

Leveraging Technology: When the Hours and RVUs Don't Match

Jamie Silkey, PA-C, MBA, MHA

Chief Advance Practice Officer

Froedtert & Medical College of Wisconsin

Disclosures

- No Disclosures

Learning Objective



Understand the chasm of APP clinical contribution and pay for service financial models

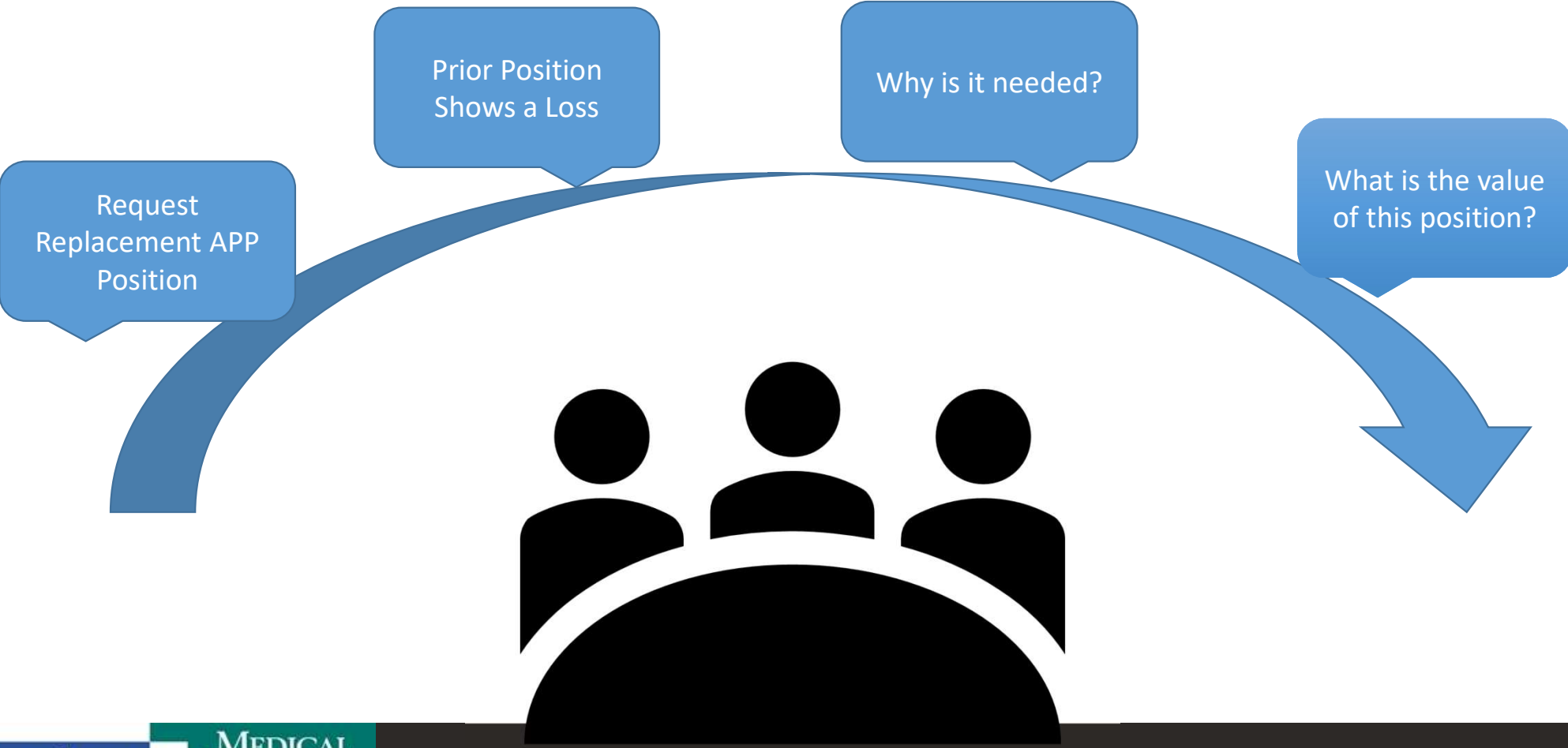


Recognize opportunities to make hidden work visible from the EHR



Identify Emerging Technologies to Assist with Clinical Productivity Accuracy

2024

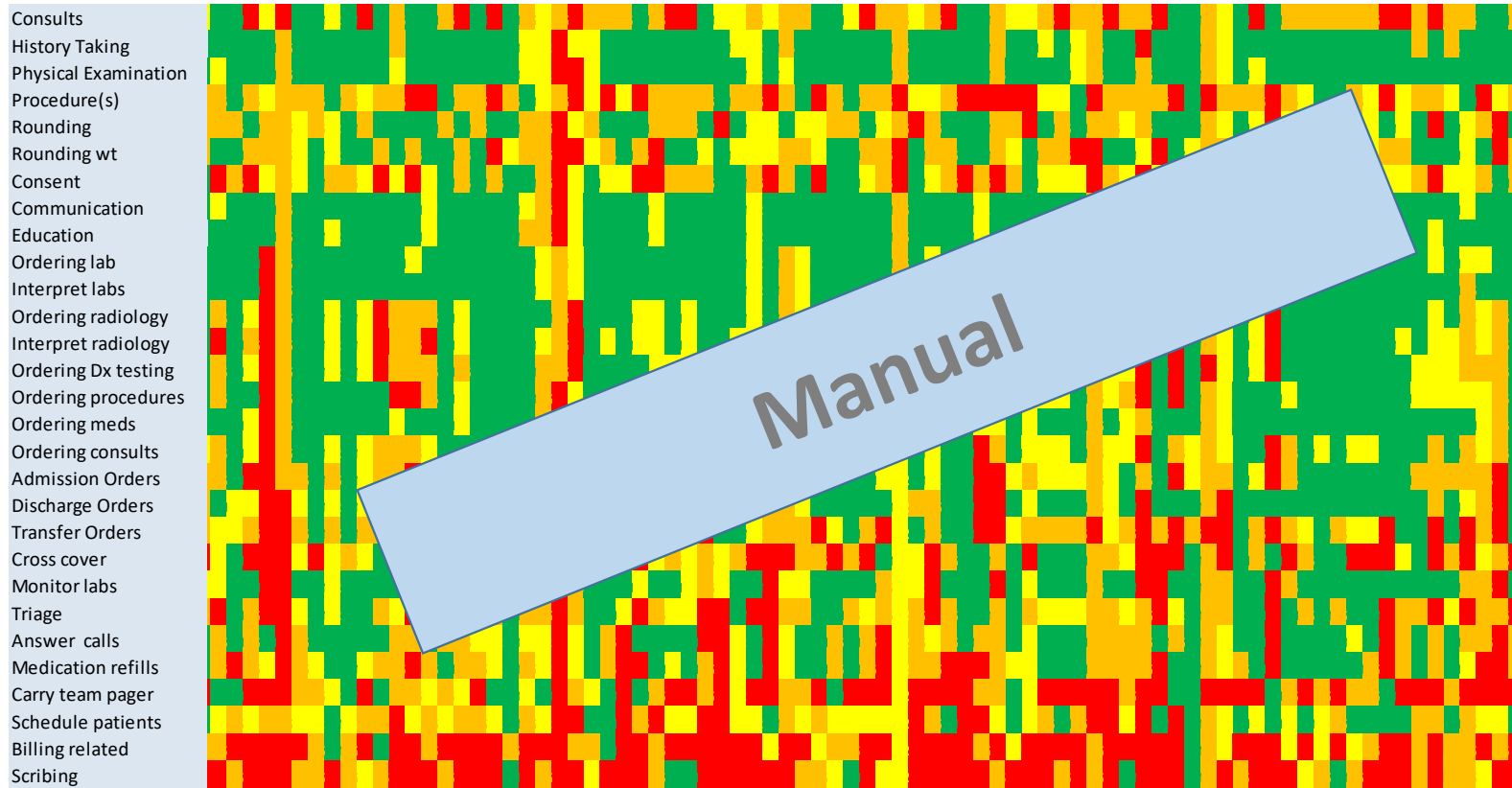


Million Dollar Question

2015

How to provide meaningful
evaluation of APP practice to meet
the needs of TJC standard

Standard Work of APPs



APP- Specific OPPE Dashboard Metrics

Three sub-categories of standard work:

