNAs, etc.)

**Represents unreimbursed costs for traditional charity care, Medicaid and other means-tested programs and unbilled community services

*** Includes beds at St. Joseph's Hospital Behavioral Health Center and Morton Plant North Bay Hospital Recovery Center

Hospitals



**Bartow Regional
Medical Center**
Founded 1925
72 Beds



Mease Countryside
Founded 1985
311 Beds



Mease Dunedin
Founded 1937
120 Beds



Morton Plant
Founded 1916
687 Beds



Morton Plant North Bay
Founded 1965
154 Beds



St. Anthony's
Founded 1931
393 Beds



St. Joseph's
Founded 1934
470 Beds



St. Joseph's Children's
Founded 1990
202 Beds



**St. Joseph's Hospital-
North**
Founded 2010
76 Beds



**St. Joseph's Hospital-
South**
Founded 2015
90 Beds



St. Joseph's Women's
Founded 1976
108 Beds



**South Florida Baptist
Hospital**
Founded 1953
147 Beds



Winter Haven Hospital
Founded 1928
468 Beds




Winter Haven Women's
Founded 1987
61 Beds

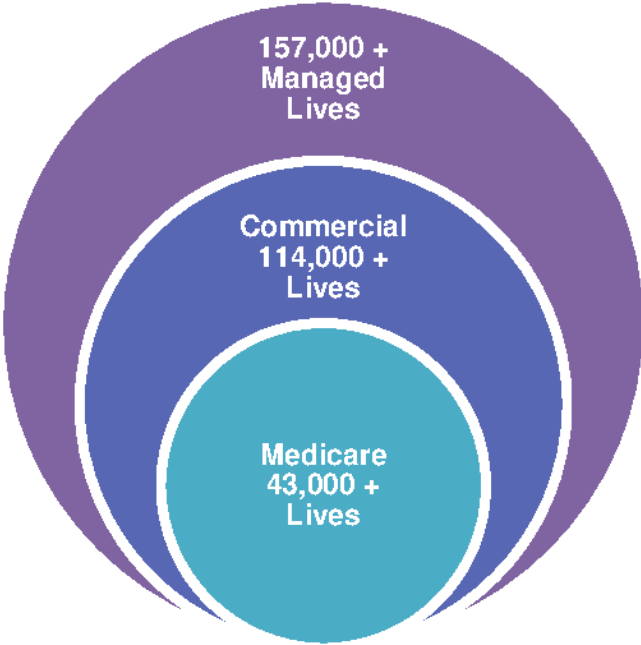
BPP Composition

CIN

299 Practices
1,330
Physicians



Aetna
Florida Blue
Cigna.



ACO

120 TINs
1,001
Providers



CMS
CENTERS FOR MEDICARE & MEDICAID SERVICES

BMG Single Outpatient EMR Platform 2015

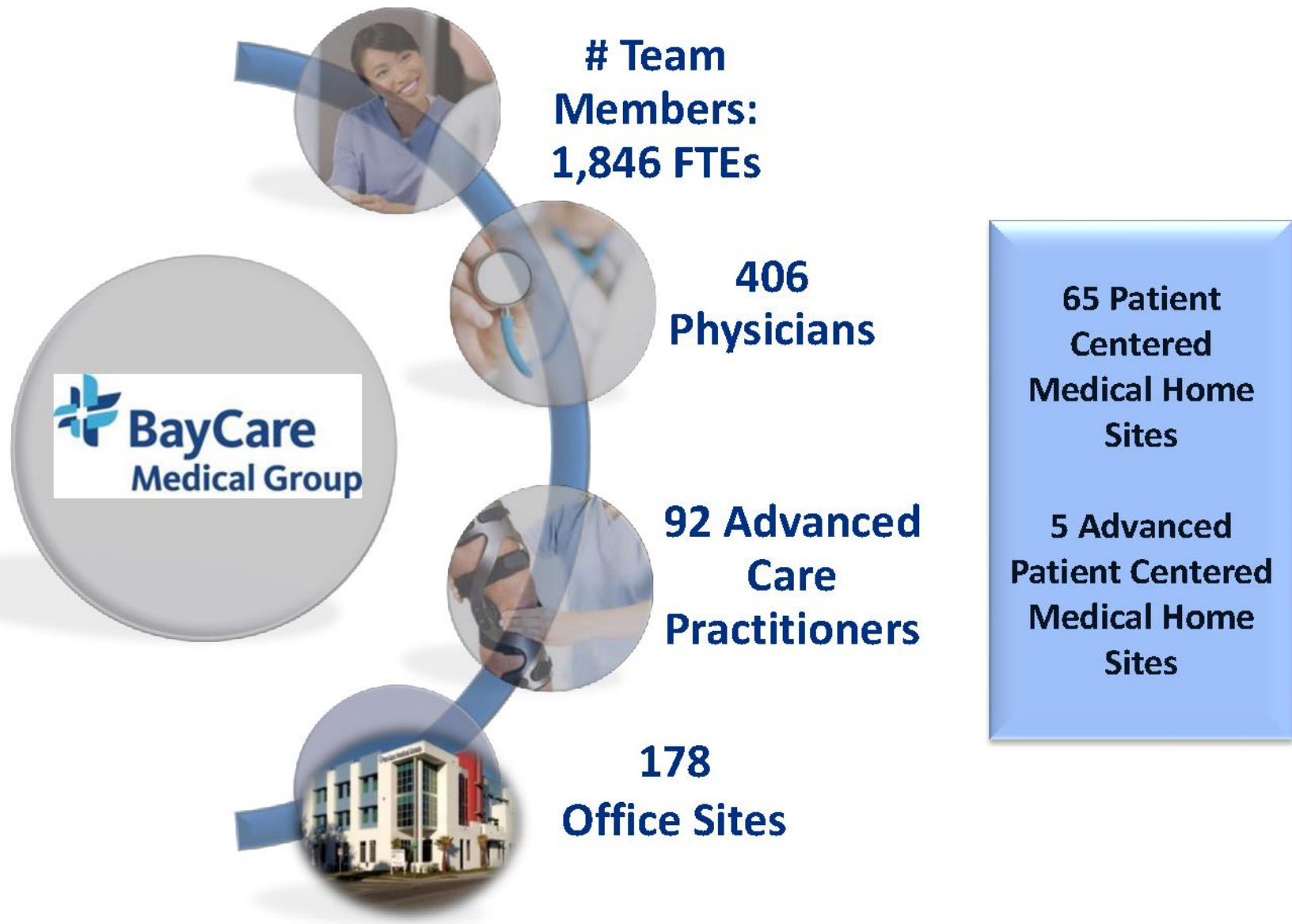
 Morton Plant Mease
Primary Care

 HealthPoint
Medical Group



 BayCare
Medical Group

 Suncoast
Medical Clinic



Humanity at Work

HOW TO MAKE A PATIENT FEEL INVOLVED, NOT INTIMIDATED.

It should be the number one priority. But it seems of little import in our current health care system.

So BayCare is creating a brand new health care model. Its foundation rests on recognizing and respecting the patient's humanity.

Gone is the hospital that frightens and intimidates. In its place are kinder, gentler hospitals, where you can take comfort in being treated like a member of the family.

And when you don't need a hospital, you can access one of BayCare's many neighborhood facilities, including urgent care, doctors' offices, labs, imaging, home care, pharmacy and more, for friendly, compassionate care.

Not only do they offer easy access. Their smaller scale creates an atmosphere that encourages interaction between patients and physicians.

You and your medical team have instant access to personal electronic medical records, so you're in control of your health. And should your condition be less than serious, the new HealthNav™ App enables you to input symptoms and get directions on where to go to manage your health situation.

1-800-BAYCARE LIVE 24/7



OUR NETWORK:

BayCare Behavioral Health
BayCare HomeCare
BayCare Laboratories
BayCare Medical Group
BayCare Outpatient Imaging
BayCare Pharmacy
BayCare Surgery Centers
BayCare Urgent Care

OUR HOSPITALS:

Barlow Regional Medical Center
Mease Countryside Hospital
Mease Duneedin Hospital
Morton Plant Hospital
Morton Plant North Bay Hospital
St. Anthony's Hospital
St. Joseph's Hospital
St. Joseph's Children's Hospital
St. Joseph's Women's Hospital
St. Joseph's Hospital-North
St. Joseph's Hospital-South
South Florida Baptist Hospital
Winter Haven Hospital
Winter Haven Women's Hospital



BayCare

HUMANITY AT WORK

Why? Costs, Quality, and Outcomes



BayCare's
#1 goal is
Clinical Excellence

BayCare Health System

- Goal : 2019

15 Top Health Systems Provided
BETTER OVERALL PATIENT EXPERIENCE



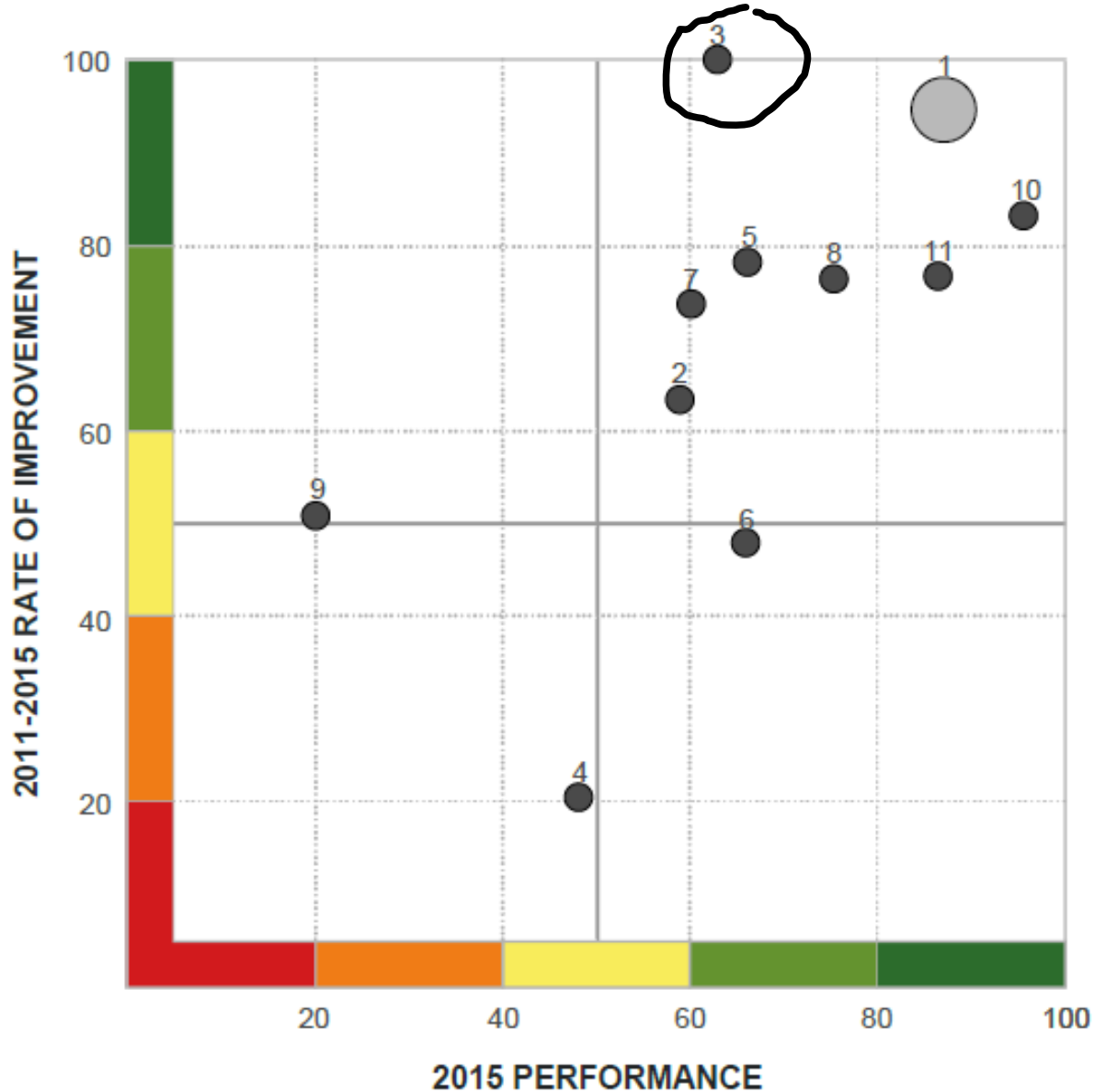
7%
Lower
Cost Per
Episode

1.2%
Better
Survival
Rates

5%
Fewer
Patient
Complications

10.9%
Better
Patient
Safety

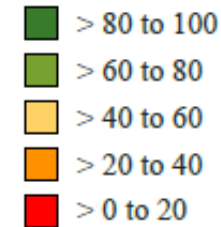
2017 100 Top Hospital Study Results



Morton Plant Hospital

DATA POINTS

- 1 OVERALL
- 2 Inpatient Mortality
- 3 Complications
- 4 30-Day Mortality
- 5 30-Day Readmit
- 6 ALOS
- 7 ED Measures
- 8 IP Expense/Disch
- 9 MSPB
- 10 Oper Profit Marg
- 11 HCAHPS



PROFILED HOSPITAL compared to:

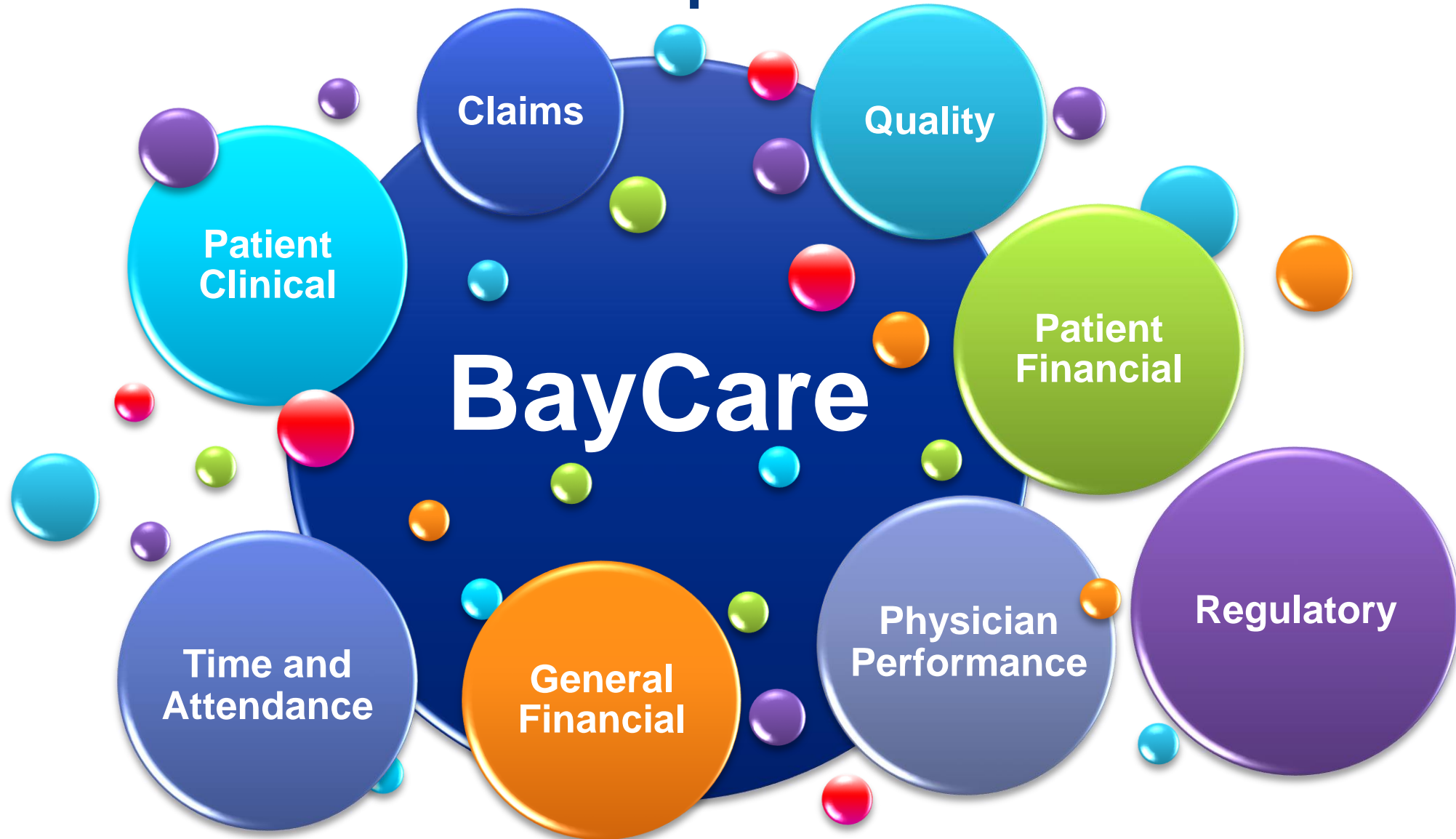
2015 Teaching: n = 445

2011-2015 Teaching: n = 446

What is the Clinical or Business Question?



