



COLLEGE of AMERICAN
PATHOLOGISTS

Artificial Intelligence Used in Billing

Karim Sirgi, MD, MBA, FCAP
Jeff Carmichael, Vice President of Engineering
Joe Nollar, AVP LIS Product Development
Diana Richard, Director of Anatomic Pathology
Program Development

January 26, 2022

Karim E. Sirgi, MD, MBA, FCAP

- **Chair – Practice Management Committee**
- **Member – House of Delegates**
- **Member – CAP Foundation, Governance Committee**
- **Board certified AP/CP and Cytopathology**
- **Fellowships in Cytopathology and Surgical Pathology**
- **Owner - CEO Sirgi Consulting LLC Denver, CO**



Topic for Today's Discussion

- Perceptions of Big Data and AI in Healthcare
- Defining the Clinical and Revenue Problem
- Revenue Cycle Driven Health System Decision Making Examples
- Getting Started With Data and AI
- Positive Implications to Cost Reduction Initiatives and Revenue
- Questions and Answers

Disclaimer

The information presented today represents the opinions of the panelists and does not represent the opinion or position of the CAP.

This should not be used as a substitute for professional assistance.

The information in this presentation is provided for educational purposes only and is not legal advice.

Panelists



Jeff Carmichael, Vice President of Engineering

© College of American Pathologists.