- Inpatient
- Outpatient
- Surgical

Froedtert & MEDICAL COLLEGE of WISCONSIN **OPPE APP Metrics | April 2015**
 Practitioner Feedback Report | Department of Orthopaedic Surgery

Provider: [REDACTED]

APP-Specific Inpatient Metrics					
# of Consults	# of Discharge Summaries	# of Progress Notes	# of HPs		
0	0	3	93		
APP-Specific Outpatient Metrics					
Total Visits	Global Visit Ratio	New vs Established Ratio	# of Progress Notes		
573	21.3%	28.5%	907		
APP-Specific Surgical Metrics					
First Assists:	69	Cases Participated:	111		
Performance Data					
	Numerator	Denominator	6 Month Performance Results	Joint MCW and Froedtert Quality Goals	Current Performance
Interpersonal Communication					
CG-CAHPS-Overall Score	-	18	77.8%	85%	
System-Based Practice					
Verbal Orders Signed in 48 hrs	0	0	0.0%	100%	
Discharge Summary Completed in 24 hrs	No Data	No Data	No Data	100%	No Data
Average Days to Close Encounters	-	573	10.13	1	
Professionalism					
Complaints and Grievances	-	-	0	0	



Why Didn't It Stick?

- Manual Process
 - Multiple Data Sources
- Integration into Decision Making Process
- Volume → Impact
 - Revenue
 - Value
 - Quality

The Journey



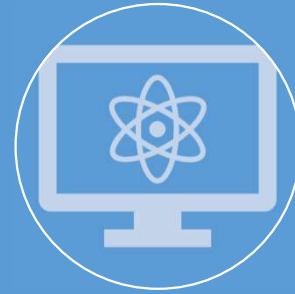
Trends in
Healthcare
Industry that are
driving Importance
in data



Technology and Big
Data



Data Governance



Business
Intelligence



Building your
Competencies



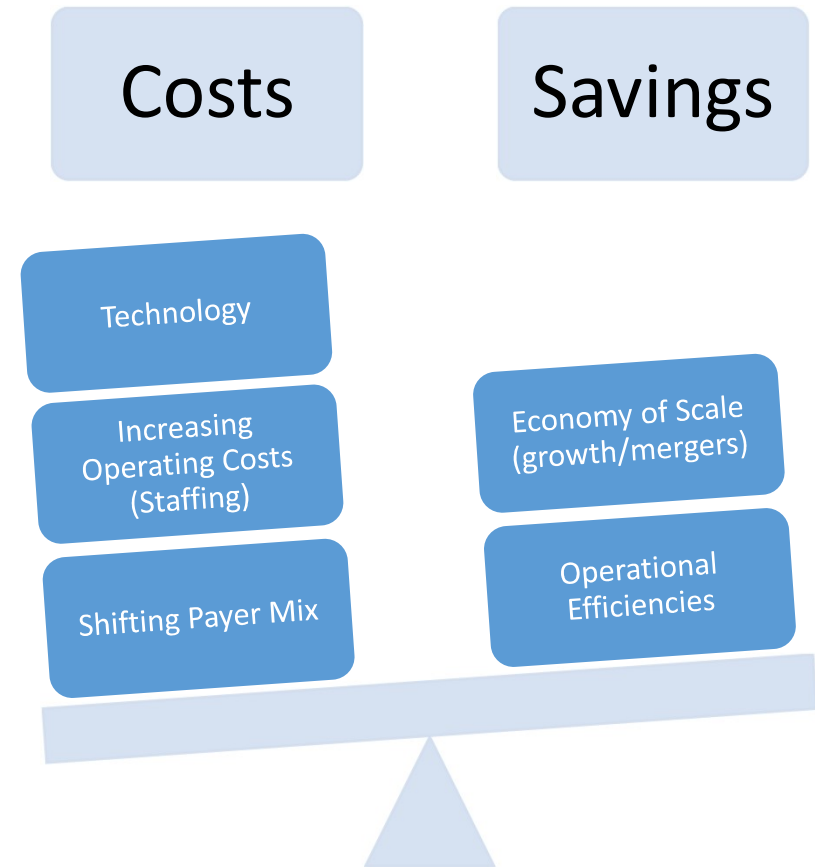
Trends in Healthcare

In 2024, Rural Hospitals in the Red jumped from 43 to 50%¹

- Reduction in services
- Merge with affiliated systems
- Closure

In 2023, the volume of M&A deals in the healthcare sector has surged 22%²

In 2022, half of US hospitals finished the year with a negative margin as they struggled to keep revenue up enough to cover rising expenses

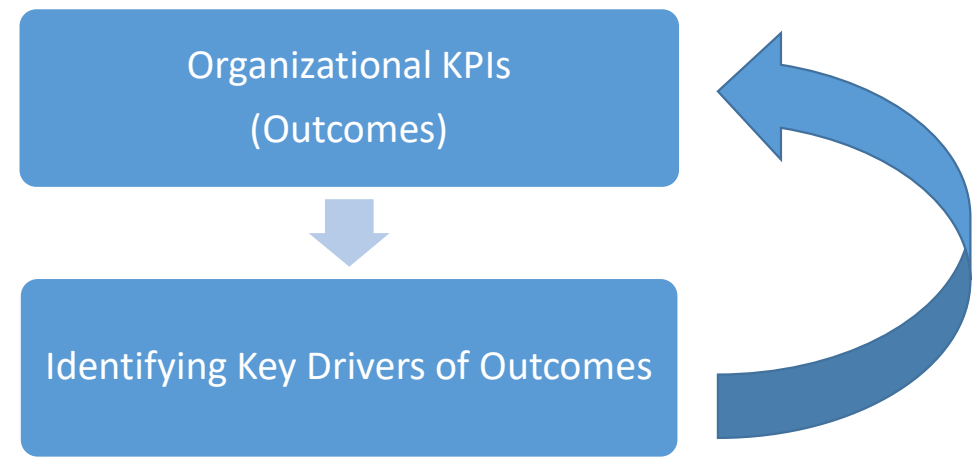


¹ <https://www.beckershospitalreview.com/finance/50-of-rural-hospitals-are-operating-in-the-red-7-things-to-know.html>

² <https://www.reuters.com/business/healthcare-pharmaceuticals/healthcare-execs-expect-ma-activity-rise-again-2024-survey-2023-11-14/#:~:text=The%20volume%20of%20M%26A%20deals,M%26A%20activity%20across%20most%20industries>

³ <https://revcycleintelligence.com/news/plagued-by-high-expenses-half-of-hospitals-finish-in-the-red>

How do we make the transition from Volume and Financial to Team and Value Based?