Before the Enterprise Data Warehouse



Vision/Strategy

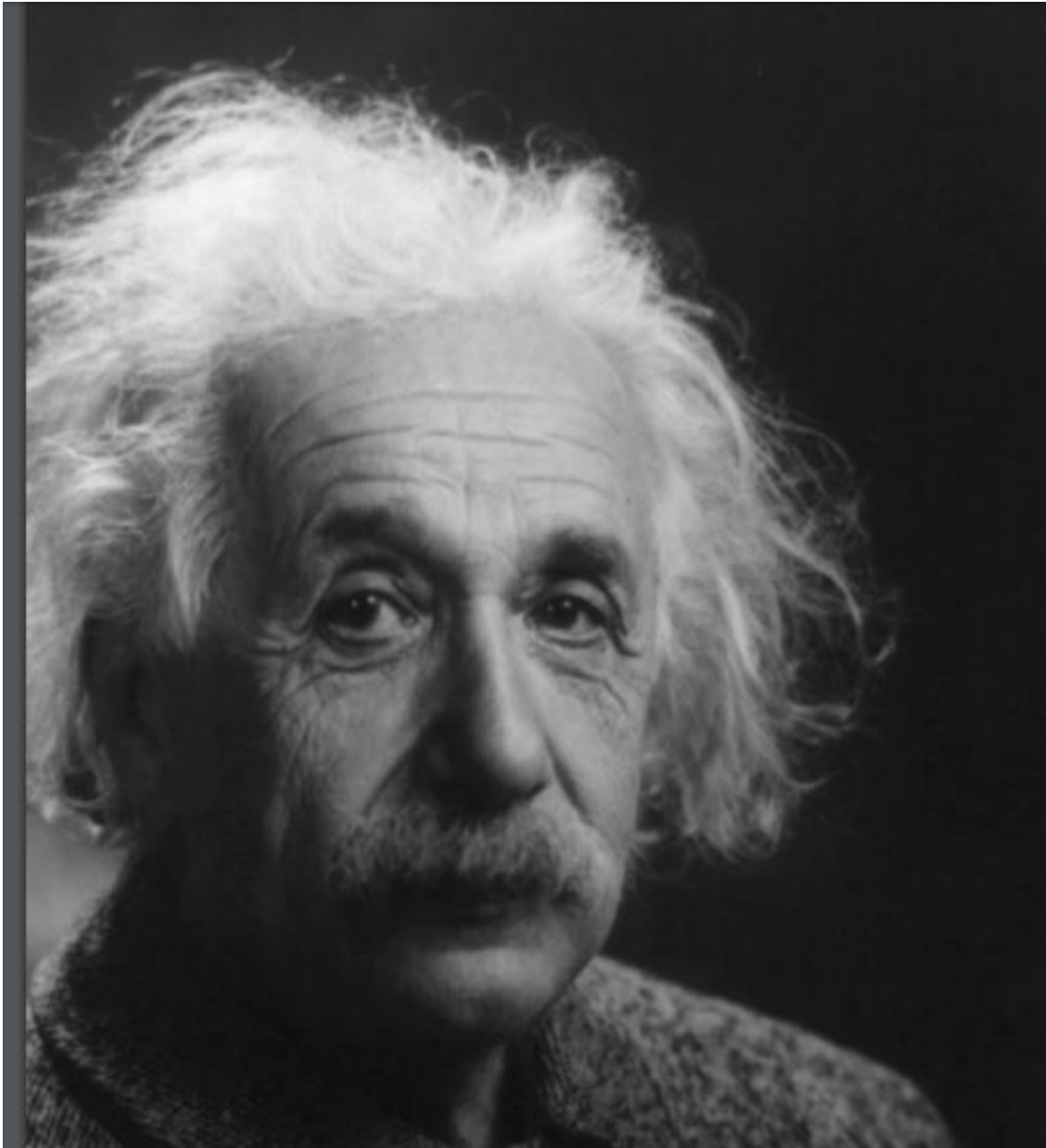
Vision

- Data as an asset for BayCare
- Timely data/analytics for problem solving and to drive decision making



Strategy

- Single source of truth
- Integrated information
- Standardized definition and processes
- Ability to answer complex business/clinical questions



*"Not everything that
can be counted
counts, and not
everything that
counts can
be counted."*

Albert Einstein



Today

- Predictive analytics
- Population management

Application

- Clinical dashboard releases
- Operational dashboard releases

Harmonization

- Soarian/Invision transition
- Replacement of legacy databases
- Tableau deployment
- Operational dashboard releases