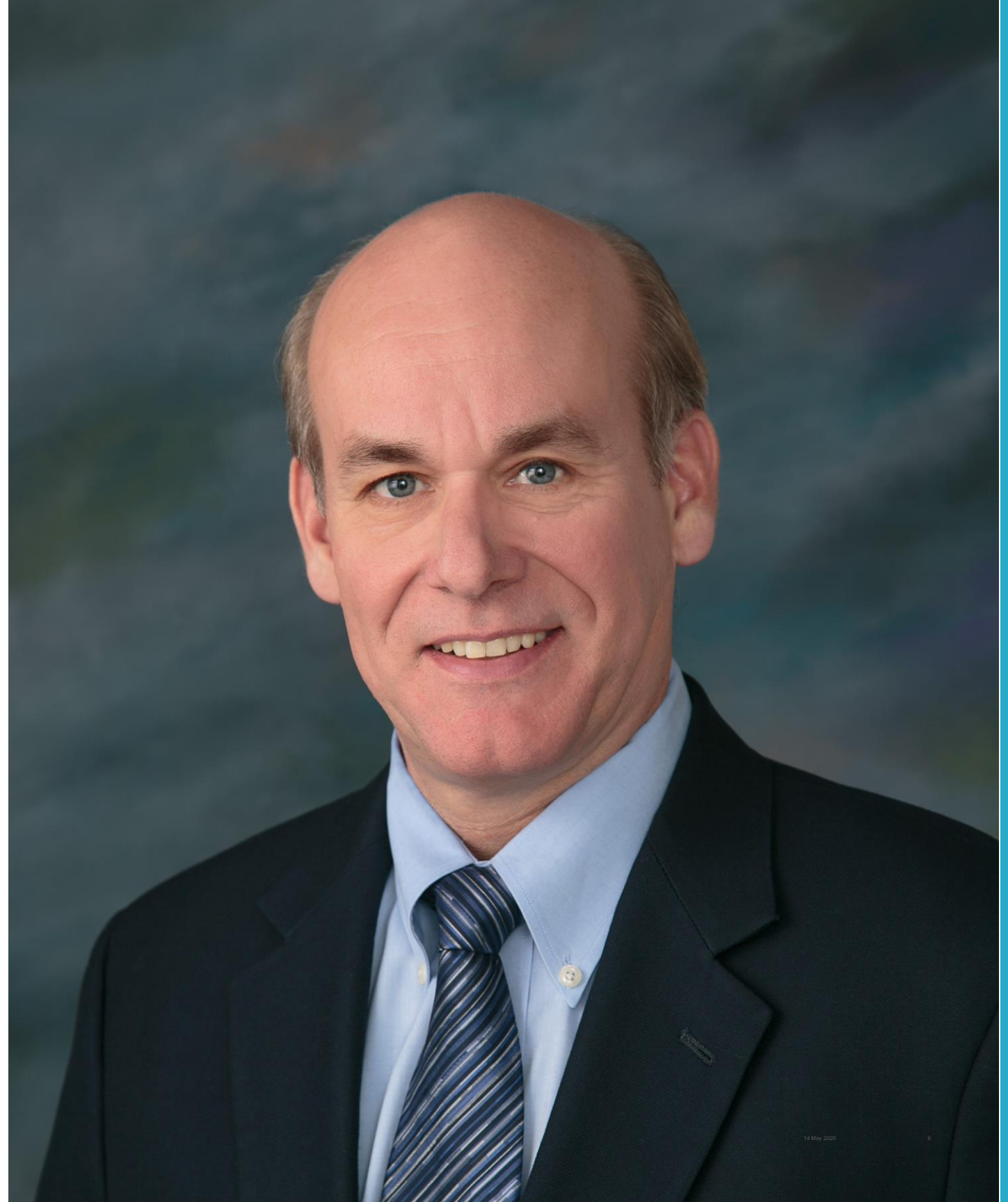


Joe Nollar, AVP LIS Product Development



Diana Richard, Director of Anatomic Pathology Program Development

Jeff Carmichael, Vice President of Engineering



AI and Healthcare: The Popular Narrative

- No doubt healthcare is ripe for improvement, and AI proponents see opportunity everywhere
- It's attractive to want to go after the hardest problems
 - Have a huge, often global impact potential
 - Highest risk, largest investment
- Primary focus of “Big Data” and AI is doing stuff that people are not able to do
- There are plenty of practical applications to use AI for things people are doing that AI can do better and at lower cost

NEXT GENERATION
OF RADIOLOGY
TOOLS

EXPANDING ACCESS
TO CARE IN
UNDERSERVED OR
DEVELOPING
REGIONS

REDUCING THE
BURDENS OF
ELECTRONIC HEALTH
RECORD USE

CONTAINING THE
RISKS OF ANTIBIOTIC
RESISTANCE

CREATING MORE
PRECISE ANALYTICS
FOR PATHOLOGY
IMAGES

BRINGING
INTELLIGENCE TO
MEDICAL DEVICES
AND MACHINES

ADVANCING THE USE
OF IMMUNOTHERAPY
FOR CANCER
TREATMENT

TURNING THE
ELECTRONIC HEALTH
RECORD INTO A
RELIABLE RISK
PREDICTOR

MONITORING HEALTH
THROUGH
WEARABLES AND
PERSONAL DEVICES

MAKING
SMARTPHONE
SELFIES INTO
POWERFUL
DIAGNOSTIC TOOLS

REVOLUTIONIZING
CLINICAL DECISION
MAKING WITH
ARTIFICIAL
INTELLIGENCE AT
THE BEDSIDE

RISK SCORING FOR
CHRONIC DISEASES,
POPULATION HEALTH

DEVELOPING
PRECISION MEDICINE
AND NEW THERAPIES

BOLSTERING PATIENT
ENGAGEMENT AND
SATISFACTION

PREVENTING SUICIDE
AND PATIENT SELF-
HARM

<https://healthitanalytics.com/news/10-high-value-use-cases-for-predictive-analytics-in-healthcare>
<https://healthitanalytics.com/resources/topic/clinical-analytics>

Defining the Revenue Cycle Problem

1. Thousands of procedures
2. Payor specific coverage policies for most of those procedures
3. Frequent changes in policies across the industry
4. Low reimbursement ranges minimize follow up work
5. Heavy dependencies on management through anecdotal feedback
6. Tens of billions of lost dollars buried in revenue adjustments every year
7. EMR and most practice management systems do not enable users to leverage data and AI to chase lost money in a cost-effective manner
8. Industry reports artificially high productivity numbers and collections against net revenue