Data Sources



OBSERVATIONAL



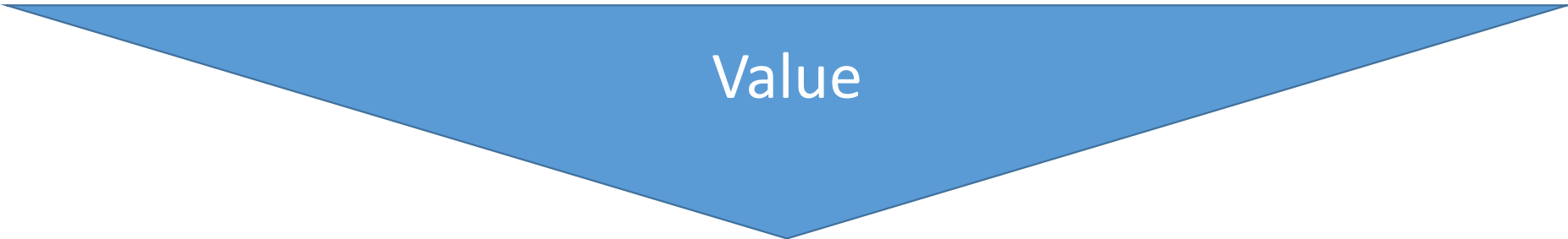
EXPERIENTIAL



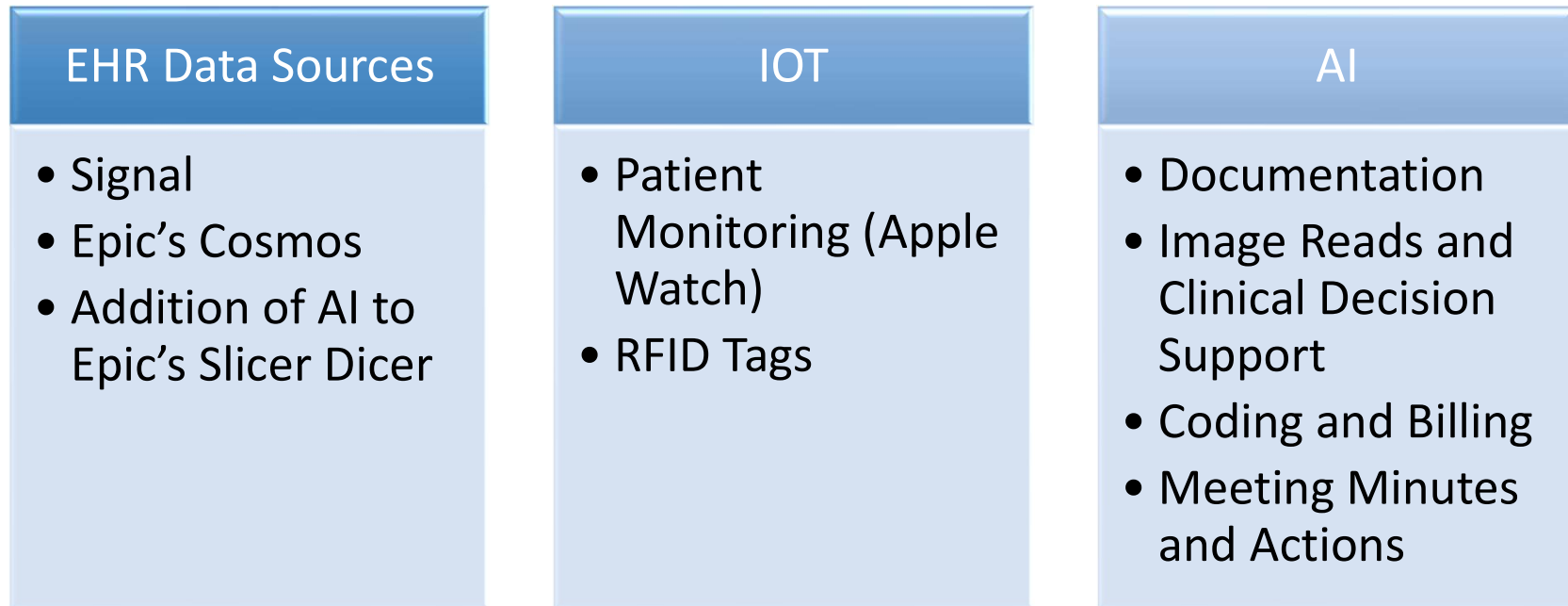
TIME BASED



OUTPUT METRICS



Evolution of Healthcare Data



Emerging Technology

Transformation More than Technology

- Cloud
- Big Data
- Analytics
- A.I.
- Internet of Things
- Omnichannel

Impact of
Technology
Change

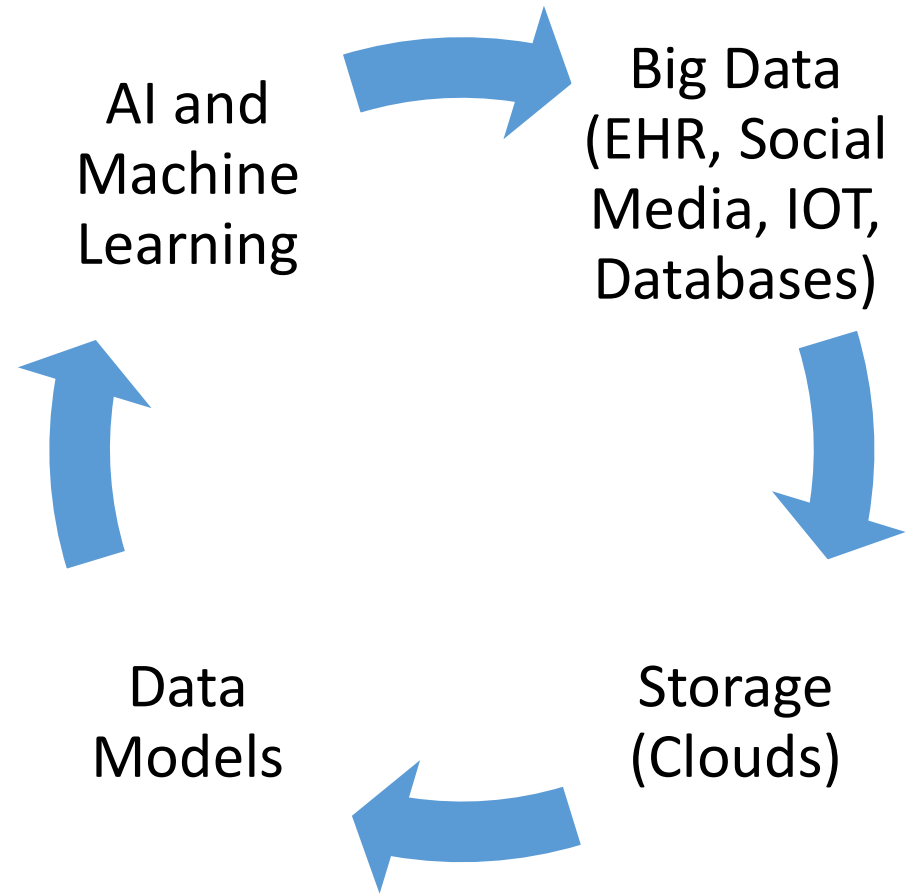
- Business Model
- Strategy
- Competencies
- Culture
- Mindset
- Ways of Working
- Corporate Clock Speed
- Governance
- Operating Model
- Leadership
- Change Management
- Incentives
- Prioritization
- Funding Model
- Customer Experience
- Compliance
- Risk Management

Impact of
Enterprise
Change **x 15%**

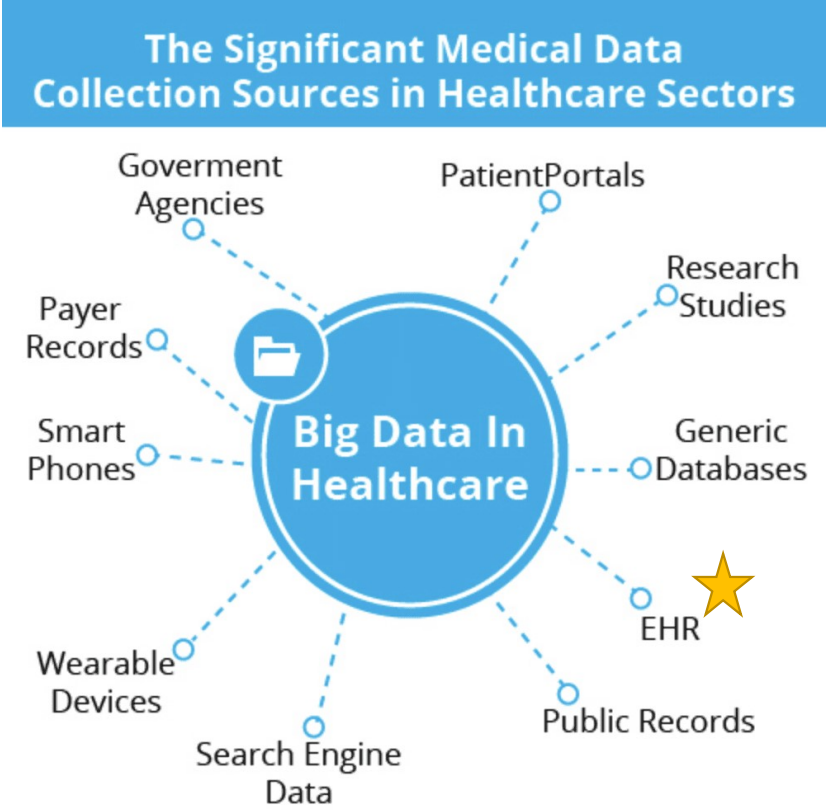
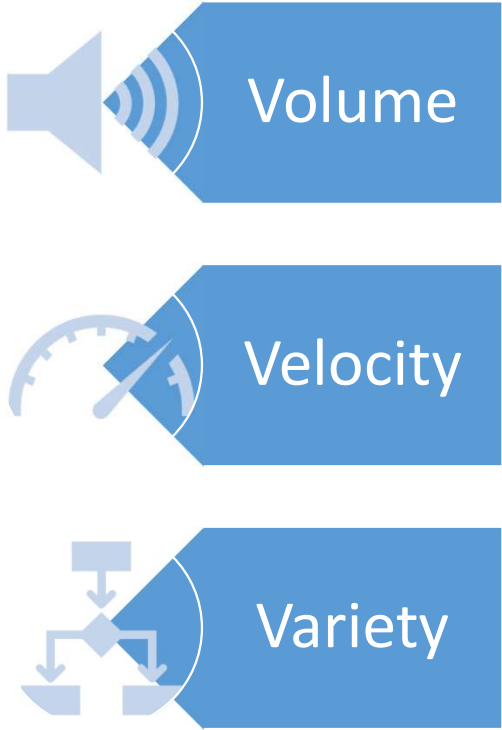
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How is it all Connected?