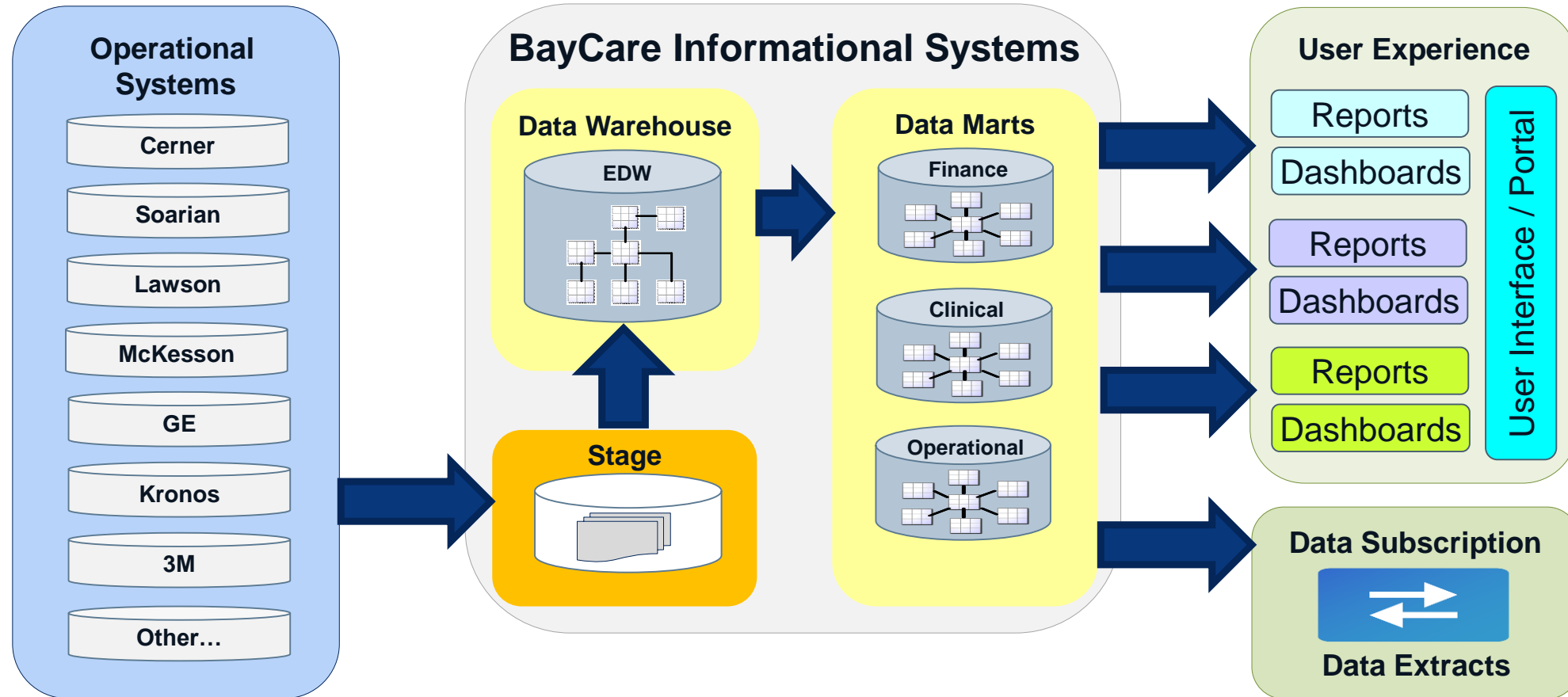
Acquisition

- Financial - Lawson
- Clinical – Cerner EMR
- Initial dashboard releases

Project begins

- Data Governance
- Architecture deployed

BayCare EDW Architecture

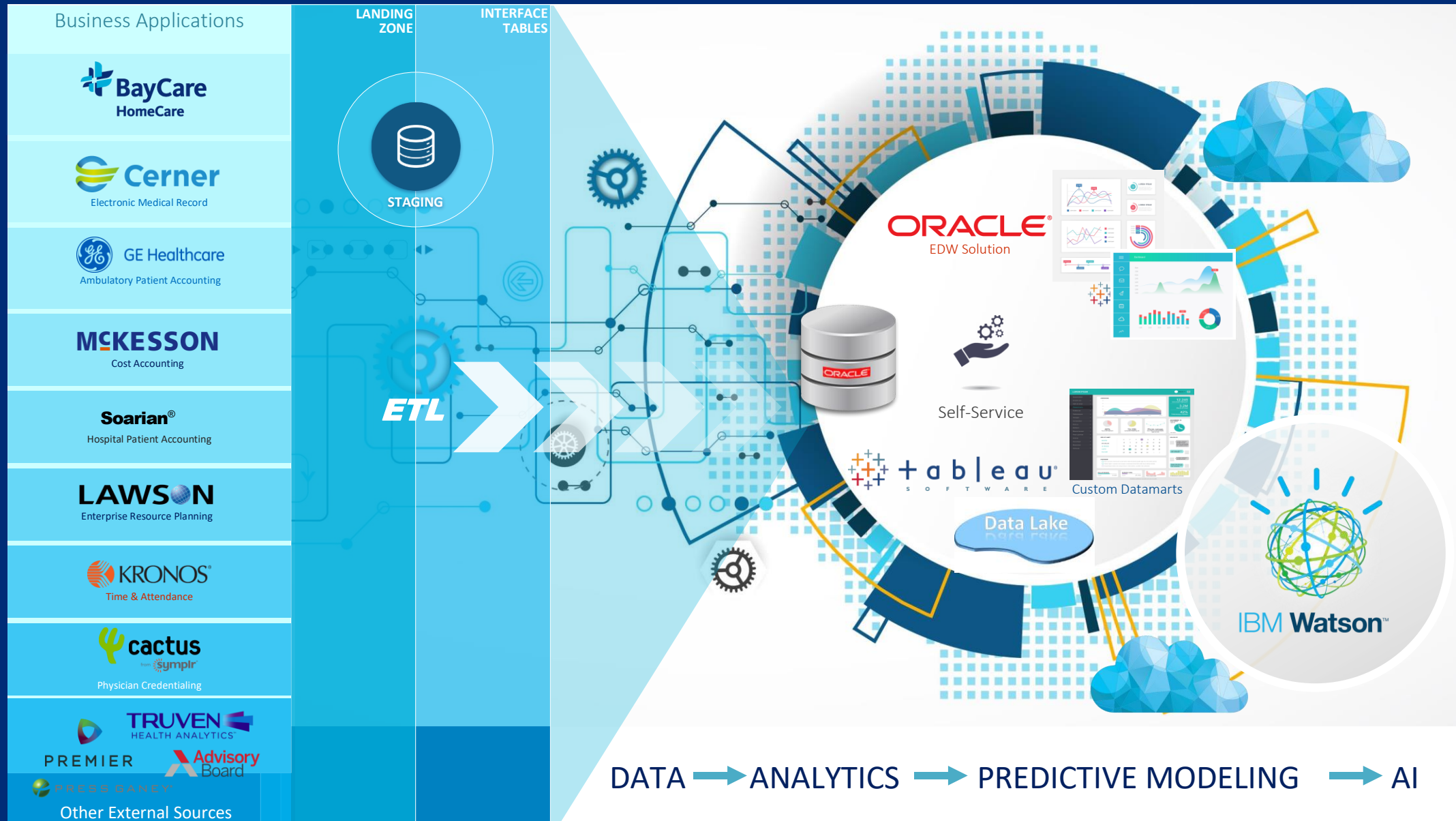


Standardize **Match** **Merge** **Monitor** **Audit** **Balance** **Control**

DATA QUALITY

METADATA MANAGEMENT

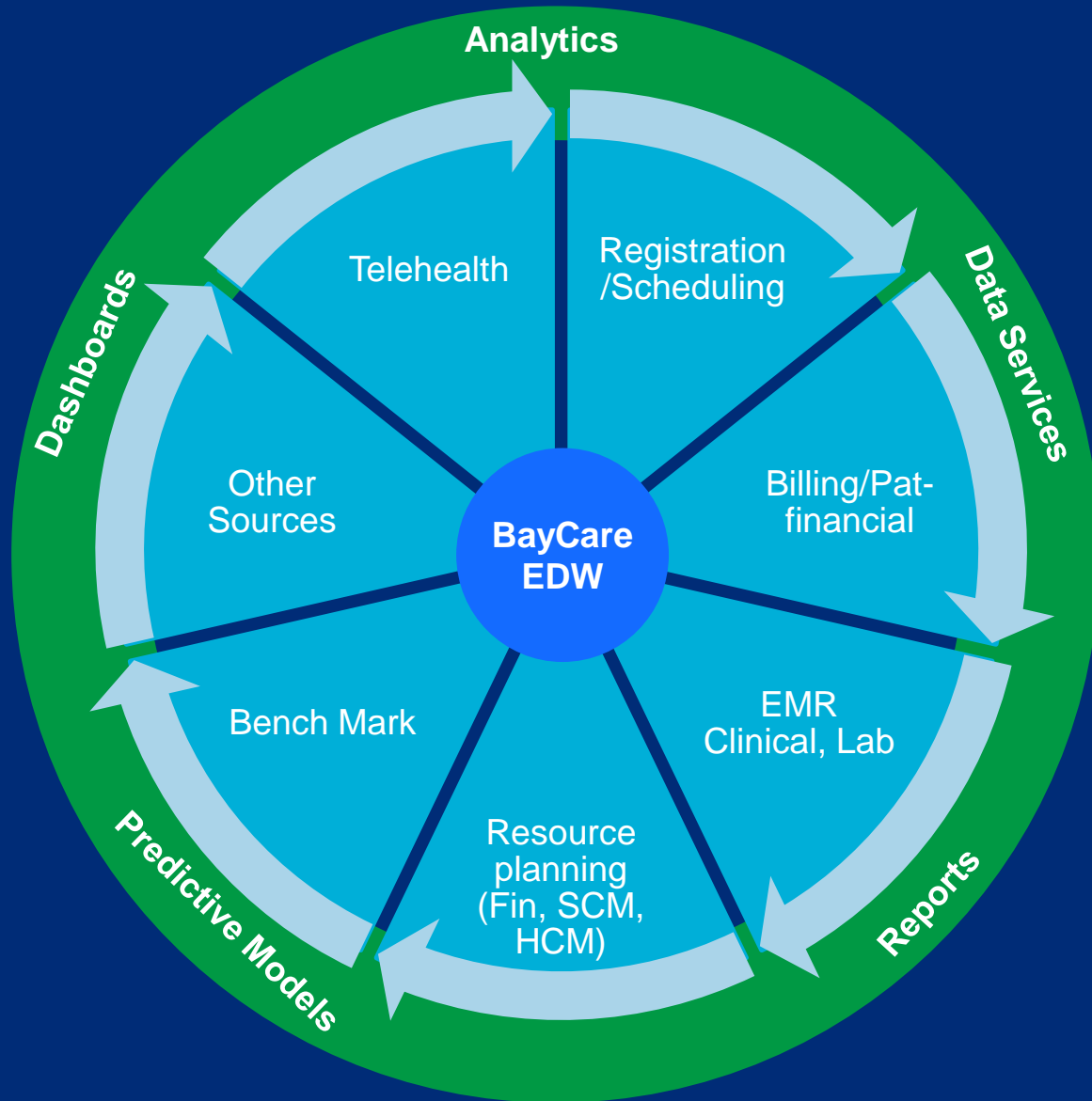
Data and Analytics Architecture



Value for BayCare



Integrated Information = Asset



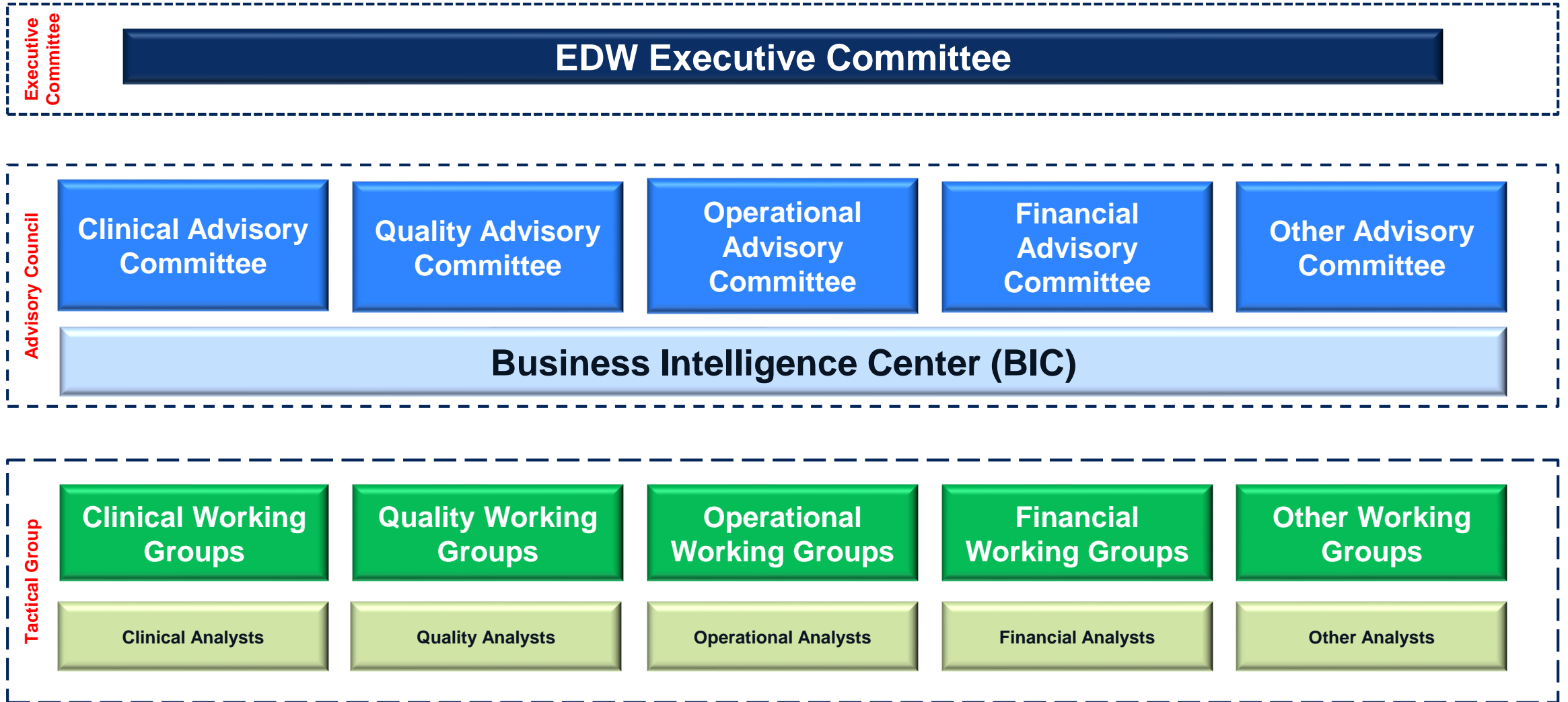
- 21 million encounters
- About 4 million patients
- 5 Billion clinical events
- 22 million labs orders and results
- 2,000 dashboard and reports

- 400,000 hits annually
- 5700 team members
- 182 million records through data services
- Throughput of 800TB of data per day
- Over 30 billion rows of data
- Over 3 million SQL/day

Transformation factors

- Strong team
- “Agile” Analytics - Quick turn-around & iterative process
- Strong & engaging data-governance
- Focus on validation, reconciliation to build credibility and trust
- Desired delivery channel for reports, raw data, and information visualization
- Self-service model (push vs pull)
- Collaboration with service-lines and departments
- Consolidation of reporting teams to reduce redundancy and improve efficiency accuracy
- Cultural change around data discovery & data driven decisions

Data Governance Structure



Why focus on VTE?

- #1 BayCare Complication in 2016
- BayCare had 646 cases diagnosed
- Known Evidence Based Practice (EBP) to prevent VTEs
- Opportunity to improve compliance with EBP

Hospital	2016	2017 YTD
BRM	3	1
MCH	24	21
MDH	10	9
MPH	46	42
SAH	41	42
SJH	67	49
SJS	8	9
SJW	2	0
WHH	25	18

What is Venous Thromboembolism (VTE)?

- A blood clot that starts in a vein
- 3rd leading vascular diagnosis after heart attack and stroke
- Affects 300K – 600K Americans annually
- Two Types
 - Deep Vein Thrombosis (DVT) is a clot in a deep vein, usually leg
 - Pulmonary Embolism – occurs when DVT clot breaks free from a vein wall and travels to the lungs and blocks some or all of the blood supply

What is Venous Thromboembolism (VTE)?

Causes – slowing or changes in blood flow

- Surgery – (major general – orthopedic)
- Immobilization
- Hospitalization
- Pregnancy or hormones

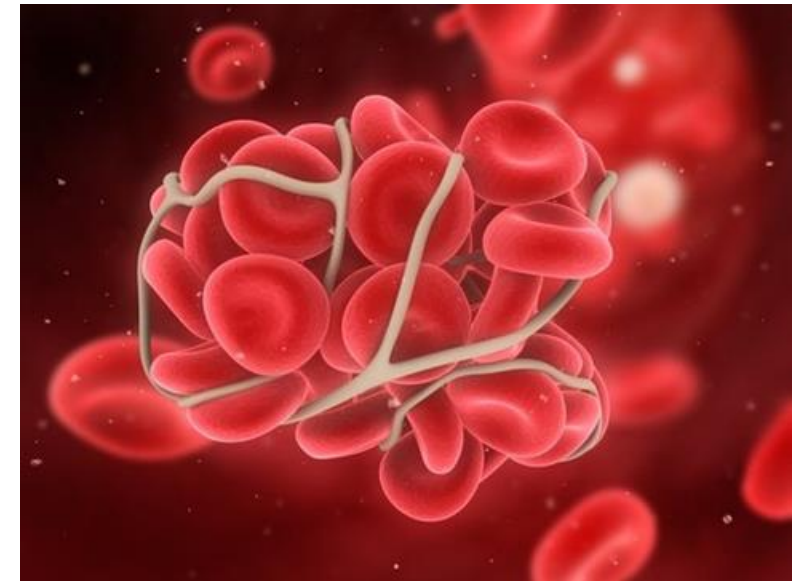
High Risk

- Elderly
- Obese/overweight
- Cancer/autoimmune disorders
- Genetic causes of excessive blood clotting

Incidence & Complications

- 50 percent or more of HA- VTE are preventable.
- 10 percent of VTE events can result in fatal pulmonary embolus, the most common preventable cause of hospital death.
- VTE is a significant cause of hospital readmissions after surgery

“Maynard, Greg, Preventing Hospital-Acquired Venous Thromboembolism
A Guide for Effective Quality Improvement”

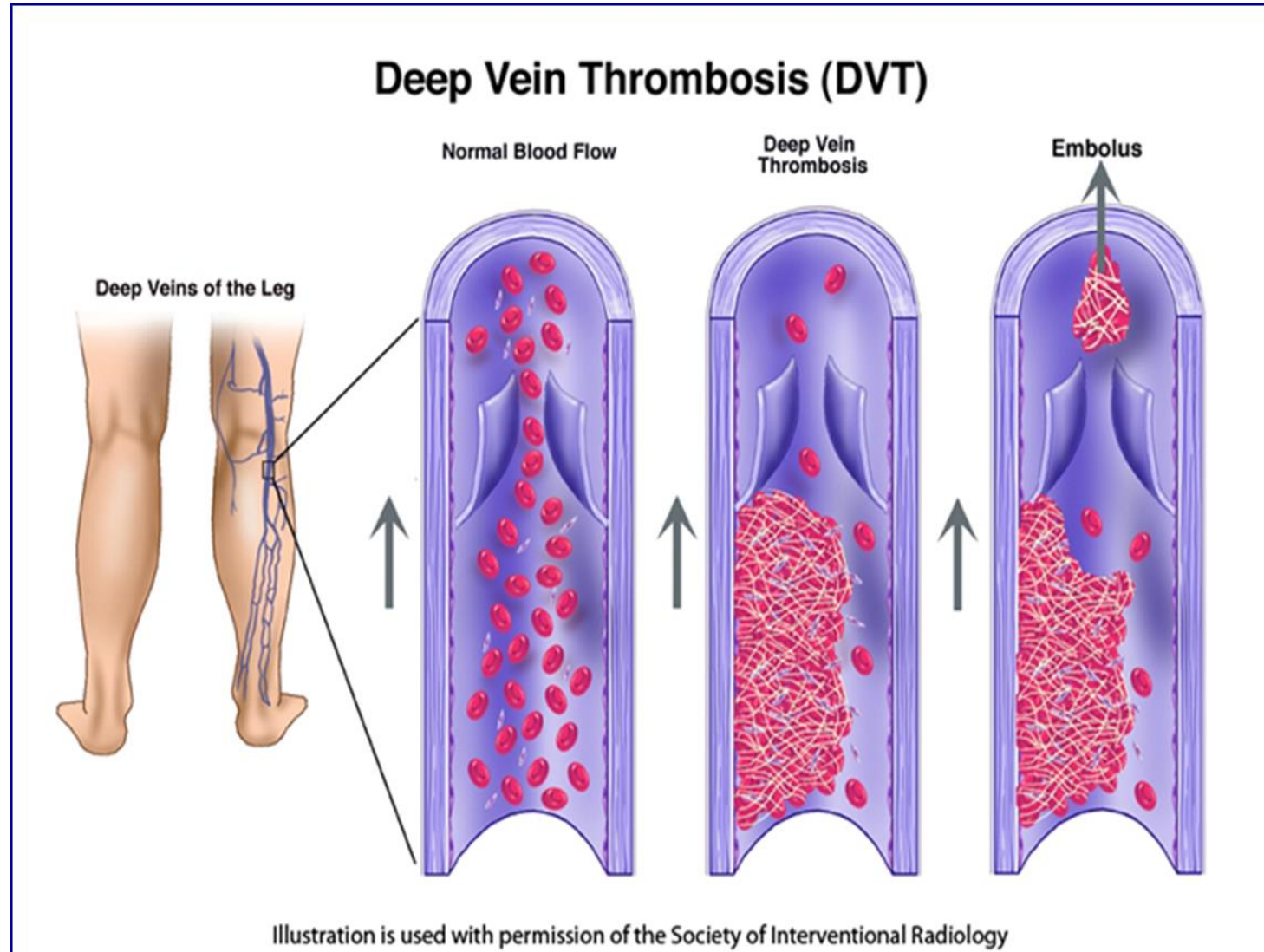


Pulmonary Embolism

- This is what we're afraid of



DVT



Best Practice to Prevent VTEs

- Mandatory risk assessment & reassessment during hospital stay (VTE Advisor)
- Sequential Compression Devices (SCDs)
- Anticoagulant prophylactic therapy
- Early and frequent ambulation and activity
- Patient education

We needed DATA !

Projects 11

↑ Name

- 📁 Ad Hoc
- 📁 All Users
- 📁 BMG
- 📁 Default
- 📁 Laboratory
- 📁 Manager and above
- 📁 MedStaffQR
- 📁 Patient Experience
- 📁 PI Projects
- 📁 Service Line Reports

- Business Intelligence Center
- Clinical Outcomes
- IS Clinical Applications
- MarCom
- MedStaff Quality

Data Sources 27

Sort by Name (A-Z)

☰ ☰ ☰

	Projects	Workbooks	Views	Data Sources	Owner	Created
	0	44	108	1	Baruti, Renato	Jul 22, 2014, 12:22 PM
	0	9	21	1	Baruti, Renato	Jun 26, 2014, 8:31 AM
	0	3	16	0	Baruti, Renato	Mar 30, 2017, 2:08 PM
	0	18	139	6	Baruti, Renato	Jun 24, 2014, 11:04 AM
	0	4	18	10	Baruti, Renato	Apr 2, 2018, 11:41 AM
	0	2	2	7	Baruti, Renato	Jun 24, 2014, 2:40 PM
	0	27	98	0	Baruti, Renato	Aug 17, 2015, 8:19 AM
	0	4	4	0	Baruti, Renato	Sep 4, 2018, 1:20 PM
	0	10	61	1	Baruti, Renato	Sep 11, 2014, 3:49 PM
	0	29	269	1	Baruti, Renato	Jul 21, 2014, 9:00 AM



Analytic Tools & Reporting



[Home](#) | [Resources](#) | [Shared Services](#) | [Health System](#) | [Clinical Disciplines](#) | [Culture](#) | [QUALITY](#) |

[Home](#) > [Shared Services](#) > [Analytic Tools & Reporting](#) > [BigSky](#)

BigSky

Search...