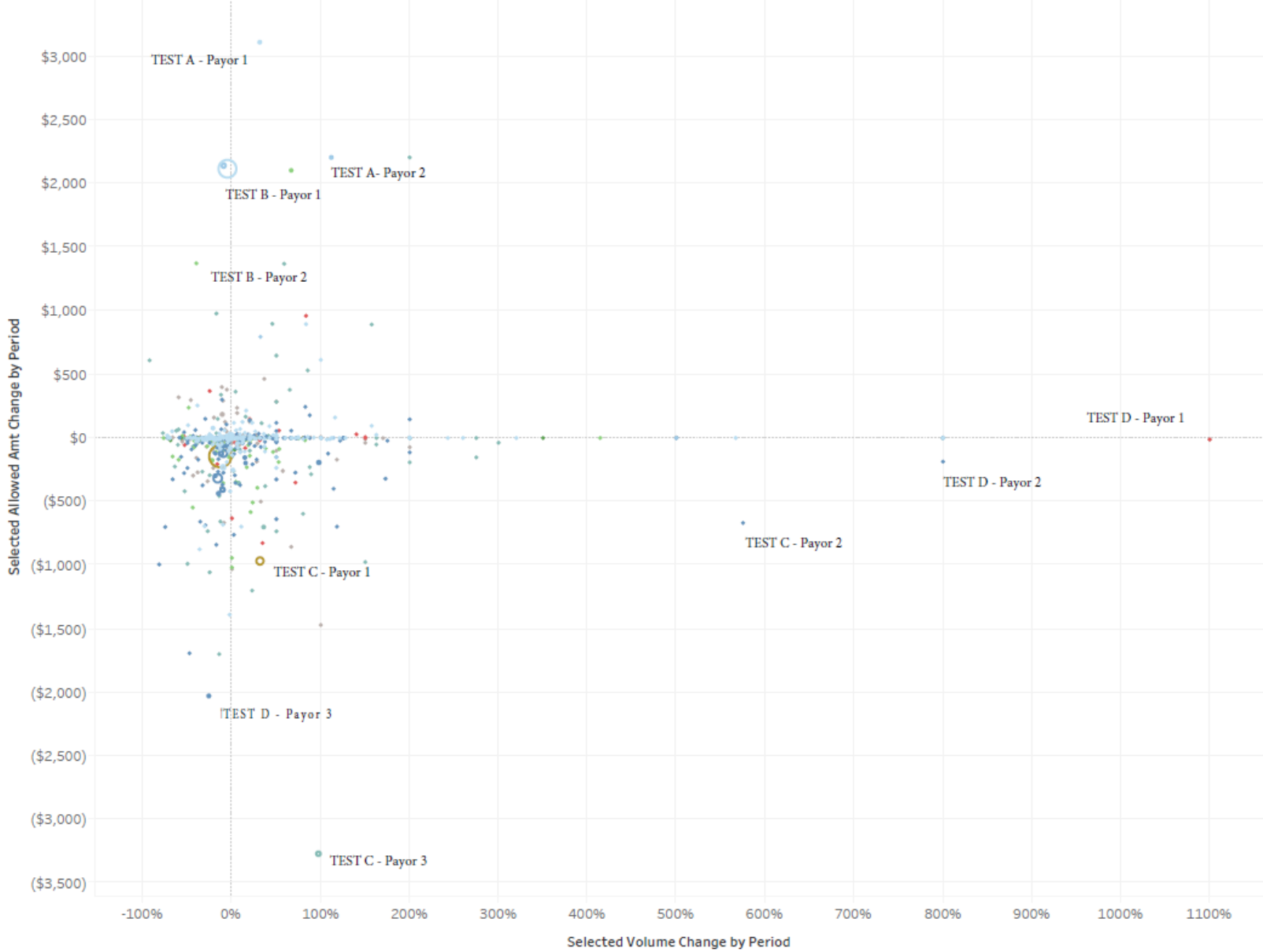
Changes in Allowed Amount - Anomalies and Outliers

Top Potential Impact

Selected Detail Level	
TEST C - Payor 1	(\$2,044,112)
TEST B - Payor 1	\$1,335,935
TEST C - Payor 3	(\$292,540)
TEST D - Payor 3	(\$215,112)
TEST F - Payor 1	(\$208,562)
TEST F - Payor 2	(\$77,358)
TEST F - Payor 3	(\$73,181)
TEST F - Payor 4	\$72,495
TEST F - Payor 5	(\$70,739)
TEST F - Payor 10	(\$70,650)
TEST F - Payor 7	(\$38,876)
TEST F - Payor 6	(\$36,381)
TEST F - Payor 8	(\$33,207)
TEST F - Payor 11	(\$29,230)
TEST F - Payor 9	\$27,031
TEST F - Payor 12	(\$25,982)
TEST E - Payor 4	(\$24,168)
TEST E - Payor 6	(\$23,081)
TEST E - Payor 2	(\$22,932)
TEST B - Payor 14	(\$22,039)