Artificial intelligence and machine learning have thrived because of the contributions of big data, the volume, the velocity and the variety have made the extraordinary developments within these respective fields possible, and that is how big data is still central foundational to the function of all of these elements within the data science world.

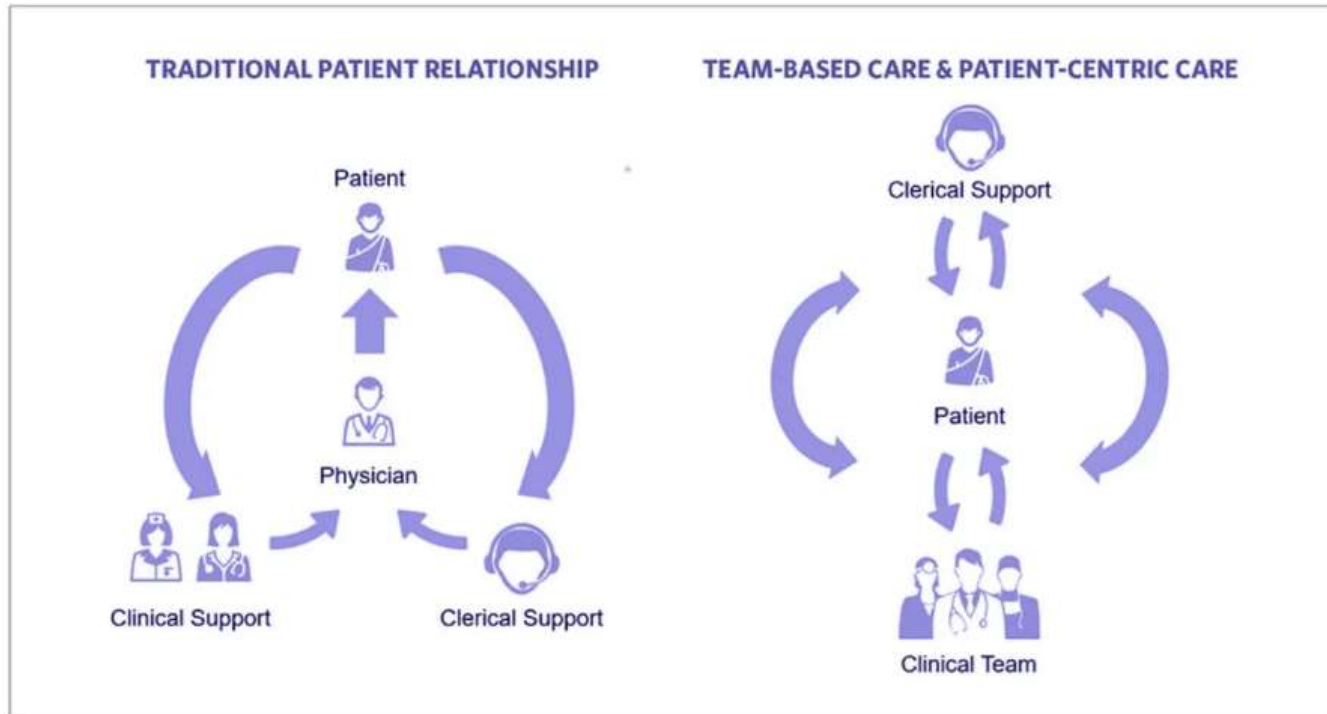


Introducing Big Data in Health Care



Forward-Thinking Strategy.

FIGURE 2. PHYSICIAN-CENTRIC CARE AND TEAM-BASED CARE



1. Develop common workflow activities built around team-based roles and responsibilities.
2. Integrating these new workflows into the EHR using automated or standard tools
 - Communication **routing** supports handoffs,
 - **hard-codes** new processes into the practice and facilitates
 - Greater **consistency** in care team activities

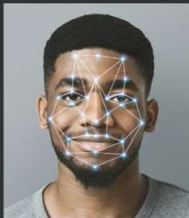
Harnessing the Power of Data

- Data Warehouse
- Data Lakes
- Cloud



- Machine Learning
- AI

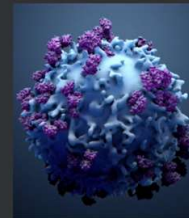
- Next Generation: Edge Computing and Fog



Facial
recognition



Sensors in
jet engines



Sensors in
cells

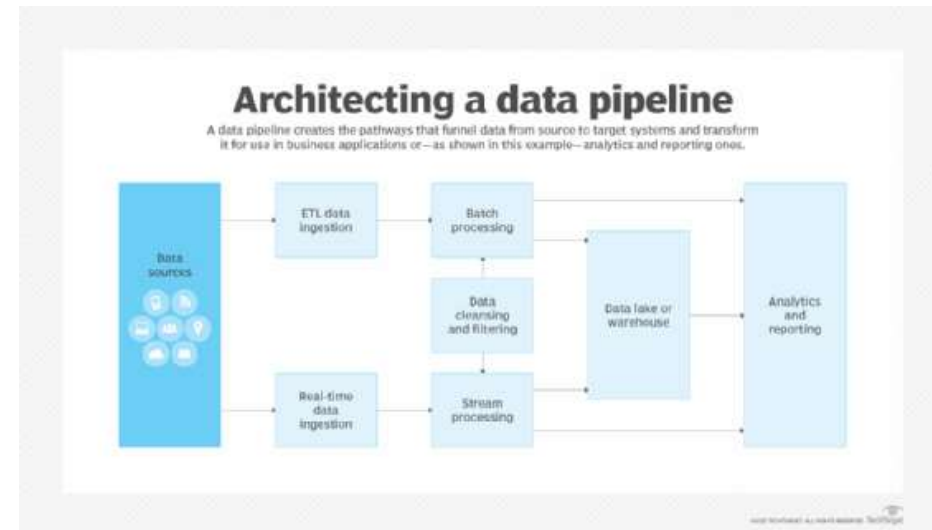
Data Management: Data Model vs Data Architecture