Dashboard Catalog

BayCare Enterprise Analytics and Reporting

Search by Project ...

- (All)
- BayCare Medical Group
- Cardiovascular Services
- Care Coordination
- Clinical Reports
- Daily Operational Finance...
- ED Analytics
- EDW Operations
- EIS Governance
- Finance Cost and Accounti...
- IS Compliance
- Laboratory Analytics
- Mobile Applications
- Nursing
- Patient Registration and B...
- PMO
- Productivity
- Public (All Access)
- Radiology and Imaging Ser...
- SharePoint Analytics
- Strategic Planning
- Surgery Analytics
- Team Resources

Project Name Gatekeeper Access Control

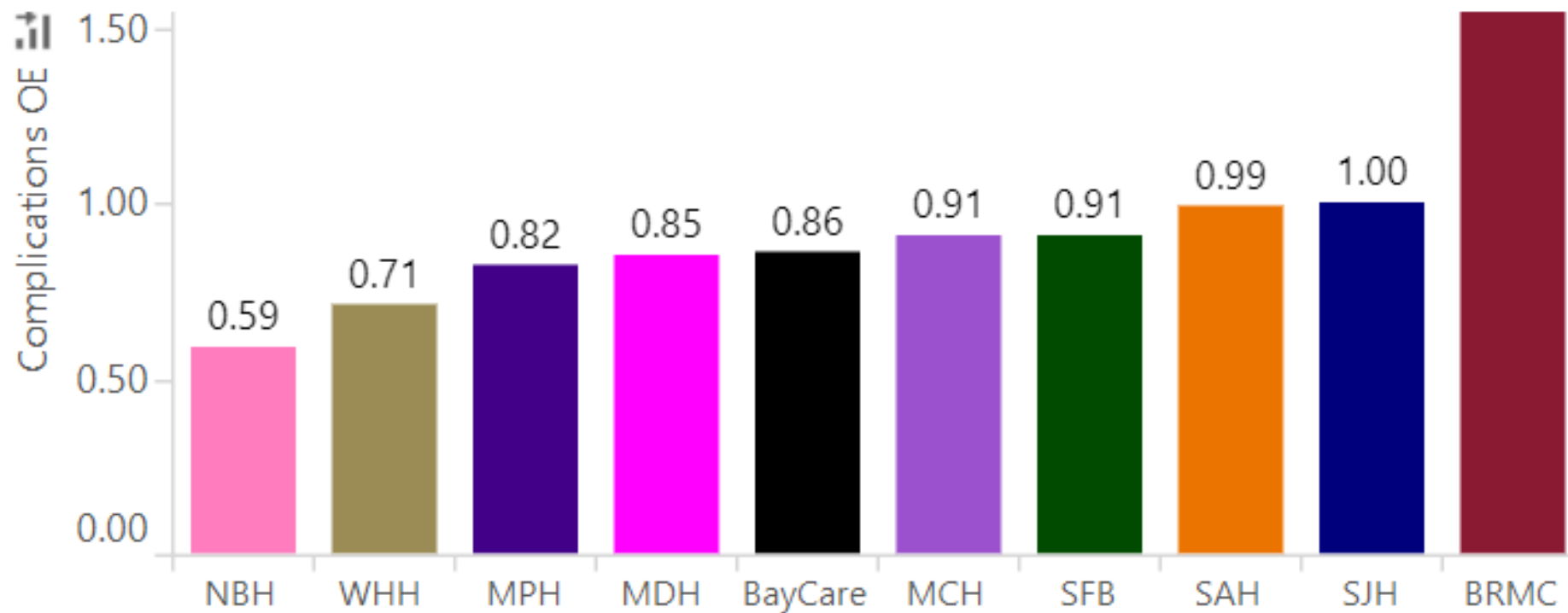
Clinical Reports Michelle Teichgraeber Open

Search by Workbo...

Tableau Dashboards

- [Acute Care Reports](#)
- [Cardiac Procedures](#)
- [Cerner Clinical Outcomes](#)
- [Consult to Physician Report](#)
- [CPOE Orders](#)
- [Discharge Orders](#)
- [Diverticulitis/PE Dx Dashboard](#)
- [Doctor Procedure Count for Physician Systems Dashboard](#)
- [ED OSV Dashboard](#)
- [EMAT Services Dashboard](#)
- [Encounters](#)
- [Mammography Screening](#)
- [NBH Admin](#)
- [Palliative Care](#)
- [Palliative Care PIM](#)
- [Pastoral Care](#)
- [Patient Historical Summary](#)
- [Pharmacy Orders](#)
- [Respiratory Procedure](#)
- [Testing Patient Summary](#)

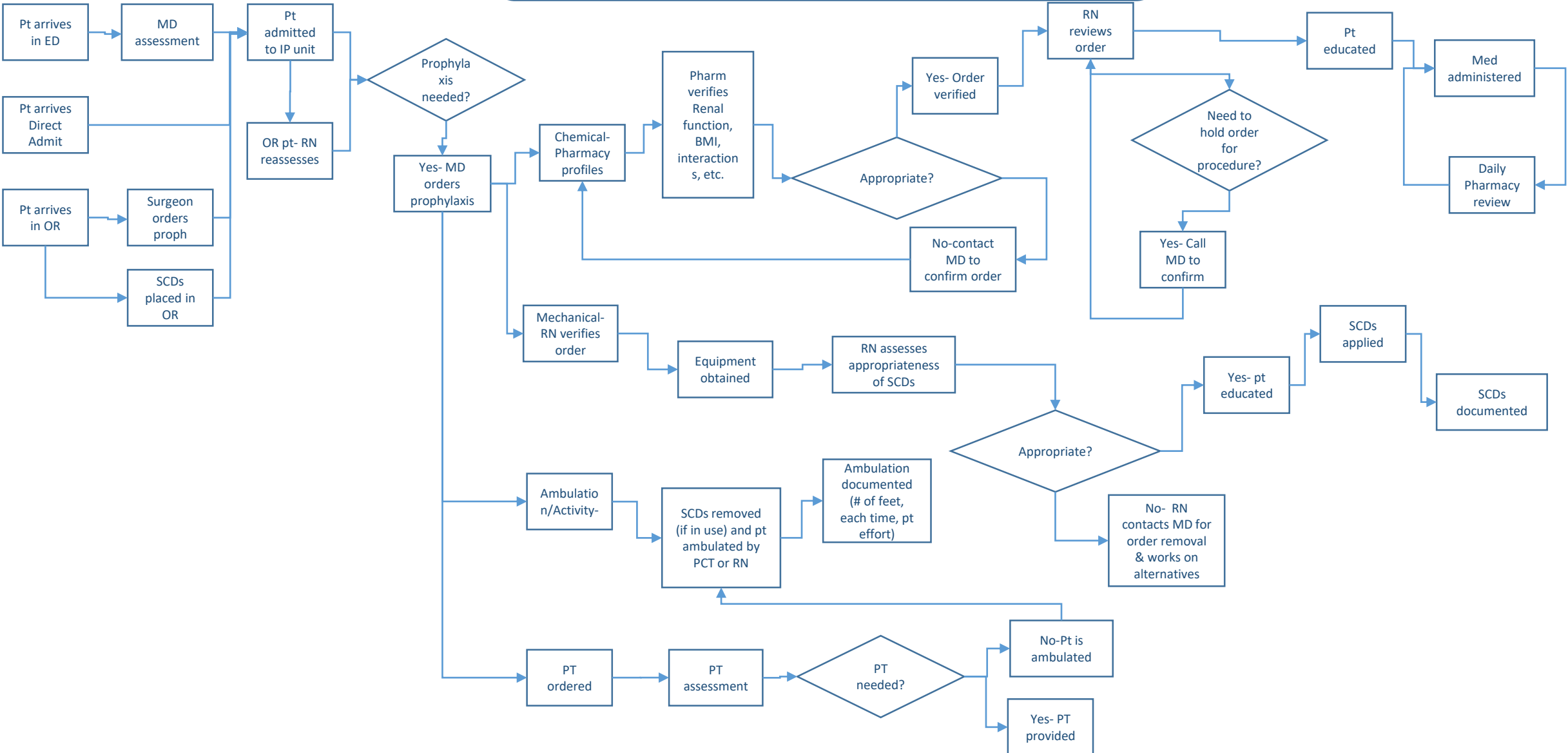
Complications 2018





Decemb..	2.8
2016	
January	2.3
February	2.5
March	2.2
April	2.4
May	1.9
June	2.2
July	2.6
August	2.3
Septem..	2.4
October	2.5
Novemb..	2.1
Decemb..	2.0
2017	
January	2.4
February	2.3
March	2.2
April	2.2
May	2.0
June	2.3
July	1.9
August	2.4
Septem..	2.1
October	2.2
Novemb..	1.7
Decemb..	2.1
2018	
January	1.7
February	1.9
March	2.1
April	2.2
May	2.1
June	1.7
July	2.0
August	1.9
Septem..	1.9

BC VTE Process Flow Diagram



Primary VTE Prevention Action Plan

- I. VTE Informatics Changes – October**
 - a. New evidenced based order set
 - b. Changes to VTE Advisor for improved evidence based guidance to physicians
 - c. New VTE alert to physicians if on no prophylaxis

- II. Pharmacy Change to dosing chemical prophylaxis timing on day of admission
(1700 rule) (Sept/Oct)**

Primary VTE Prevention Action Plan

I. Physician education on VTE prevention

- a. Hospital quality committees & grand rounds

II. Ambulation Initiative (Sept/Oct)

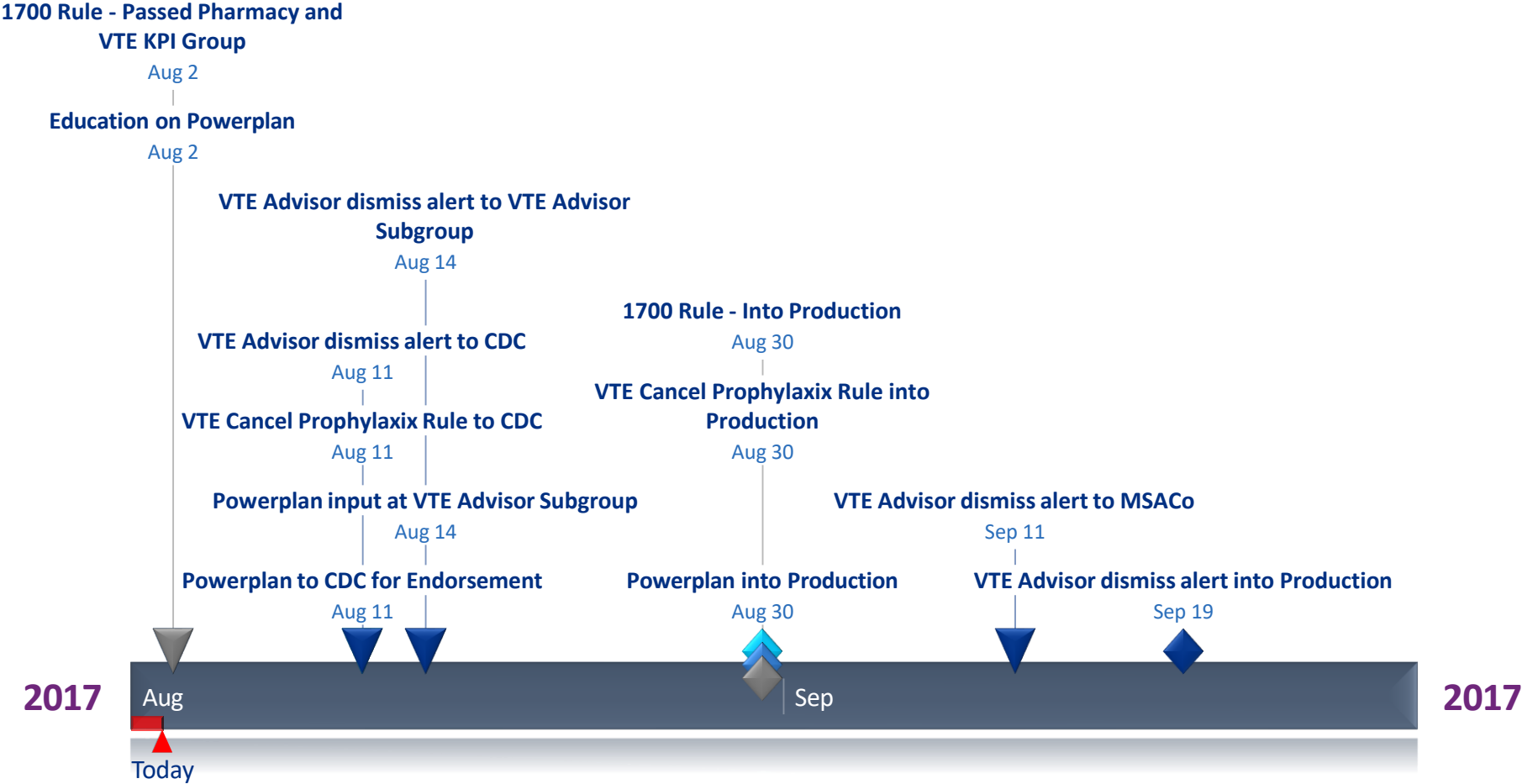
- a. Ambulation Report
- b. Standardized Ambulation Guidelines (*NEW*)

III. Patient Education on Preventing Blood Clots (Nov)

IV. VTE Nursing Prophylaxis Tool Roll Out (Sept/Oct)

- a. Empowers nursing to have guidelines on contacting physicians when a patient is not on chemical prophylaxis

Initiatives Timeline



Changes to OB/GYN PowerPlans for VTE Prophylaxis

Effective **July 25, 2018**, VTE Prophylaxis orders for OB/GYN PowerPlans are updated to meet American Congress of Obstetricians and Gynecologists (ACOG) guidelines as approved by Perinatal Safety.

Note: Assess VTE risk and utilize associated orders for all OB/GYN patients.