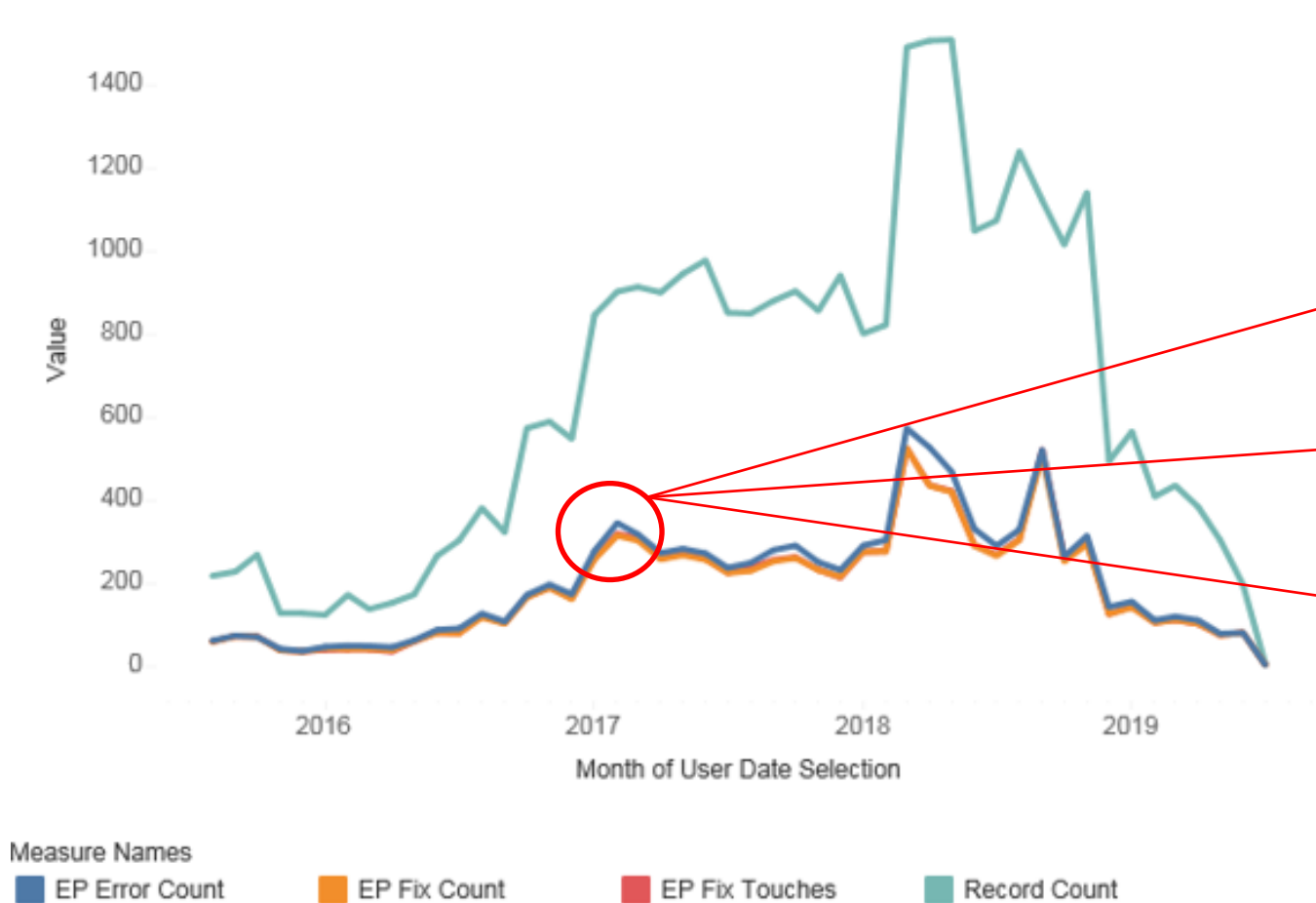
Detail Level	Selected Potential Impact (abs)
Ordered Test	\$0 to \$2,044,112
Trend Date	
2/1/2020	
Current Period Days	Highlight Primary Payor Group1
30	No items highlighted
Prior Period Days	Highlight
90	No items highlighted