Architecture

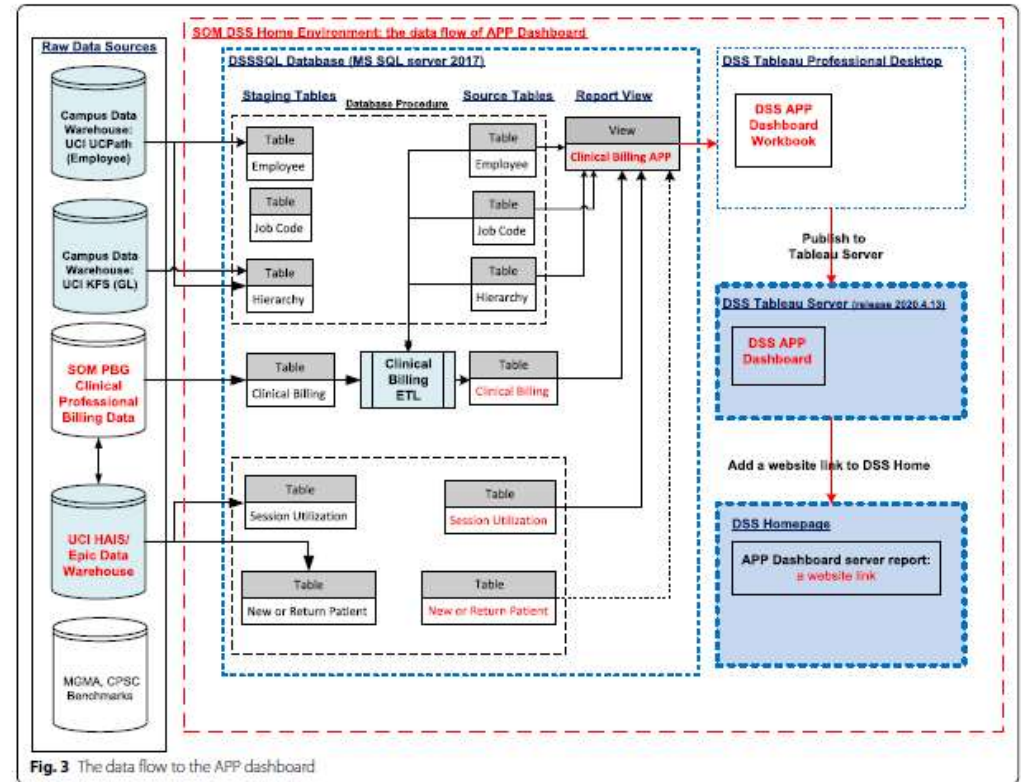
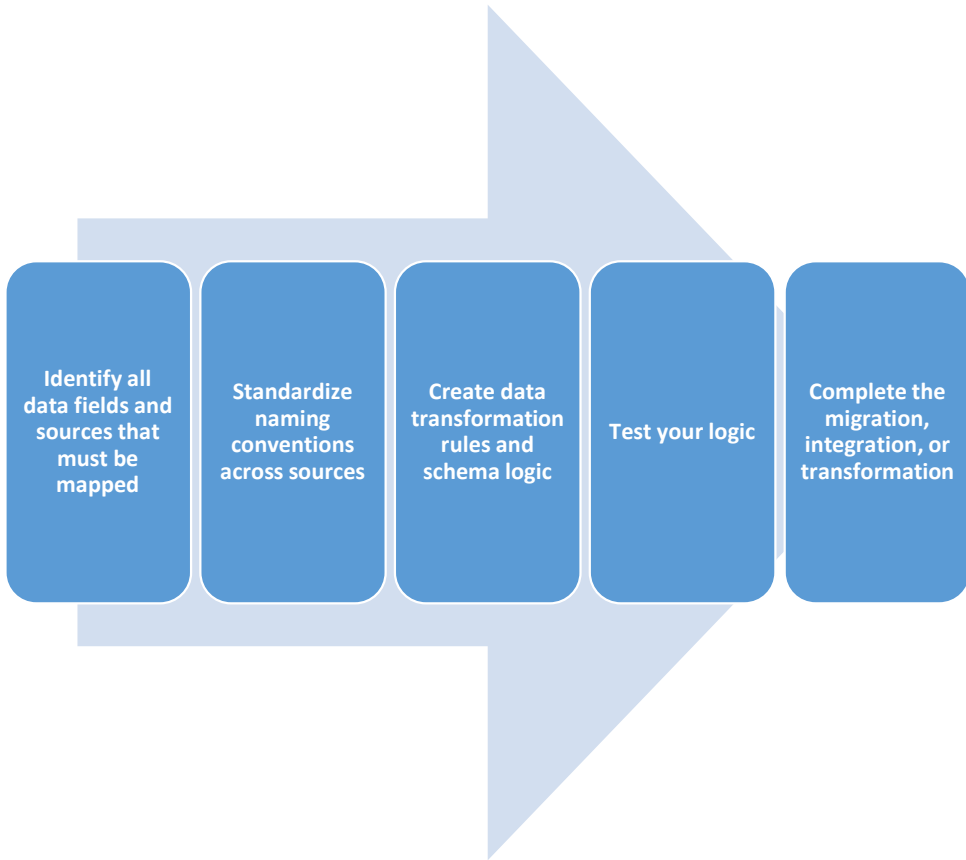
- Documents Data Assets
- Maps Blueprint on Data flow through system at a **Macro level**

Modeling

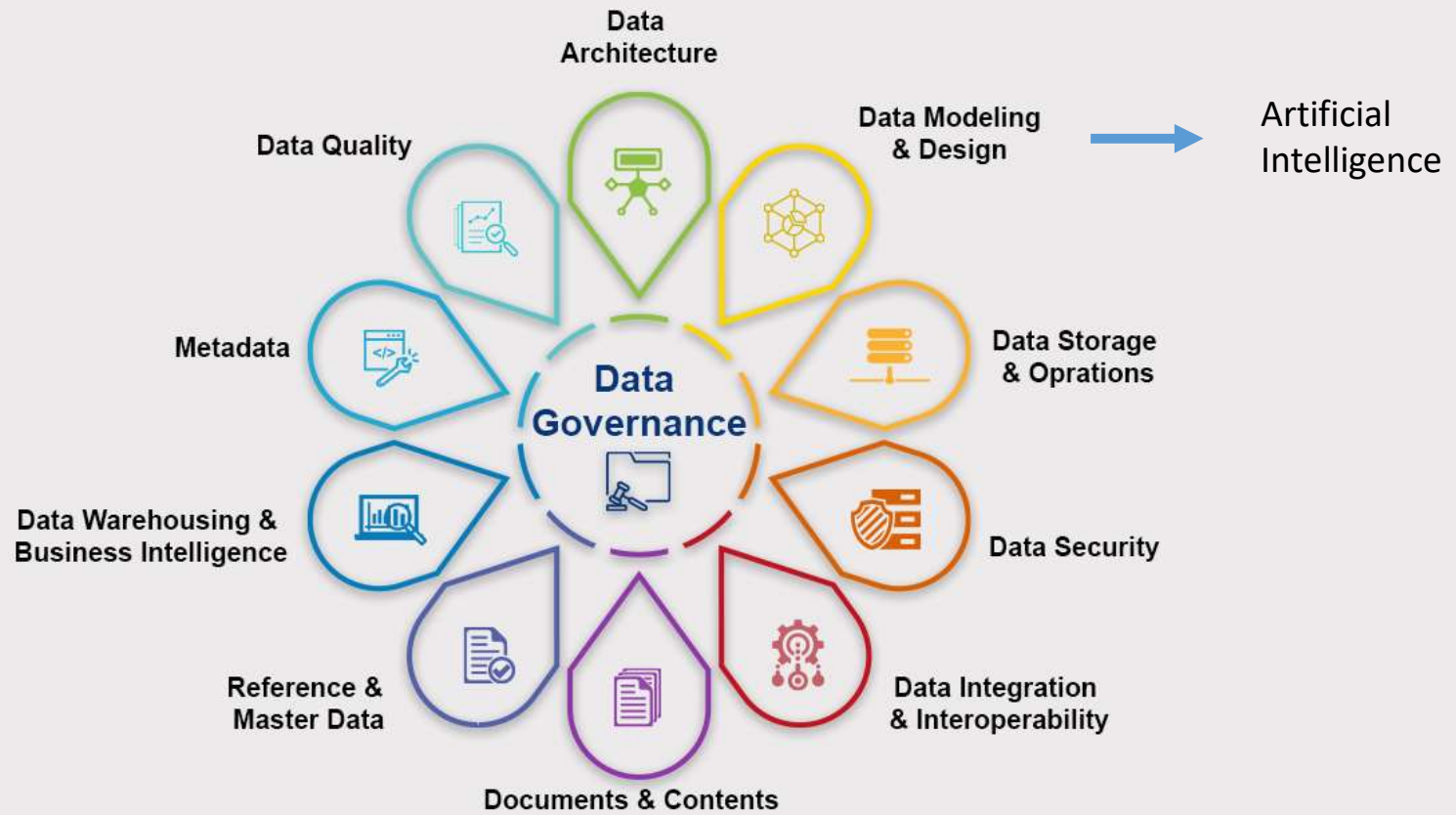
- Visual representation of the Data on **Microlevel**
- Give structure to data captured in different component IT systems and define how individual data elements fit into the larger system. Thus, in healthcare applications, a data model refers to a structure for storing critical information about patient health, health systems operations, patient billing, and planning