The following changes are made to the OB/GYN PowerPlans:

- **VTE Prophylaxis OB** orders display and conform to ACOG guidelines for the following PowerPlans:
 - **Admission Antepartum v3**
 - **Scheduled Cesarean Multiphase v2. Preop**
 - **Postpartum v2**
 - **Preop OB GYN**
 - **Labor Multiphase v2. Postpartum**

VTE Prophylaxis OB		
	Definition: Additional Risk Factors - - first-degree relative with a history of a thrombotic episode before age 50 years, or other major th	
	family history of thrombophilia)	
	Definition: Low Risk Thrombophilia - factor V Leiden heterozygous; prothrombin G20210A heterozygous; protein C or protein S deficie	
	Definition: High Risk Thrombophilia - antithrombin deficiency; double heterozygous for prothrombin G20210A mutation and factor V	
	G20210A mutation homozygous.	
	LOW RISK FOR VTE	
	PATIENTS WHO ARE FULLY MOBILE; EXPECTED LOS LESS THAN 48HRS. NO ADDITIONAL RISK FACTORS	
	If LOW risk for VTE utilize surveillance WITHOUT anticoagulation therapy	
<input type="checkbox"/>	<input checked="" type="checkbox"/> OB/GYN Patient is Low Risk for VTE	Utilize surveillance WITHOUT prophylactic antic
<input type="checkbox"/>	<input checked="" type="checkbox"/> Activity	▼ Up ad lib
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Ambulate	Encourage ambulation
	MODERATE RISK FOR VTE	
	Patients on bedrest, hospitalized greater than 48 hours.	
	Presence of additional risk factors	
	History of Low-risk Thrombophilia	
	If MODERATE risk for VTE utilize surveillance OR anticoagulation therapy	
<input type="checkbox"/>	<input checked="" type="checkbox"/> Patient is Moderate Risk for VTE	Utilize surveillance OR prophylactic anticoagula
<input type="checkbox"/>	<input checked="" type="checkbox"/> Compression Device Intermittent Pneumatic	▼ Bilateral

Search: Contains Advanced Options Type:

Up Home Favorites Folders Copy Trials Folder: Adult Medicine PowerPlans Search within:

Plans

+ Add to Phase Comments Start: Duration:

	Component	Status	Details
<input type="checkbox"/>	VTE Prophylaxis Advisor		
	See VTE Prophylaxis Reference Text		
	LOW RISK FOR VTE - PADUA Less than 4 - Medical patients who are fully mobile and have no significant risk factors. ***DOCUMENT LOW RISK WITH ORDER BELOW***		
	Patient is Low Risk for VTE	Order	10/01/2018 04:08 EDT
<input type="checkbox"/>	Ambulate		With Assistance
	HIGH RISK FOR VTE - PADUA 4 OR GREATER- Medical patients on bedrest; CHF, pneumonia, advanced age, varicose veins and other VTE risks. Suspected TIA/CVA. BMI less than 40 and CrCl greater than or equal to 30 mL/min: enoxaparin (Lovenox) 40 mg Subcut 1xDaily. CrCl less than 30 mL/min: enoxaparin (Lovenox) 30 mg Subcut 1xDaily. BMI 40 or greater and CrCl greater than or equal to 30 mL/min: enoxaparin (Lovenox) 40 mg Subcut 2xDaily. CrCl less than 30 mL/min: enoxaparin (Lovenox) 40 mg Subcut 1xDaily.		
<input type="checkbox"/>	Compression Device Intermittent Pneumatic		Bilateral
<input type="checkbox"/>	enoxaparin (Lovenox)		40 mg, Subcut, Inj, 1xDaily at 1700
<input type="checkbox"/>	enoxaparin (Lovenox)		30 mg, Subcut, Inj, 1xDaily at 1700

Details

Dx Table Orders For Cosignature Save as My Favorite

Initiate Now Orders For



*Performed on: 10/01/2018 0408 EDT

By: Lewis, Paul A MD

- VTE Medical Patient Low Risk
- VTE Surgical Patient Low Risk

VTE Risk - Medical Patient

VTE Low Risk
Medical Patient

VTE High Risk
Medical Patient

Ambulation Order

Padua Score <4

Padua Score 4 or greater

High risk patients require VTE prophylaxis orders

Early and frequent ambulation

Select if ambulation not already ordered

Select the green check mark in upper left corner to SIGN

Padua Risk Score - Medical and Stroke

Padua score values translate to risk categories as follows:

Less than 4 = Low Risk

4 or greater = High Risk

1 Point each	2 Points	3 Points each	
Acute infection and/or rheumatologic disorder	Recent trauma and/or surgery (within 1 month)	Already known thrombophilic condition*	*Carriage of defects antithrombin, protein C or S, factor V Leiden, G2021A prothrombin mutation, antiphospholipid syndrome.
Heart and/or respiratory failure		Active cancer*	
Acute myocardial infarction or ischemic stroke		Reduced mobility*	*Anticipated bed rest with bathroom privileges (either because of patient's limitations or physician's order) for at least 3 day
Obesity (BMI ≥ 30 kg/m ² or		Previous VTE (excluding	

VTE Prophylaxis Nursing Report

Score 0= No prophylaxis

Score 1 = Mechanical Prophylaxis Only

Score 2 = Chemical Prophylaxis

VTE Prophylaxis Report

Facility: St. Anthony's Hospital

Date: 09/19/16

Time: 15:41

Room-Bed	Patient Name	FIN Nbr	Admit Dt/Tm	Age	Attending	Service
CI01-P	VENSKUS, SIMON	1102992748	09/12/2016 10:47	84	Azzi , Nadine MD	Medicine

Score: 2 Prophylaxis: heparin 5,000 unit(s) = 1 mL, Subcut, q8hr First Given: 09/15/2016 14:39 Last Given: 09/19/2016 13:17; Compression Device Intermittent Pneumatic - 3 Intermittent pneumatic compression devices, knee high - Applied / Turn On: 09/12/2016 12:00; Compression Device Intermittent Pneumatic - 3 Intermittent pneumatic compression devices, knee high - Applied / Turn On: 09/13/2016 00:00

VTE Prophylaxis Report

Facility: St. Anthony's Hospital

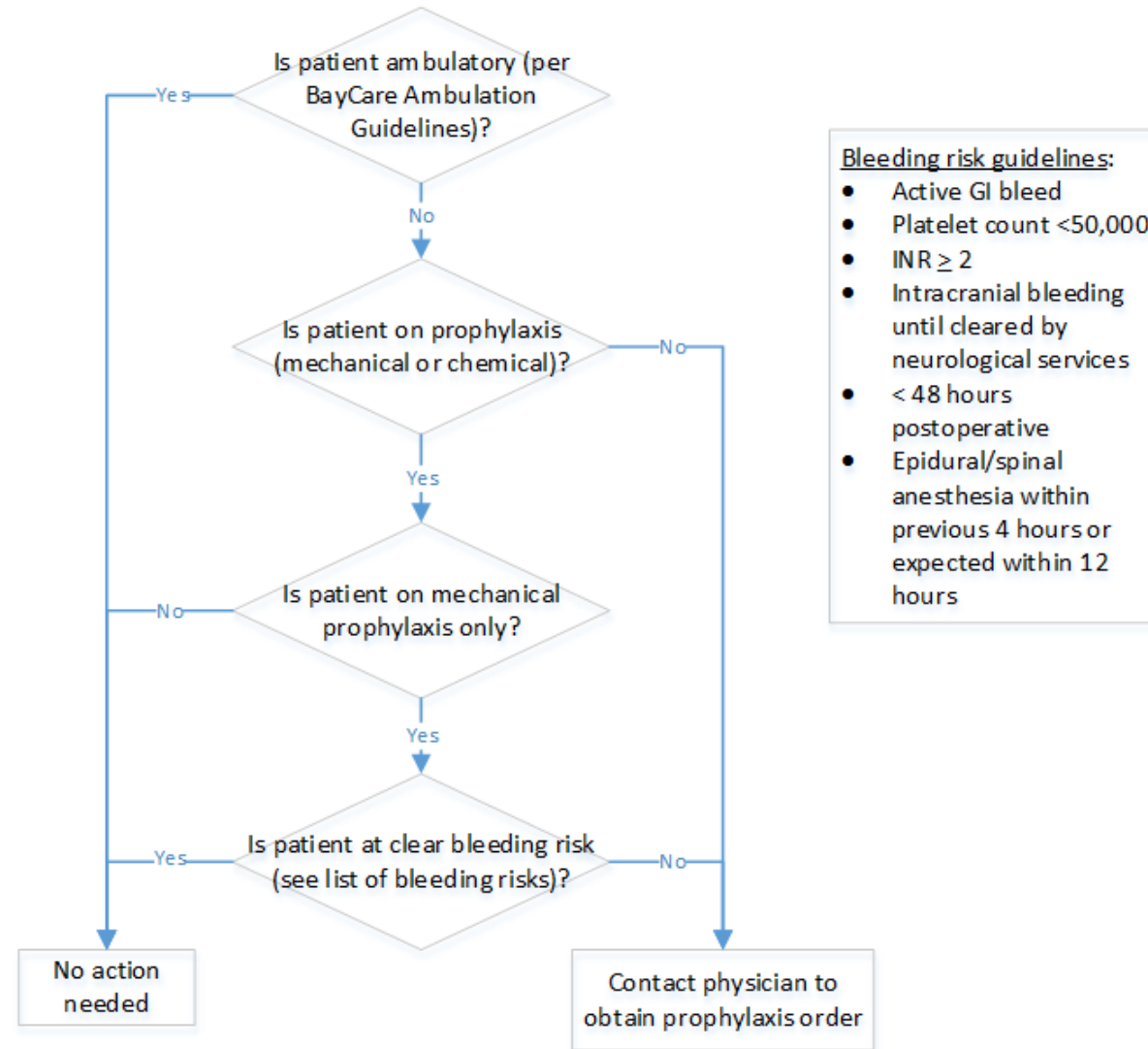
Date: 09/19/16

Time: 15:41

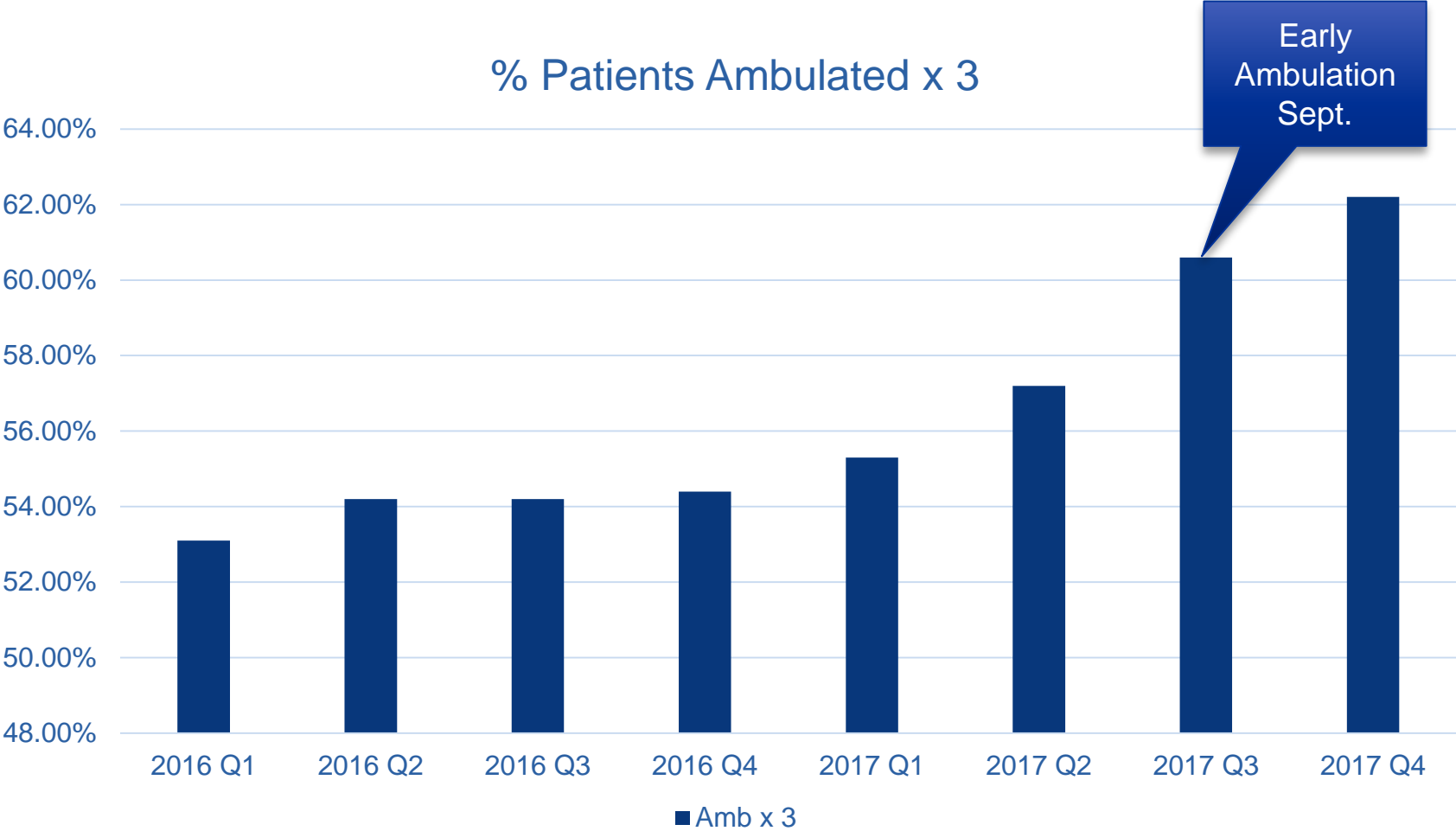
Room-Bed	Patient Name	FIN Nbr	Admit Dt/Tm	Age	Attending	Service
0353-B	BATES, ISA C	1103028187	09/17/2016 18:05	80	Panara , Jaysukhlal V MD	Medicine

Score: 1 Prophylaxis: Mechanical Prophylaxis Only - Compression Device Intermittent Pneumatic - 3 Intermittent pneumatic compression devices, knee high - Applied / Turn On: 09/18/2016 20:30

VTE Nursing Prophylaxis Tool



BayCare Early Ambulation Jan 2016 – October 2017



Venous thromboembolism (VTE) is the formation of a blood clot in the vein. When a clot forms in a deep vein, usually in the leg, it is called a deep vein thrombosis or DVT. If the clot breaks loose from the vein wall and travels to the lungs, blocking some or all of the blood supply, it is called a pulmonary embolism or PE.

VTEs are a subset of Truven Complications. The Complications metric was a **Key Performance Indicator (KPI)** from 2014-2016. In 2017, VTEs were monitored as a KPI by Clinical Outcomes and a Performance Improvement team. In 2018, VTEs, while not a KPI, will continue to be monitored.

Truven Complications are defined by ECRI methodology, Expected Complication Rate Index (ECRI). The methodology includes secondary dxs, where POA is 'N' or 'U', and are based on ICD-9s. As of 10/1/2015, ICD-10s are used and backmapped to match the ICD_9 criteria. When two or three years of ICD-10s become available for reporting, Truven will update their methodology.

CMS identified additional criteria for 2017 which were included in the KPI, also found in Premier. The dashboard offers the ability to look at VTEs per Truven Methodology only, Premier/CMS Additional Codes only, and Truven-Permier/CMS Additional combined (KPI).

The VTE metric includes:

- Inpatient cases and does not include Rehabilitation, Psychiatric, and Substance Abuse patients.
- All payers are reported and ages 18+
- Truven identified ICD-10 Codes (therefore data not available prior to 10/1/2015)
- CMS identified ICD_10 Codes

The metric excludes:

- Discharges that are AMA and Transfers to short term facilities
- Additional exclusions have been applied per Truven Qualifiers for both DVT and PEs.

The VTE complication rate is calculated by dividing the number of patients with a qualifying secondary diagnoses by the number of eligible discharges divided by 1000.

NOTE: BayCare Alliant Hospital (BAH) VTE data is monitored separately, see BAH Tab. The KPI definition is utilized with one exception, BAH data includes Discharges to Other Short Term Facilities (which is a Truven exclusion and does not apply to the BAH population).

Venous Thromboembolism (VTE)

NOTE: VTE data from ICD-10s, therefore not available prior to 10/1/2015

Select System or Hospital

Select Hospital(s)

Select a VTE Category

Select a Discharge Date Range

Select Payer(s)

Select Age Range

- System
- Hospital

BayCare

KPI- Truven and Premier/CM...