Change in Allowed Amt & Volume

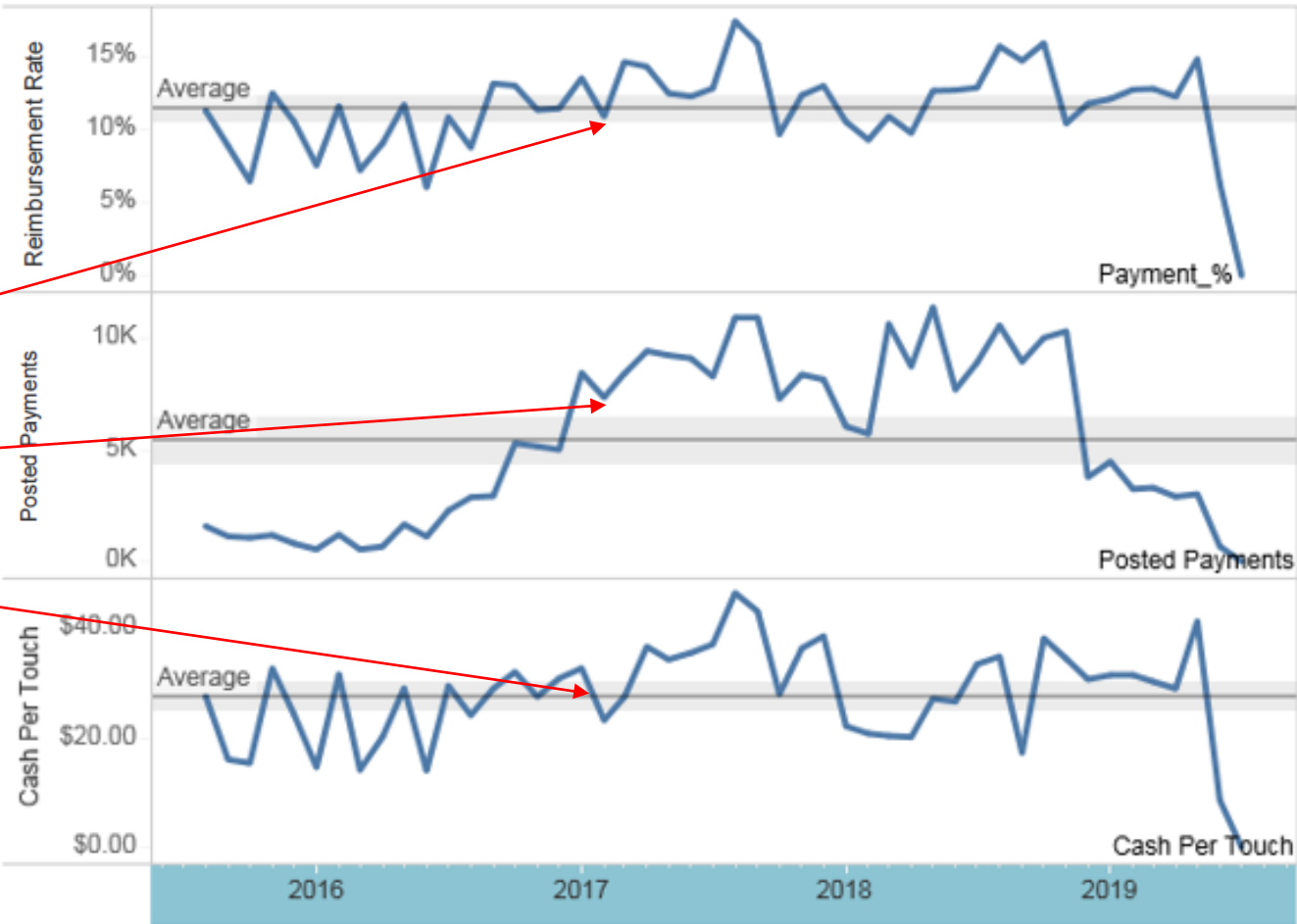


Exception Processing Performance

Human User Error Performance by Date of Service



Payment Performance by Date of Service

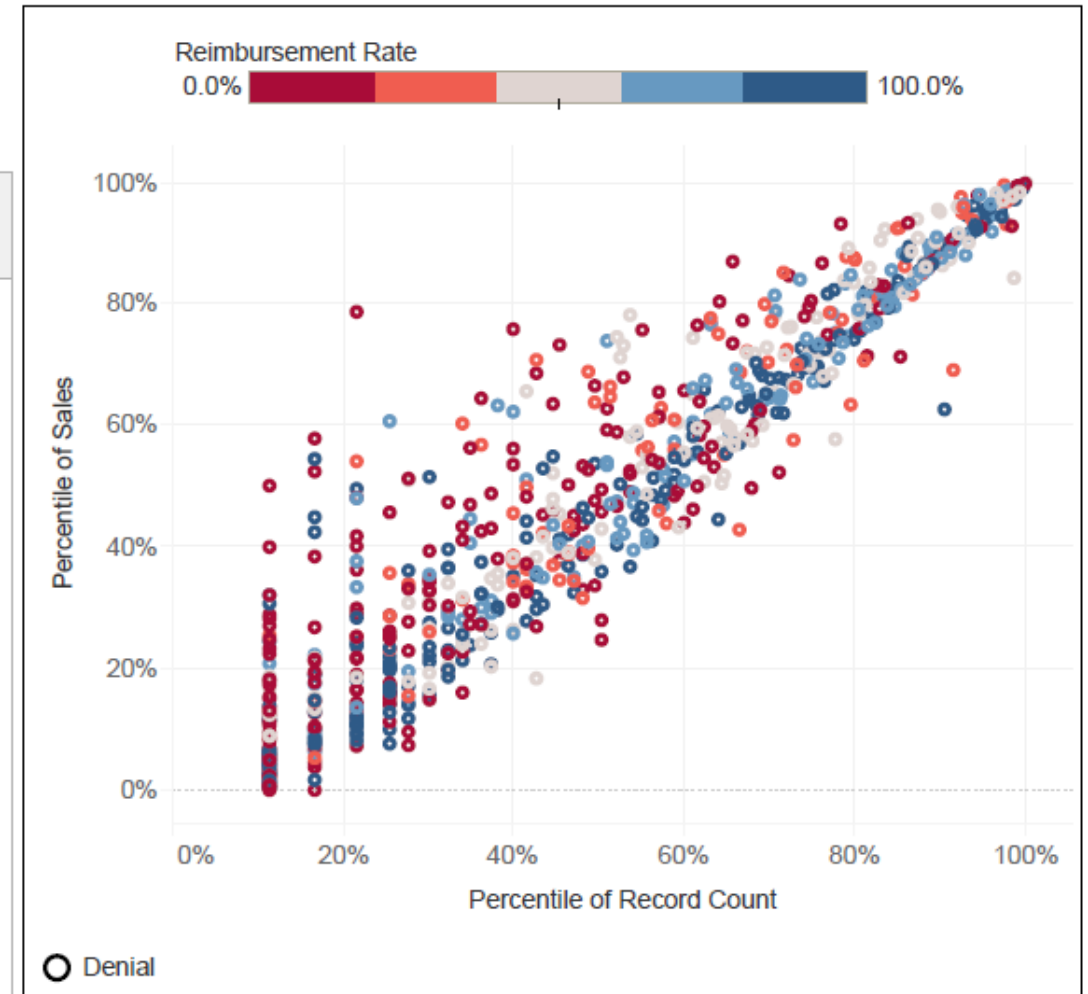


Productivity Analytics for Exception Processing

Error Processing Staff Performance

Fix User	User Seniority (Years)	Units Billed	Units Paid	PUP	Days Fixed	Fix Count	Posted Payments
User 13	5.6	101,658	80,321	79.0%	494	60,456	\$1,178,607.03
User 2	1.3	2	2	100.0%	1	1	\$43.28
User 5	1.4	389	332	85.3%	49	347	\$4,027.49
User 12	5.5	46	43	93.5%	10	46	\$567.76
User 3	1.0	1	1	100.0%	1	1	\$0.00
User 11	0.7	7	5	71.4%	3	7	\$1,704.85
User 1	2.6	31,714	19,741	62.2%	255	26,819	\$328,764.47
User 4	2.7	10	9	90.0%	3	10	\$83.44
User 15	5.4	7	0	0.0%	3	7	\$0.00
User 1	0.6	256	201	78.5%	15	220	\$2,640.49
User 6	0.1	6	6	100.0%	1	6	\$60.28
User 10	1.6	2	1	50.0%	2	2	\$9.21
User 14	5.6	50	0	0.0%	8	49	\$4.45
User 9	0.7	112	93	83.0%	9	111	\$2,212.38
User 7	5.6	4,911	3,713	75.6%	213	4,740	\$43,108.51
User 8	5.6	13	16	100.0%	3	8	\$49.78
User 16	5.5	64	51	79.7%	8	62	\$656.88
User 17	5.6	58	33	56.9%	15	58	\$253.64
User 20	1.3	3	3	100.0%	1	3	\$22.79