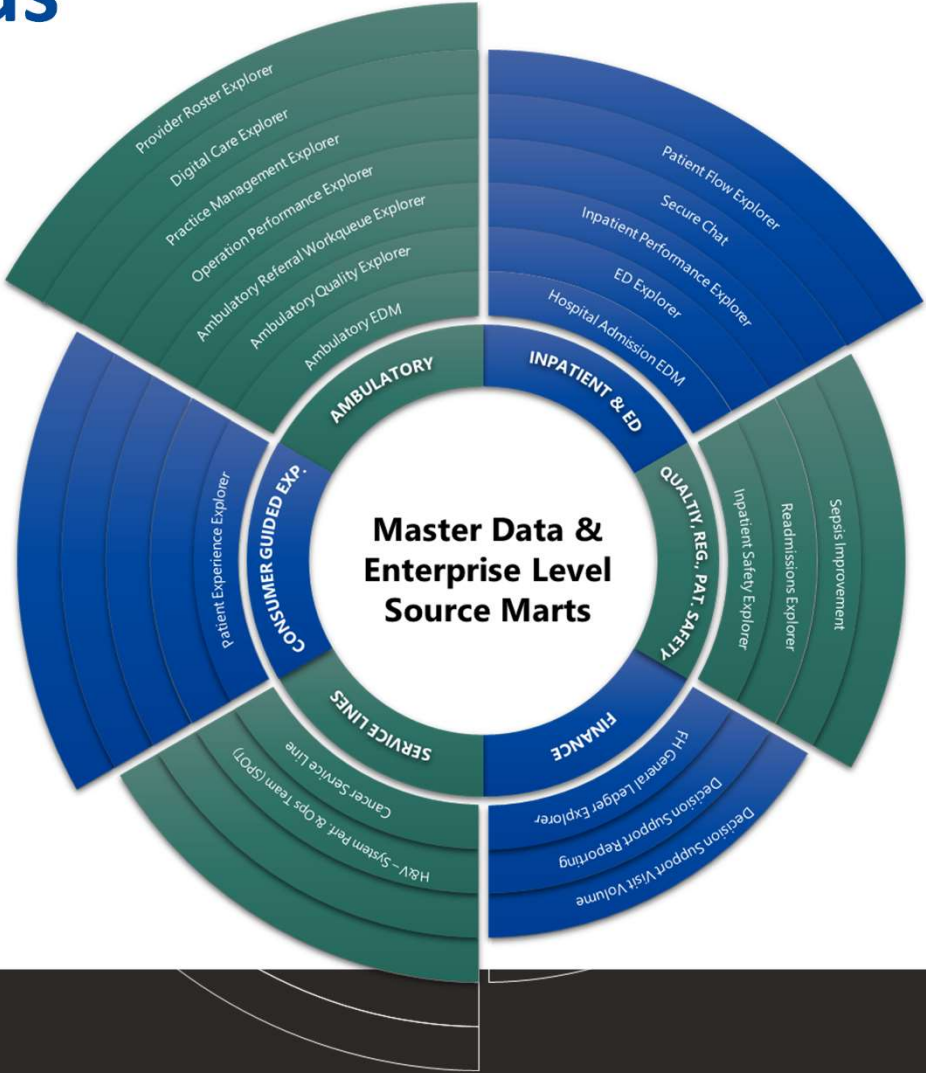
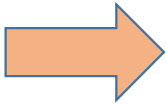
Data Modeling (Mapping)



Data Governance



Governance Drives Standards



How to Use Data/Why is Data Important?



Illustrate Opportunity

Measure Impact/improvements

Monitor Operations

Objective Story Telling

Building Your Data Literacy

- Data Literacy Training Program
 - Employer Sponsored
 - Data Literacy Project
- Statistics Courses
- Dive in
 - Dashboards
 - Reports
- Find a Mentor
 - Data Analysts can be your best friend!

**Data Literacy Will Be
the Most Critical Skill
for the Workforce in
2030**

What is Data Literacy in Healthcare?

- Data literacy is the ability to understand data and data practices sufficiently to meaningfully interpret data and effectively communicate that meaning. As such, it involves understanding where data came from, how to draw meaning or conclusions from it, how to read charts appropriately and make inferences from visualizations, and how to *recognize when data are being used to mislead*. Data literacy is inclusive of a broad range of data skills including data management, cleaning, analysis, and visualization. Most importantly it requires understanding the meaning of data, how it fits into a broader context, and what conclusions can and can't be derived from that data

How to Apply Data literacy to APP Workforce

- Source Familiarization
- Data Definition
- Signal in the Noise (Statistical Significance)
- Data Displays

3 C's of Data Literacy

Be
curious

Be
creativity

Think
critically

3 C's: Be Curious

What is the Source of the Data?

What validation process was used?

How consistent is the data collection process or how do you ensure data quality?

“Review of Nation Healthcare Surveys varied with respect to applicability to PA and NP care.

Features limiting applicability included:

- (1) Sampling schemes that inconsistently capture nonphysician practice
- (2) Inaccurate identification of provider type
- (3) Data structure that does not support analysis of team practice.”

~ 2007

3 C's: Get Creative

Measures of PA Productivity

Productivity Component

Direct Measures of Productivity

Indirect Measures of Productivity

Clinical Measures of Productivity

Examples of Measurement

Work RVUs, Total RVUs, actual collections/revenue generated

Number of patients treated, number of documentation entries in EHR, portions of global services performed

Hours worked, hours on-call, time spent providing patient education (when not separately payable), contribution to research, participation in quality improvement activities

Applicable for APPs

Metric	Attribution
CG-CAHPS Overall Score	By Encounter Provider
Complaints and Grievances	By Provider
Verbal Orders Signed within 48 hours	By Ordering Provider

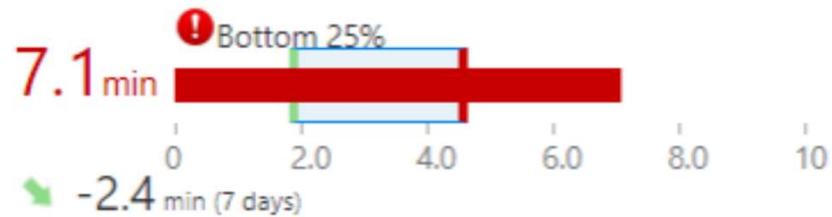
Not Applicable for APPs

Metric	Attribution
Readmissions	By Attending Physician
Hospital-Acquired Conditions	By Attending Physician
Discharge Summary Completed within 24 hours	By Discharging Physician

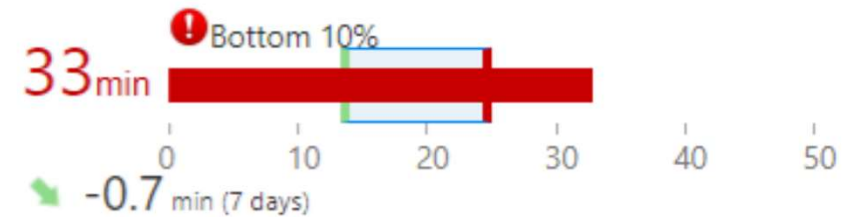
Chasm for PA and NP Attribution

- Service Provider vs Billing Provider
- Shared Encounters and Panel

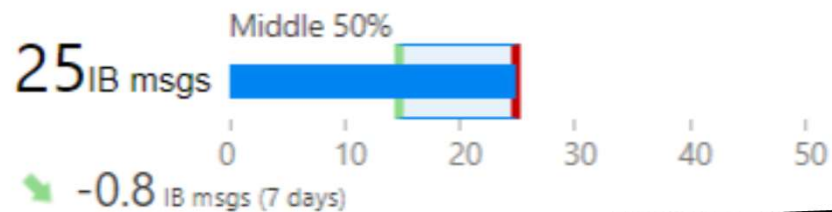
Time in In Basket per Appointment ⚠️



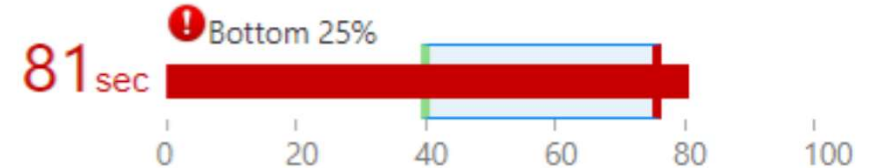
Time in In Basket per Day ⚠️



In Basket Messages Received per Day



Seconds per Completed In Basket Message ⚠️



Chasm for PA and NPs

- Work Re-Distribution → Lost Revenue Opportunities

Chasm for PAs and NPs

Clarify
Production vs
Value

Value Component	Examples of Measurement	Value Benefit
Productivity	<i>See table below</i>	Revenue, practice sustainability
Quality & Outcomes	Attainment of quality measures (e.g. BP or Hgb A1C), percentage of patients receiving guideline-directed prevention, hospital lengths of stay, readmission rates, post-operative infection rates.	Improved care and outcomes, value-based payments
Patient Satisfaction	Average patient satisfaction scores, percentage of scores in top quartile, subset of overall scores (e.g. provider and care delivery components)	Patient engagement, improved adherence
Access to Care	Average time delay until available appointment, percent of patients that can be seen within a certain timeframe from requesting an appointment	Improved care and outcomes, patient satisfaction
Care Coordination	Timely responses to patient enquiries via portal or phone, ordering of prescriptions	Patient satisfaction and engagement, improved adherence and outcomes