September 1, 2016

September 27, 2018

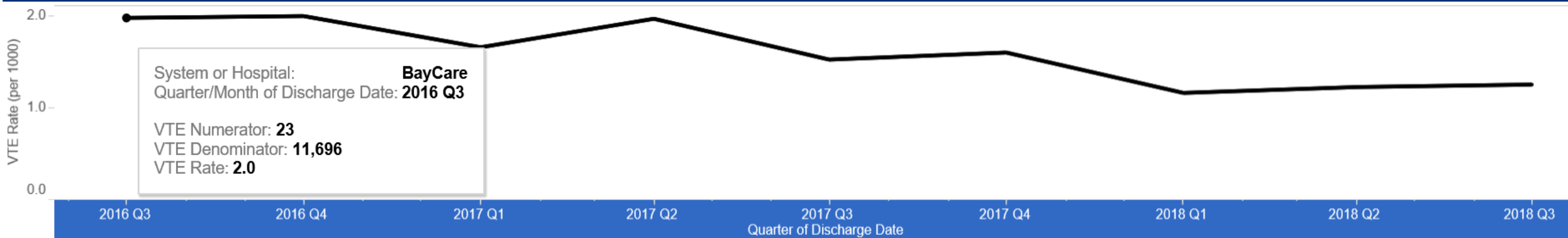
(All)

18

Select Hospital using Color Legend

BayCare

Quarterly/Monthly VTE Rates by Hospital (per 1000 Discharges)

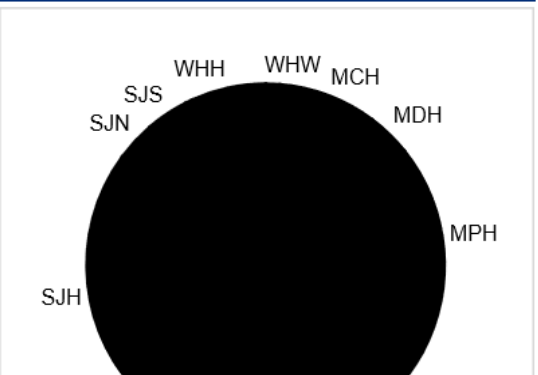


System or Hospital: **BayCare**
 Quarter/Month of Discharge Date: **2016 Q3**
 VTE Numerator: **23**
 VTE Denominator: **11,696**
 VTE Rate: **2.0**

VTE Rates by Hospital (per 1000)

	2016		2017				2018	
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
BayCare	2.0	2.0	1.6	2.0	1.5	1.6	1.2	1.2

Patients with VTEs by Hospital



Patients with VTEs

	2016	2017	2018
BayC..	94	246	133

Patients with VTEs by Unit

Select System or Hospital

Select Hospital(s)

Select a VTE Category

Select a Discharge Date Range

Select a Discharge Unit

Select Payer(s)

Select Age Range

System

(All) ▼

KPI- Truven and Premier/CM... ▼

January 1, 2017 September 27, 2018

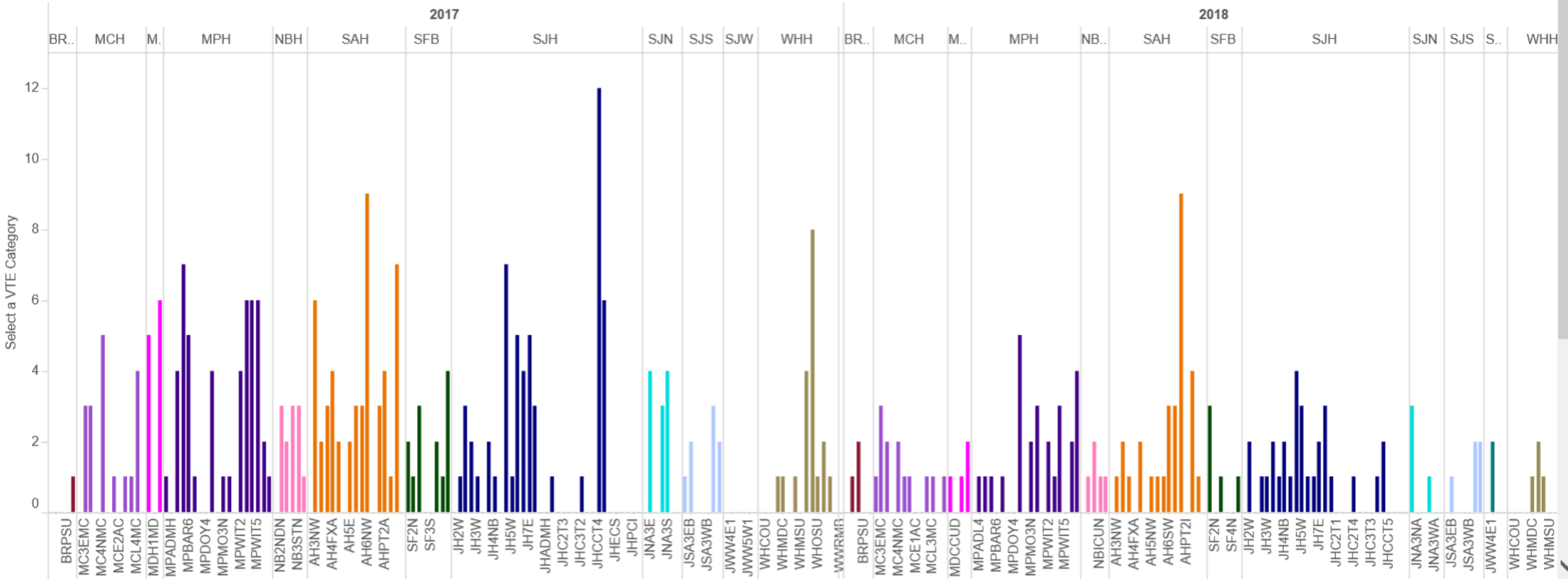
(All) ▼

(All) ▼

18

Hospital

Patients with VTEs





Mon 9/11/2017 7:21 AM

TableauServer@baycare.org

VTE Audit View

To Lewis, Paul

Retention Policy BayCare Email Retention Policy (10 years)

Expires 9/9/2027

Audit for Venous Thromboembolism (VTE)

Select Hospital(s)

Select a VTE Category

Select Date Range

Select Payer(s)

Select Age Range

All

KPI- Truven and Premier/CMS VTEs

From August 7, 2017

All

18 to 115

Patients with VTEs

Encounter ..	C. Hospita..	Admit Da..	Discharg..	Spinal	Med Surg ..	Surgeon Full Name	AGE	DX DESCRIPTION	VTE Date..	VTE Time ..	Readmit	LOS
	SAH	8/4/2017	8/8/2017		SURG		80	Acute embolism and thrombosis of right femoral vein	8/6/2017	20:30:00		4
	MCH	7/28/2017	8/9/2017		SURG		91	Acute embolism and thrombosis of femoral vein, bilateral	Null	Null		12
								Acute embolism and thrombosis of other specified deep vein..	Null	Null		12
								Acute embolism and thrombosis of popliteal vein, bilateral	Null	Null		12
								Acute embolism and thrombosis of right tibial vein	Null	Null		12
	SJH	7/29/2017	8/10/2017		SURG		60	Other pulmonary embolism without acute cor pulmonale	8/9/2017	10:41:00		12
	SFB	8/4/2017	8/11/2017		MED		79	Other pulmonary embolism without acute cor pulmonale	8/10/2017	15:50:00		7
	WHH	8/2/2017	8/13/2017		MED		31	Acute embolism and thrombosis of left popliteal vein	8/6/2017	9:10:00		11
	SJH	8/5/2017	8/14/2017		MED		88	Other pulmonary embolism without acute cor pulmonale	8/11/2017	19:06:00		9
	SJS	8/9/2017	8/15/2017		MED		61	Acute embolism and thrombosis of left popliteal vein	8/12/2017	18:43:00		6
	SJS	8/14/2017	8/20/2017		MED		66	Other pulmonary embolism without acute cor pulmonale	Null	Null		6
	SJH	8/8/2017	8/21/2017		SURG		47	Acute embolism and thrombosis of right tibial vein	Null	Null		13
							47	Acute embolism and thrombosis of right tibial vein	Null	Null		13



Hospitalist Comparison Dashboard

Hospital
 Group

Provider Relationship

(Multiple values) ▾

Specialty

(Multiple values) ▾

Date Level Selector

Year ▾

Discharge Year

2018 ▾

Discharge Date

January 1, 2018 September 22, 2018



Hospitals

(All) ▾

Hospitalist Groups

(All) ▾

Provider Name

(All) ▾

Standard Age Group

(All) ▾

Standard Payer

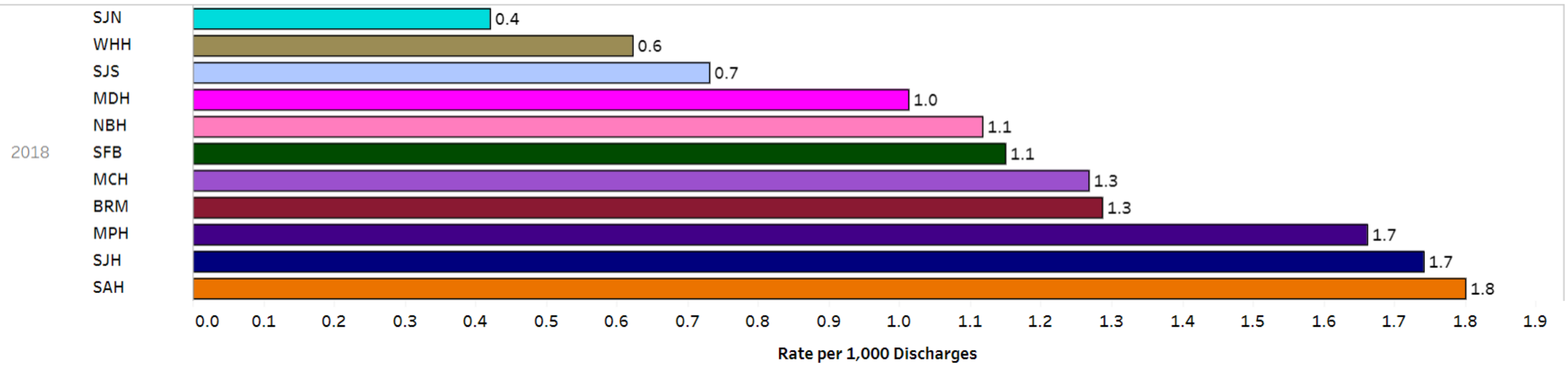
(All) ▾

Number of Encounters

1,200 77,994



VTE Rates per 1,000 Discharges - Hospital





Hospitalist Comparison Dashboard

Hospital
 Group

Provider Relationship
 (Multiple values) ▾

Specialty
 (Multiple values) ▾

Date Level Selector
 Year ▾

Discharge Year
 2018 ▾

Discharge Date
 January 1, 2018 September 22, 2018
 [Slider]

Hospitals
 (All) ▾

Hospitalist Groups
 (All) ▾

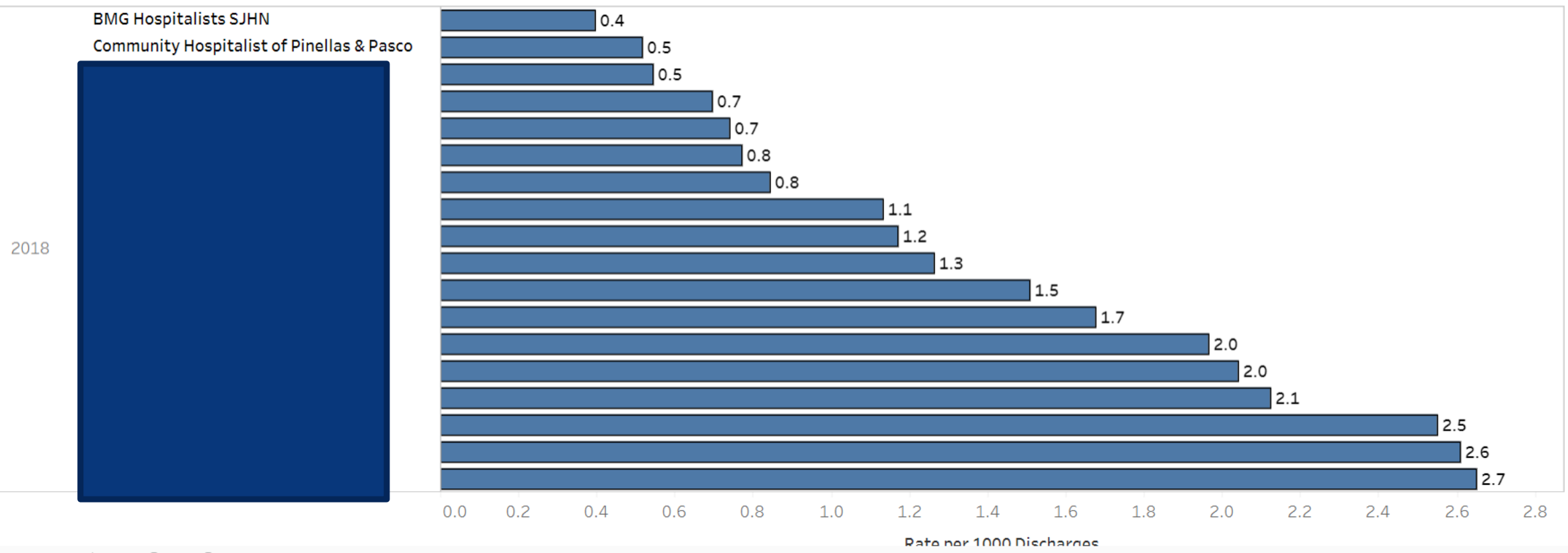
Provider Name
 (All) ▾

Standard Age Group
 (All) ▾

Standard Payer
 (All) ▾

Number of Encounters
 1,200 77,994
 [Slider]

VTE Rates per 1,000 Discharges - Group



VTE Advisor –Clinical Decision Support

- Proper assessment of VTE risk level in hospitalized patients is vital to providing timely preventive treatment. When used consistently, clinical decision support tools can improve timely patient assessment and VTE prophylaxis.
- VTE Advisor (Advisor) is a Cerner decision support tool that is available to providers to assist in the VTE risk level assessment, as well as offer prophylaxis recommendations



VTE Prophylaxis Advisor



Discern Advisor® VTE Prophylaxis

Expand All

High Risk

▶ Test, Bel

35 Years Female DOB:10/12/1982

Na... -- F... 9000000664523 M... 0000000256849 Hei... 15inch(es) Wei... 80.000kg B... 14 M... M... M... 7... 1

▶ Risk Factors

Padua Score 4 or greater

Select Recommendations

▼ Select Recommendations

▶ *Renal Function

No Renal Dosing

▶ *Receipt of Unfractionated Heparin

Unknown

▶ Current Regimen

heparin 5,000 unit(s) = 1 mL, IV, Once; heparin 2,500 unit(s) = 0.5 mL, IV, as directed, PRN: Other: ...