- Only showing **Third-Party** primary payors. Excluding **Client** and **Patient**.
 - Only the last relevant error per accession and procedure are shown



Getting Started With Data: 4 Questions

1 Data Sourcing, Why it Matters

- Quality
- Complexity
- Pitfalls & Best Practices

2 How it is analyzed

- What data to use
- Analysis vs Dataset
- Subject Matter Expertise

3 What it doesn't tell us

- Practical significance
- Decisions
- Actions

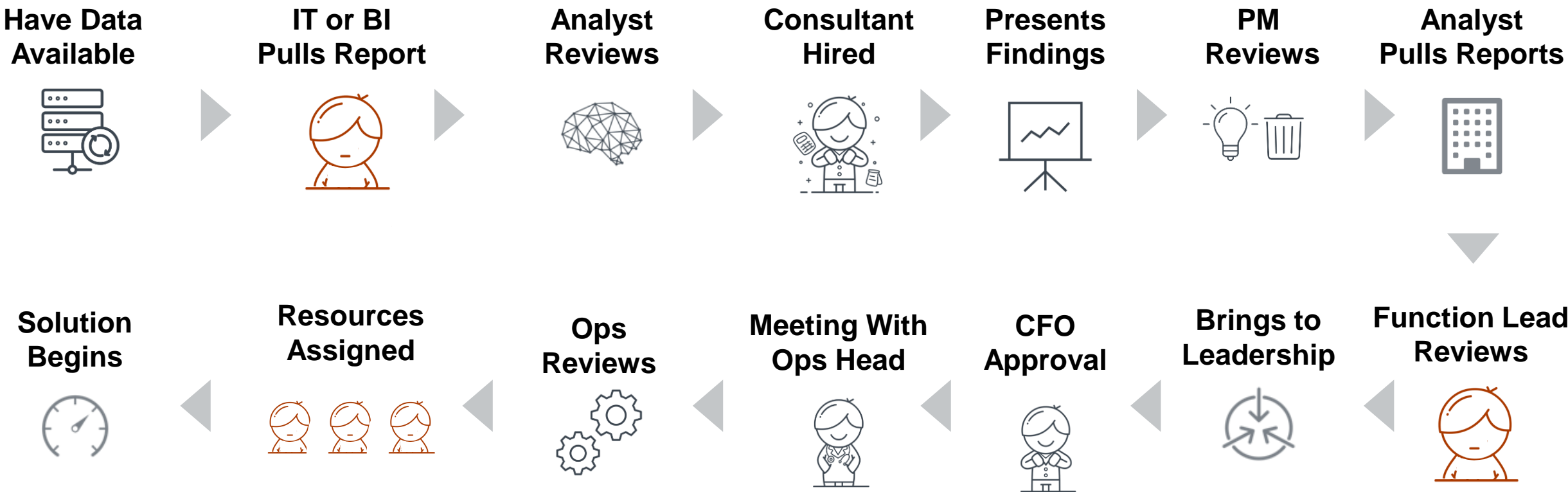
4 How we can use it

- To Take Action
- Automation

AI Can Help Reduce the Time to Insight & Solution

Think about the current manual effort and the amount of resources dedicated to identifying issues and how to solve them.

Manual Process Improvement



RCM Insight-Driven Health System Decision Making



Denials & Root Cause Management

Automatically identify and mitigate upstream root-causes that are causing your most impactful issues.



Insurance Collections

Predict, segment, assign, and prioritize your A/R based on an account's potential cost-benefit outcome.



Patient Collections

Assess patient payment risk without FICO scores and segment receivables by engagement tactic.



Labor & Productivity

Understand claim touch efficiency and staffing alignment while measuring overall performance.



Financial Forecasting

Ensure cash forecasts, volumes, auditable reports, and reserve methodologies are appropriately managed.



Report Enhancement

Automatically build reporting elements that enhance the way that you report and analyze your data.

Resources

- **Practice Management Resources**

- <https://www.cap.org/member-resources/practice-management>

- **Value-Based Business Toolkits**

- <https://www.cap.org/member-resources/practice-management/value-based-business-toolkits>

Membership

Did you find this information useful?

This program was funded by your CAP membership. Please be sure to keep your membership current so we can continue to bring timely and relevant resources like this to you.

Visit cap.org to renew your membership or email membership@cap.org



COLLEGE of AMERICAN
PATHOLOGISTS