3 C's: Think Critically - Data Tools and Visual Products

Analysis

- Excel
- JMP
- R
- Squeal

Visualization

- Scatter Plot
- Trend Lines
- Bar Graphs
- Waterfall

Report Software

- Qlik
- Tableau
- Power BI

Reporting Software/Dashboards



Charts

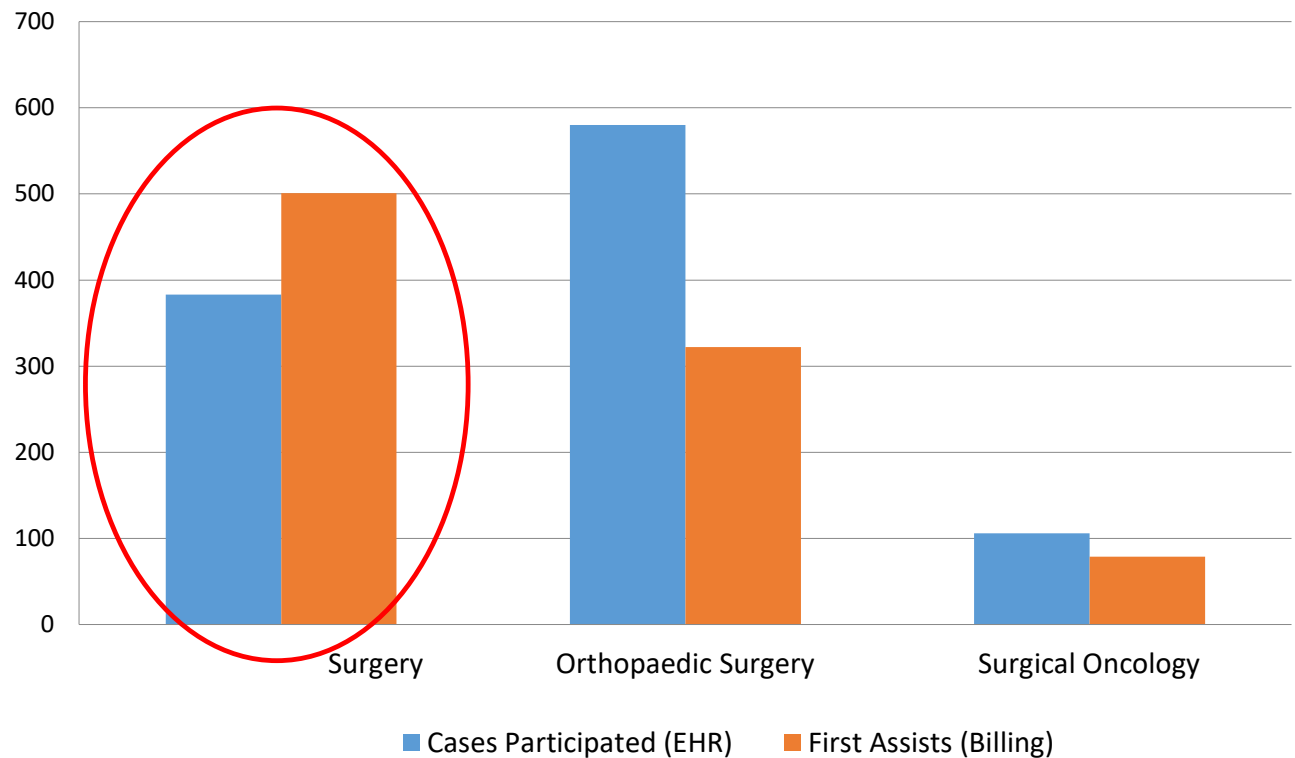
Alerts

Filters

Importance of Documentation Accuracy

Cases Participated vs. First Assists

- First assists should be a subset of cases participated
- Highlights importance of documentation in data mining



The Flip Side of Data

Common Problems with Data

Poor Quality Data

Lack of Understanding

Data overload

Insufficient Data Storage

Data Analysis (Assumptions)

Data Communication (clear, compelling visual)

Inconsistent Data Definitions

The Next Frontier: Plus/Minus Statistic

- Impact of Non-RVU generating work on cost of care delivery and quality
- Most Valuable Team Member
- Team Model and Outcomes



APP Metrics – Inpatient Platform

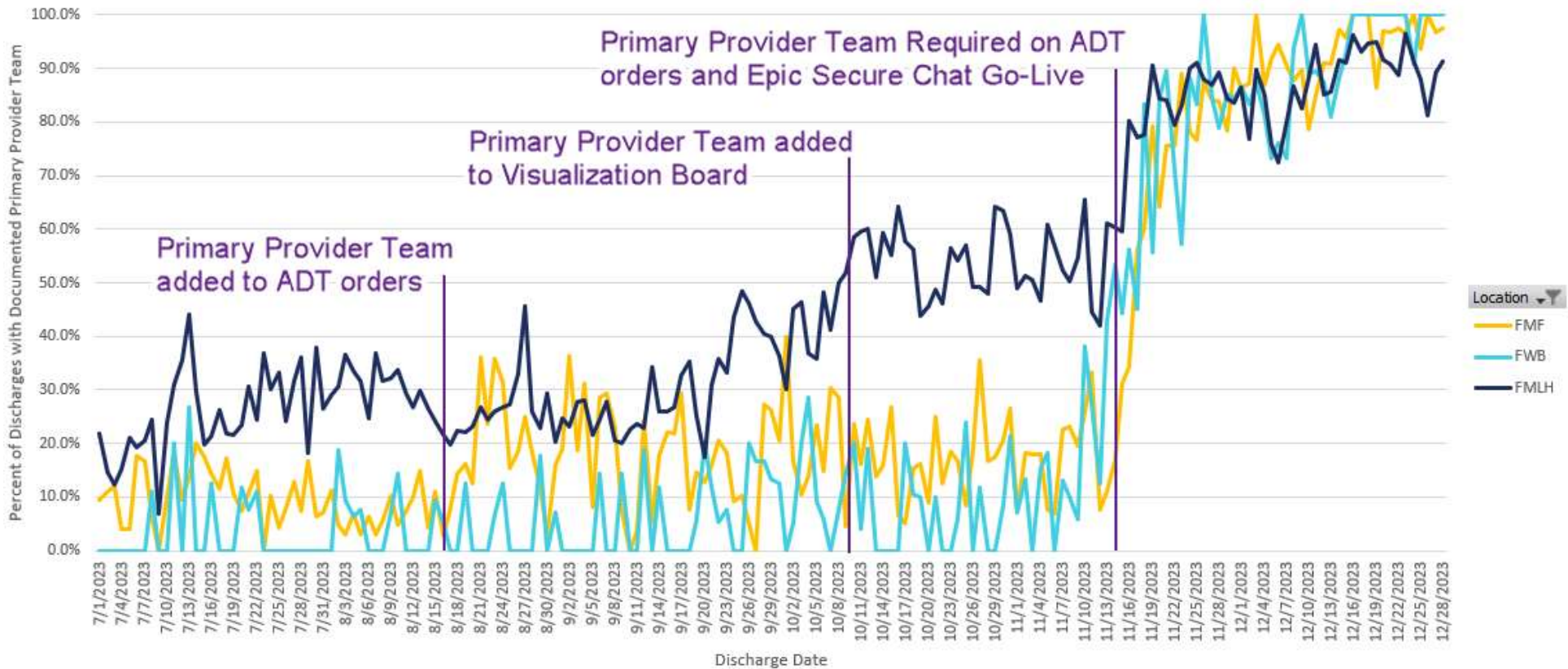
- Volume/Productivity derived by author in EHR because billing and quality are attributed to the attending physician