▶ *Recommended Pharmacologic Therapy

No contraindications found

Reset

Cancel



VTE Prophylaxis Advisor



Discern Advisor® VTE Prophylaxis

Collapse All

High Risk

PCTOUCH, FIVETEST

29 Years Male DOB:06/06/1988

Na... -- FIN::9721012128 MRN::2106476277 Hei... 64inch(es) Wei... 67kg BMI::25 SAH; St... A... --; --

▶ *Renal Function Dialysis

▶ *Receipt of Unfractionated Heparin Unknown

▶ Current Regimen None Found

▼ *Recommended Pharmacologic Therapy No contraindications found

Documented

Delay (from now)

enoxaparin 30 mg, Subcut, Inj, 1xDaily at 1700 Clear

heparin 5000 unit(s), Subcut, Inj, q12hr

Documented

Contraindication(s)

Active Bleeding Hemoptysis, 05/17/2017

▶ *Recommended Mechanical Therapy No contraindications found

VTE Prophylaxis Orders


Issue:

- **Anticoagulant discontinued *without* another anticoagulant or SCD order in place**

Change:

- **Actionable Alert**

Discern: (1 of 1)



ANTICOAGULANT DISCONTINUED

An anticoagulant has been discontinued

There are no other orders for VTE prophylaxis.

Please place an order for one the following anticoagulants
Please seletc from the following:

Add Order for:

- Compression Device Intermittent Pneumatic -> Bilateral Thigh High, SCD's
- Ambulate -> 4xDaily
- enoxaparin 40 mg/0.4 mL injectable solution -> 40 mg, Subcut, 1xDaily
- heparin -> 5,000 unit(s), Subcut, Inj, q8hr, T;N+720
- apixaban -> 2.5 mg, PO, Tab, 2xDaily
- apixaban -> 5 mg, PO, Tab, 2xDaily
- rivaroxaban 10 mg oral tablet -> 10 mg = 1 tab(s), PO, 1xDaily, for post-op hip surgery DVT prophylaxis., X 35 day(s).
- rivaroxaban 20 mg oral tablet -> 20 mg, = 1 tab(s), PO, 1xDaily, DVT treatment., X 0, # 30 tab(s)
- aspirin -> 325 mg, PO, EC tab, q12hr, Clinical Instructions: for DVT Prophylaxis

OK

VTE Advisor “Stop the Clot”

VTE Advisor Summary

Encounter Detail

VTE Advisor Data

Post 2/27/2017 Tool Enhancements

#####

Facility

(All)

Hospitalist

(All)

Provider Group Name

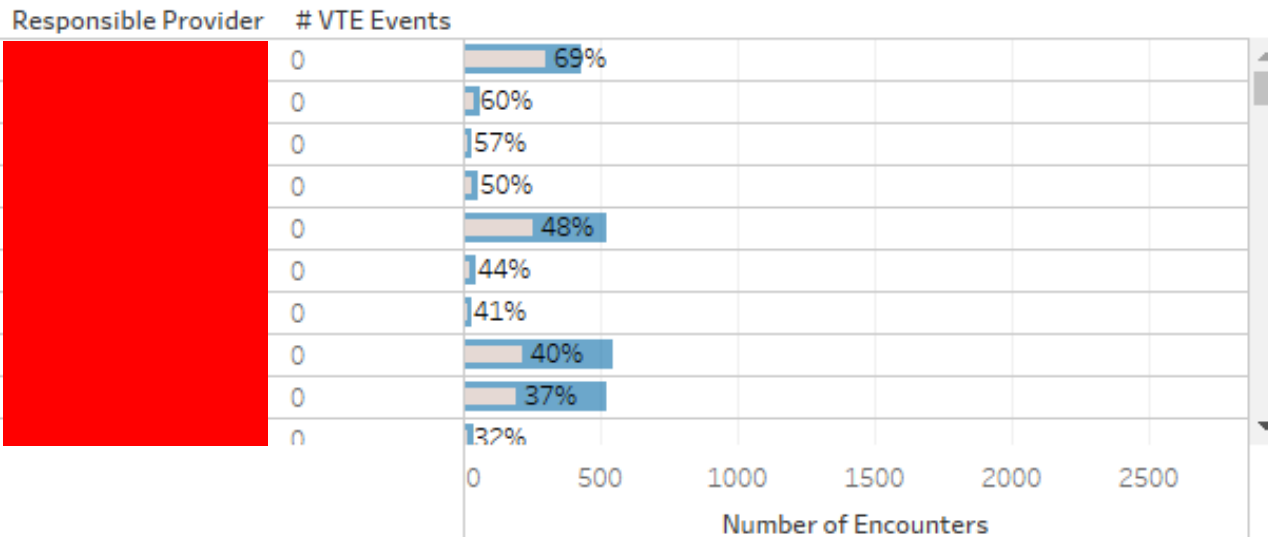
(All)

Responsible Provider

(All)

Provider Patient Volumes

VTE Cases, Total Patient Volume, and Total Completed VTE Advisor



VTE Cases vs Advisor Usage

	Did Not Use Advisor	Completed Advisor	Grand Total
No VTE	96.91% N : 79,287 Overridden: 0%	3.09% N : 2,531 Overridden: 20%	100.00% N : 81,818 Overridden: 1%
Developed VTE	94.33% N : 133 Overridden: 1%	5.67% N : 8 Overridden: 25%	100.00% N : 141 Overridden: 2%
Grand Total	96.90% N : 79,420 Overridden: 0%	3.10% N : 2,539 Overridden: 20%	100.00% N : 81,959 Overridden: 1%

VTE Advisor “Stop the Clot”

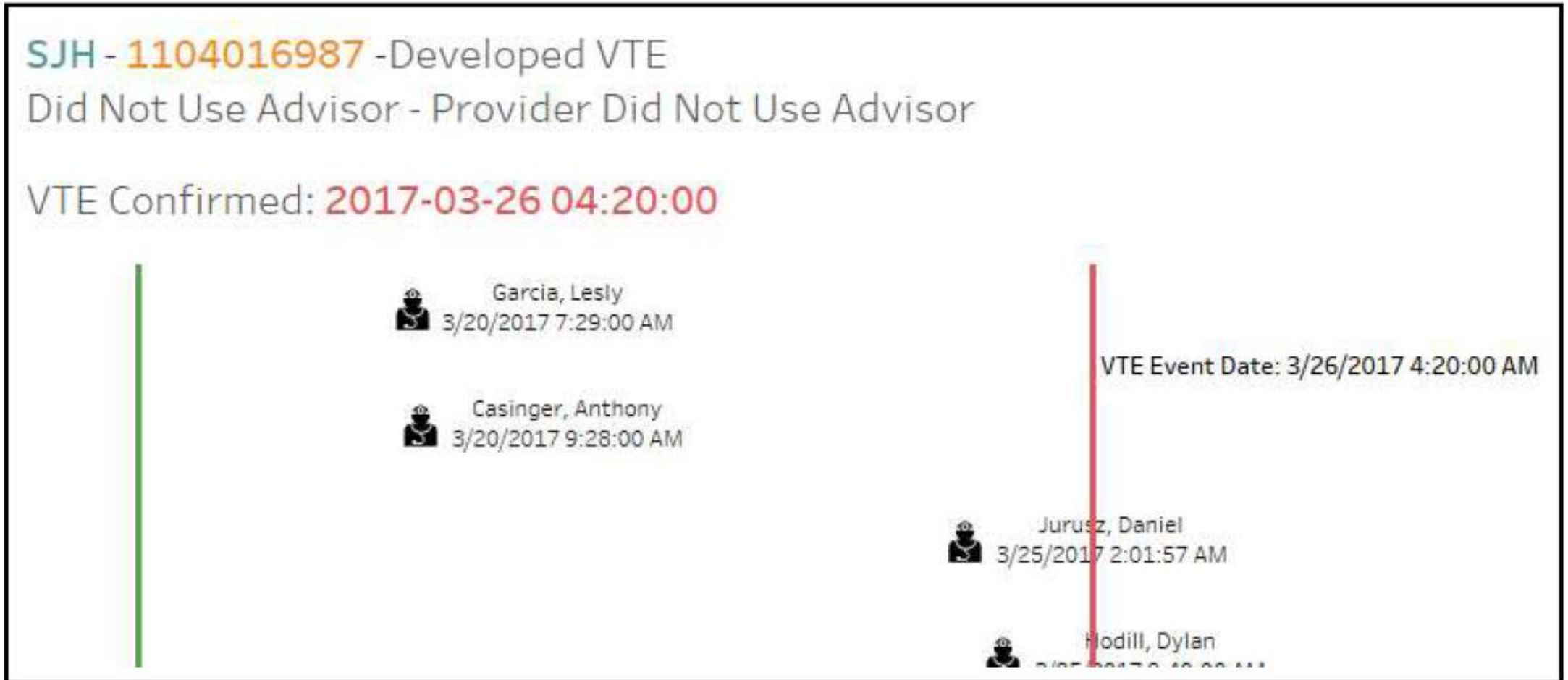


Figure 4 - VTE encounter timeline

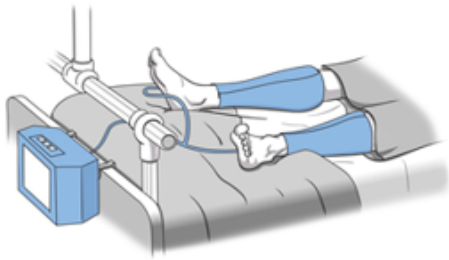
Preventing Blood Clots in the Hospital

While in the hospital, you have an increased risk for blood clots to form in your legs. The normal flow of blood in your body can slow down after surgery or when you're less active, and blood clots can form. Blood clots can harm your blood vessels and be life-threatening. You're at risk for two main conditions:

1. **Deep vein thrombosis (DVT):** A blood clot that forms in a deep vein, usually an arm or leg, limiting blood flow to that area
2. **Pulmonary embolism (PE):** A blood clot that breaks off and travels to the lungs

To help prevent these conditions, your health care team will create a plan that's right for you. Your doctor may order sequential compression devices (SCDs) and/or blood thinning medications.

Sequential Compression Devices (SCDs)



What are sequential compression devices?

Sequential compression devices can lower the risk of blood clots forming. The SCD is a machine with tubing attached to "sleeves" that are worn on both legs. The sleeves fill with air from a pump and gently squeeze your leg muscles, switching from one leg to another. The squeezing of the sleeves simulates walking, which is the body's normal way of moving blood through the body.

How will the SCDs feel?

The sleeves fit snugly around your legs. When the pump is turned on, you'll feel a gentle squeezing of one leg for several seconds. The squeezing will stop for a few seconds, and then the other leg will be squeezed. The squeezing will go back and forth from leg to leg. If the wrap feels too loose or too tight, or if you feel any pain, numbness or tingling, notify your health care team.

Who should use SCDs?

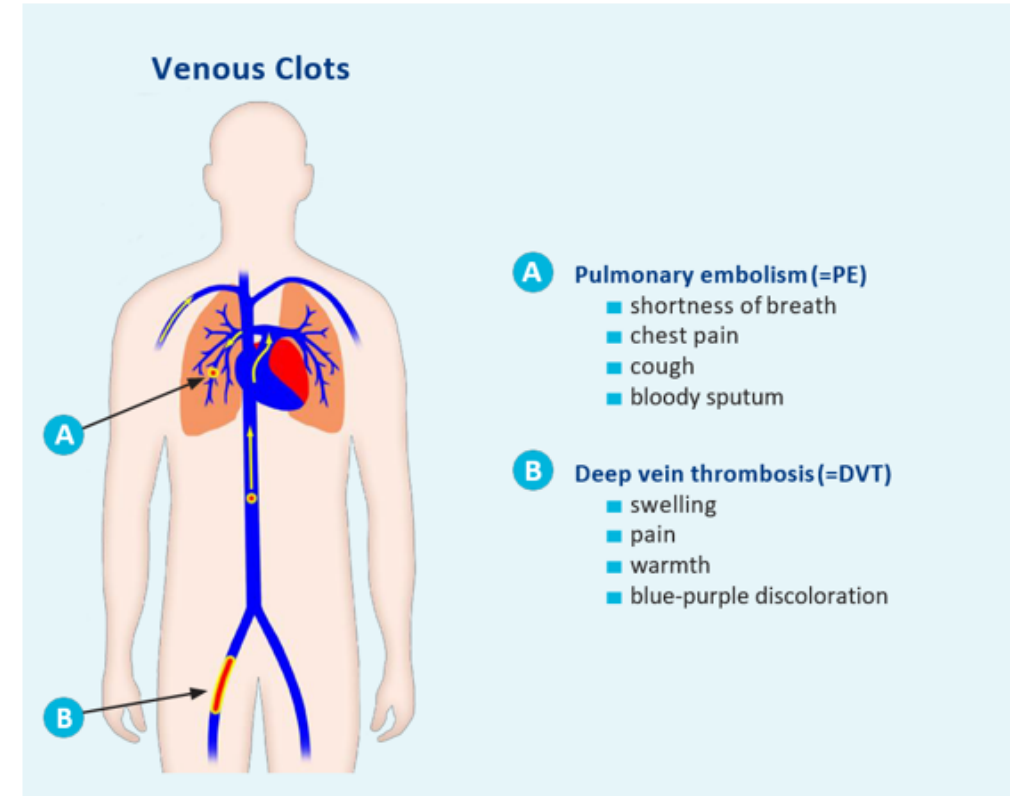
- Hip and knee replacement surgery patients
- Patients with lymphedema (swelling of the legs and/or arms)
- Obese patients
- Patients confined to bed for a long period of time
- Patients unable to take blood thinners

Blood-Thinning Medications

Blood thinning medications work to decrease your blood's ability to clot. While the medications don't break up existing clots, they can prevent clots from getting bigger or reduce your risk of forming new clots.

Your Role in Preventing Blood Clots

- Take all the doses of the medication ordered for you.
- Take the medication even if you're able to get up and walk.