Metric	Source	Attribution
H&Ps	Epic/EHR	By Author
Progress Notes	Epic/EHR	By Author
Consult Notes	Epic/EHR	By Author
Discharge Summaries	Epic/EHR	By Author
Admission Orders	Epic/EHR	By Authorized Provider

Healthcare is a Team Sport

Quality Reporting Linked to AMB Care Team or IP Provider Team (1st Contact Provider)

Percent of Discharges with Documented Primary Provider Team by Date for FMLH and CHD



Epic's Care Team Census

Galaxy:
<https://galaxy.epic.com/Redirect.aspx?DocumentID=100210664&PrefDocID=128133>

SILKEY JAMIE R, Certified Physician Assistant

Select Provider

# of F2F Encounters	# of Non-F2F Encounters	Specialty	Primary Department
67	3	Orthopaedics	CFAC ORTHOPAEDICS (830001308)

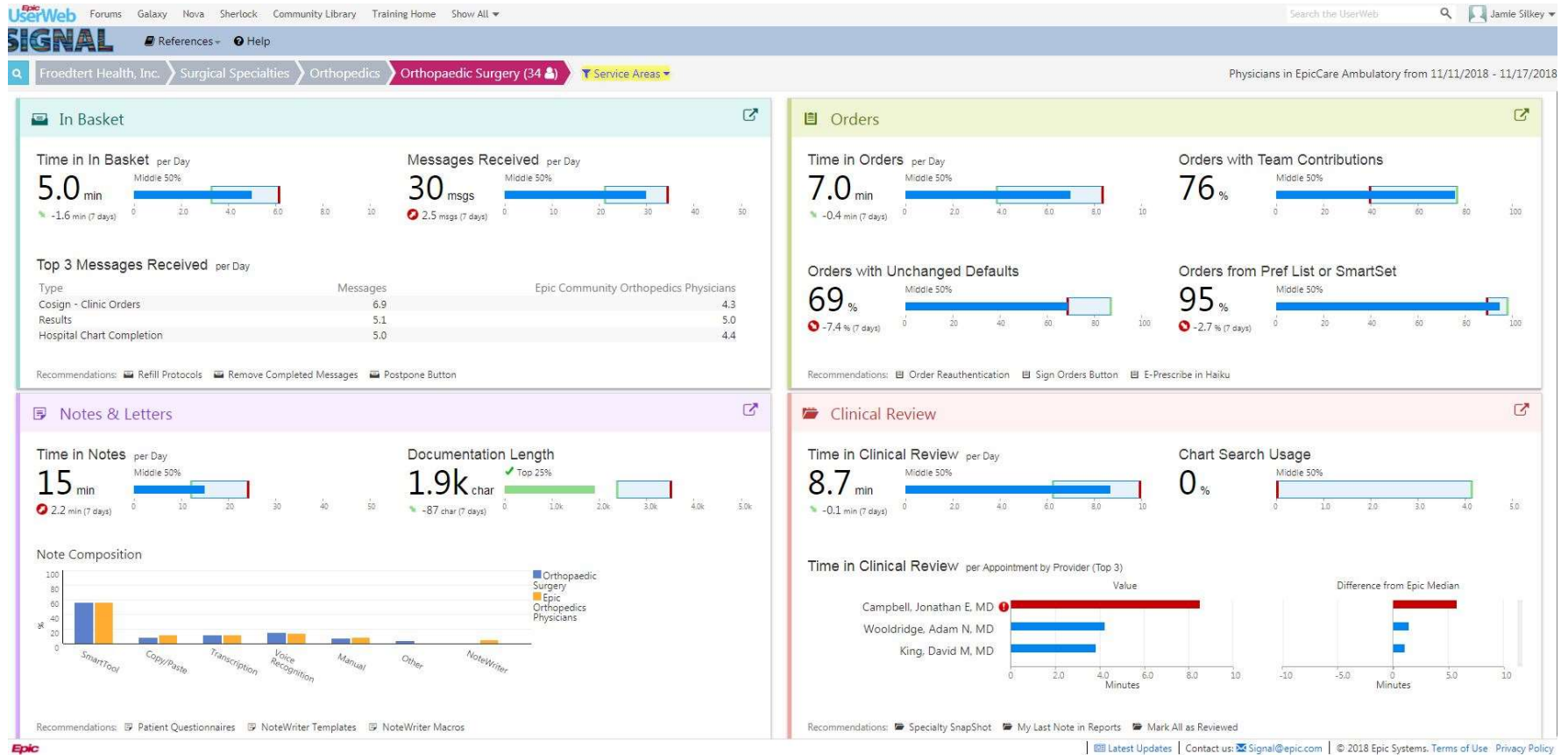
F2F Encounters by Type	
Encounter Type	Count
Office Visit (101)	66
Telemedicine (76)	1

Non F2F Encounters by Type	
Encounter Type	Count
Patient Message (61)	1

Support Staff	# Encs	RFV	Allergies	Dx	Vitals	% of F2F Encounters with				Notes Contributed
						Meds Rev	Prob Rev	Hx Rev		
ROBBINS ATC EMILY, Athletic Trainer Certified (64369)	53	0	0	22.6	0	0	0	0	0	0
MILLER TINA, Medical Assistant (59772)	31	96.8	93.5	3.2	96.8	93.5	0	93.5	96.8	96.8
GASPAR-KRACHT ASHLEY, Athletic Trainer Certified (119513)	28	3.6	0	7.1	3.6	0	0	3.6	39.3	39.3
BLAIR ASHLEY M, Certified Medical Assistant (65110)	19	94.7	94.7	0	94.7	94.7	0	89.5	94.7	94.7
BAXTER RACHAEL A (89286)	15	20	20	0	20	20	0	20	60	60
KLAMROWSKI KRISTINA (105597)	11	0	0	0	0	0	0	0	0	0
LUY ROBERT, Medical Assistant (33313)	8	0	0	0	0	0	0	0	100	100
WALTER ATC JEFFREY, Athletic Trainer Certified (37624)	6	0	0	0	0	0	0	0	0	0
REED ERIKA (112670)	5	0	0	0	0	0	0	0	100	100
SPARKS VONQUELLA M, Medical Assistant (108006)	5	60	60	0	60	60	0	60	40	40

Support Staff	Average Time per F2F Encounter (min:sec)		# of Encs	Total Time in F2F Encounters (hr:min)	
	Support Staff	Provider		Support Staff	Provider
ROBBINS ATC EMILY, Athletic Trainer Certified (64369)	0:37	4:27	42	0:26	3:07
MILLER TINA, Medical Assistant (59772)	2:01	4:23	31	1:02	2:16
GASPAR-KRACHT ASHLEY, Athletic Trainer Certified (119513)	1:58	4:40	28	0:55	2:10
BLAIR ASHLEY M, Certified Medical Assistant (65110)	1:55	4:55	19	0:36	1:33
BAXTER RACHAEL A (89286)	0:56	4:59	15	0:14	1:14
KLAMROWSKI KRISTINA (105597)	0:01	3:20	11	0:00	0:36
LUY ROBERT, Medical Assistant (33313)	0:55	3:44	8	0:07	0:29
REED ERIKA (112670)	3:29	4:08	5	0:17	0:20
SPARKS VONQUELLA M, Medical Assistant (108006)	0:54	5:19	5	0:04	0:26

Moving from Individual Value to System



Take Aways

- Understand the Technology and Workflows in your Organization
 - Helps you understand the Data and add context
 - Making Hidden Work Visible
 - Influence Technology Adoption and Workflow Standardization
- Understand Data Governance and Tools at your Organization
 - What Data is out there that you can leverage
- Partner with Data Analyst and Strategist
 - Often the question you are trying to answer is more powerful

Thank You!

Jamie Silkey, PA-C

Froedtert & Medical College of Wisconsin

jsilkey@mcw.edu