Select System or Hospital

Select Hospital(s)

Select a Discharge Date Range

Select Financial Class

Select Age

- System
- Hospital

BayCare

November 6, 2015

July 21, 2018

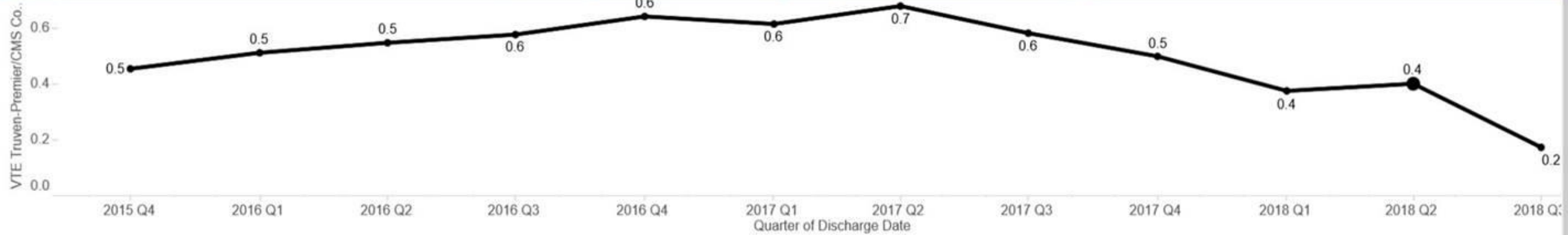
(All)

18

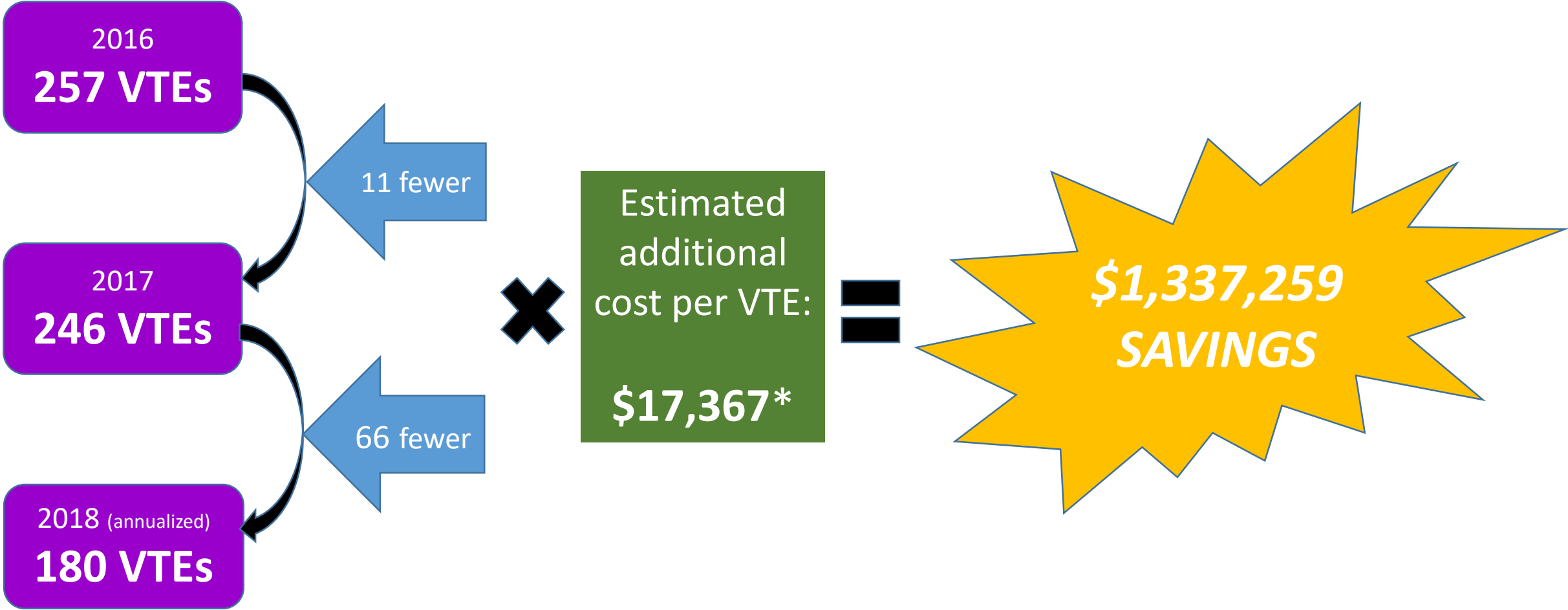
Select Hospital using Color Legend

BayCare

Quarterly VTE Event Rates by Hospital (per 1000 Patient Days)



VTE Reduction Financial Savings



133 through September 27th **

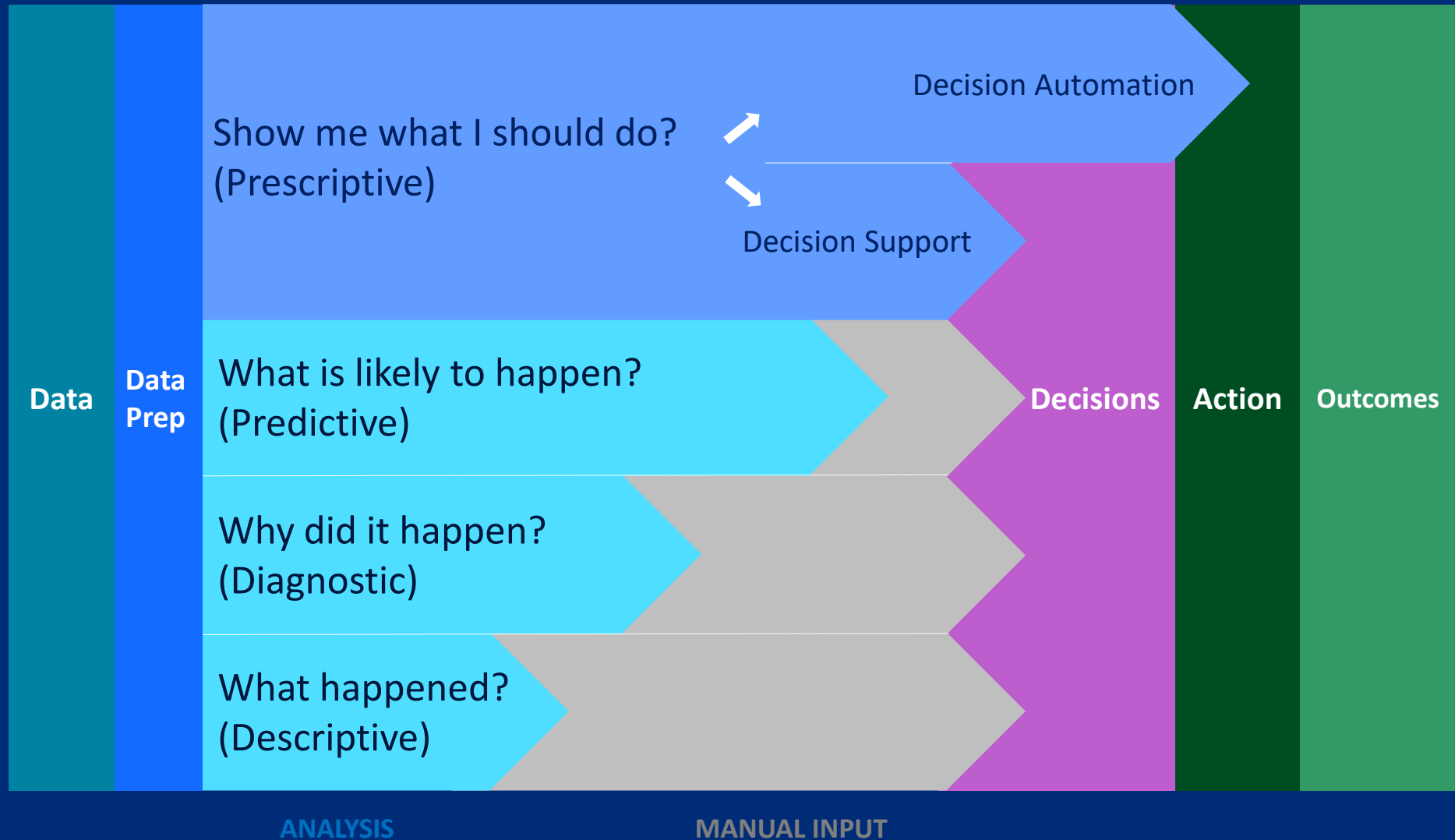
*Agency for Healthcare Research and Quality

Building BayCare's Competitive Advantage - Answering the 'Harder' Questions

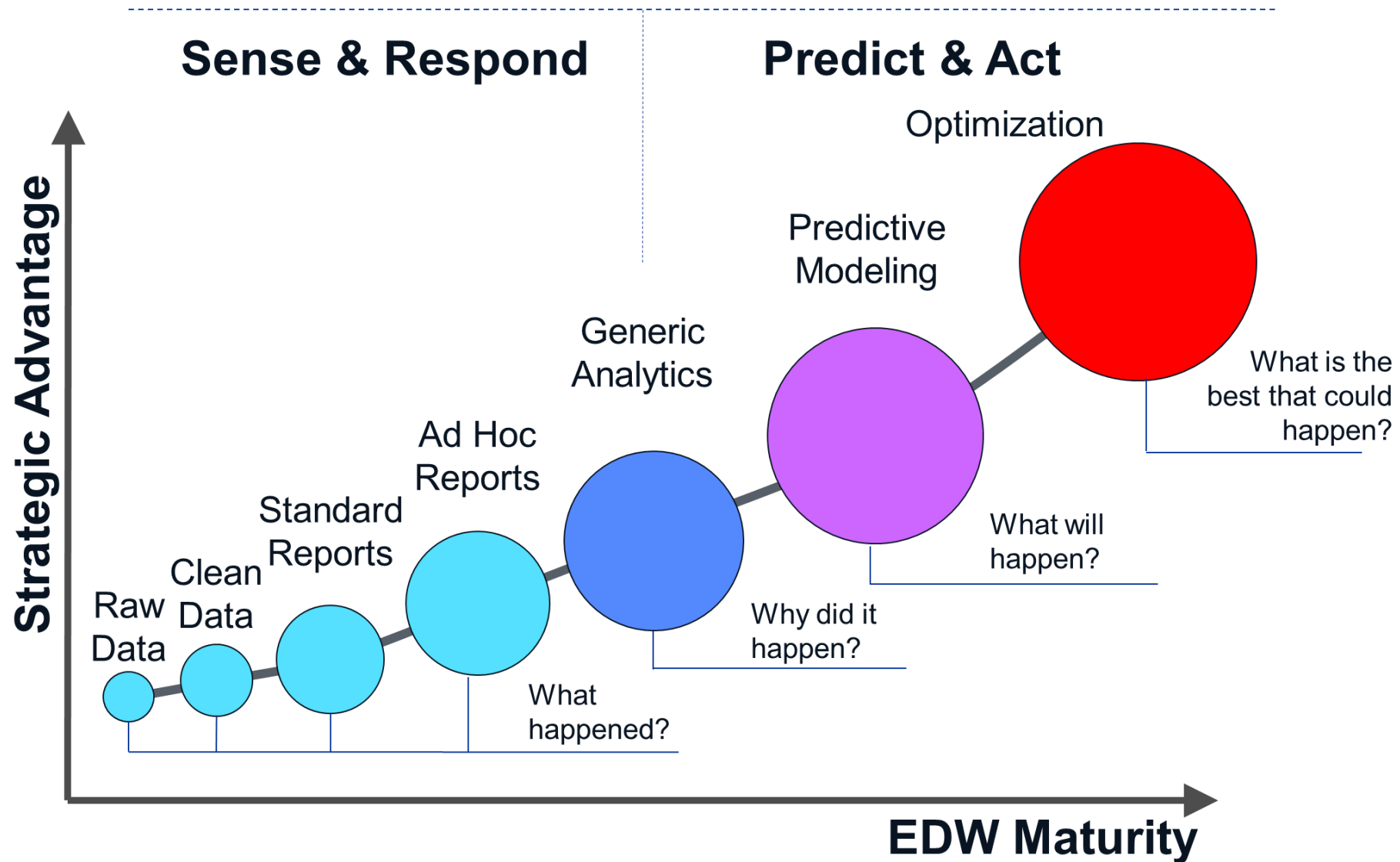
1. Does our nurse overtime policy affect our ICU quality measures? Patient satisfaction?
2. Identify cancer patients whose Epidermal growth factor receptor (EGFR) expression levels are 2 fold above the threshold for normal expression?
3. Correlation between our improved cardiac quality measures and reimbursements
4. How will a lower birth rate in our geography impact the local acute care providers, the L&D dept, surgery, Peds?
5. What is the impact to our credit rating based upon a "predicted" payer mix change to more Medicaid from commercial payers?

Develop insights That Combine Clinical, Administrative, Research and Financial Data

Data/Analytics – Roadmap



Quality demands greater insight...

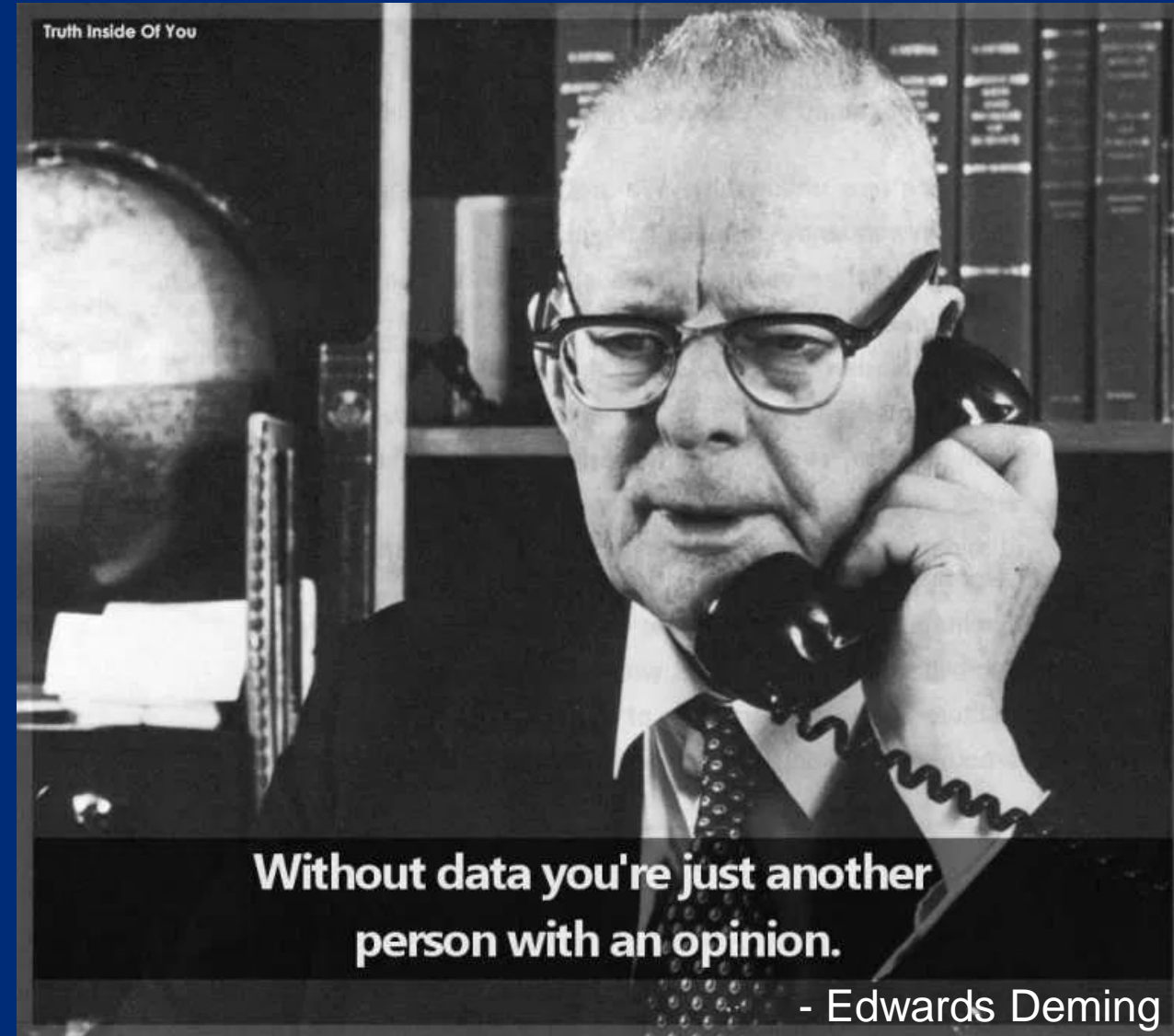


Take Away

- Know your data
- Validate your data
- Analyze your data

TO

- Tell the story
- Make decisions
- Identify process improvements



Questions & Some Answers

