

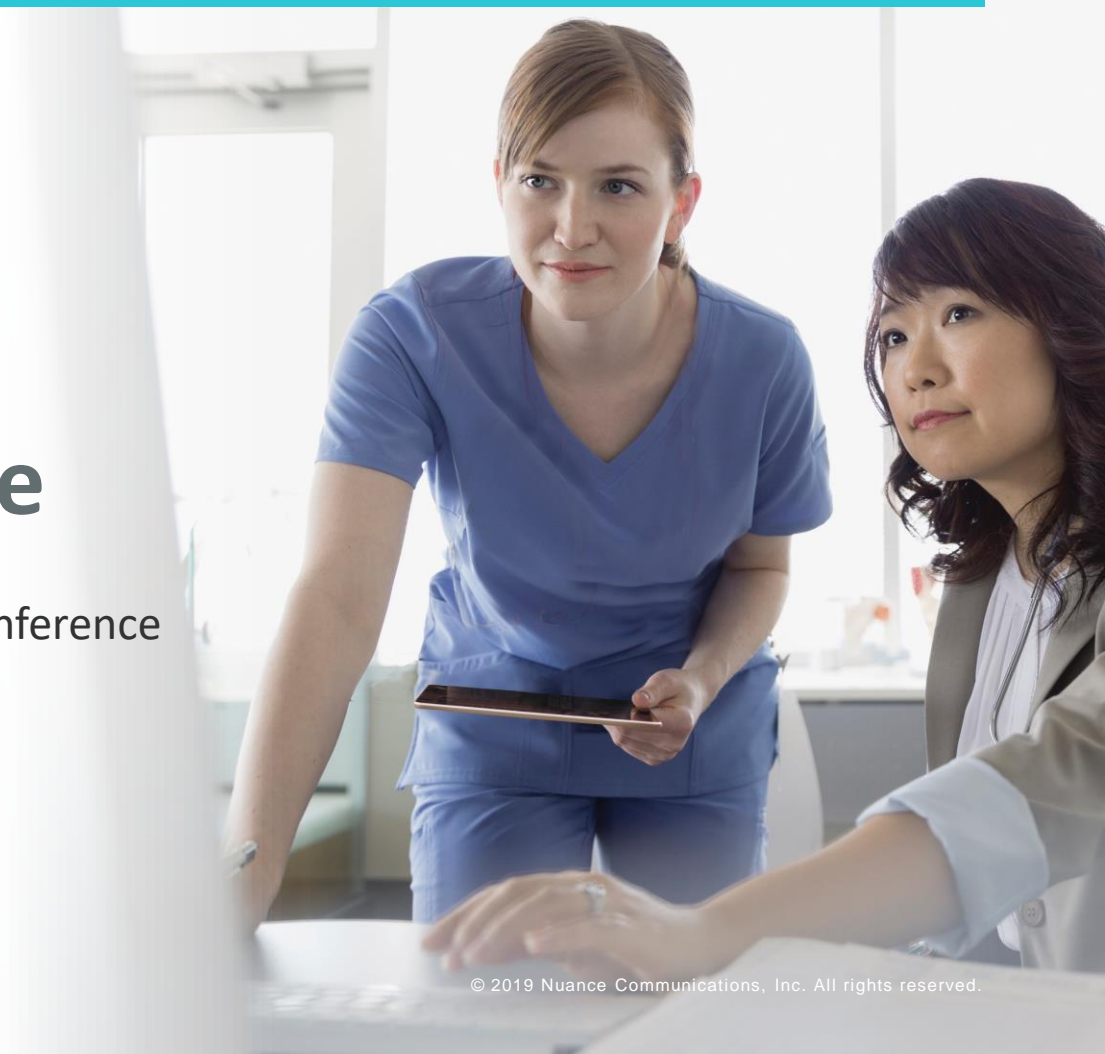


AI Automation in the Revenue Cycle

Oregon HFMA May 2021 Virtual Conference

Peter Durlach

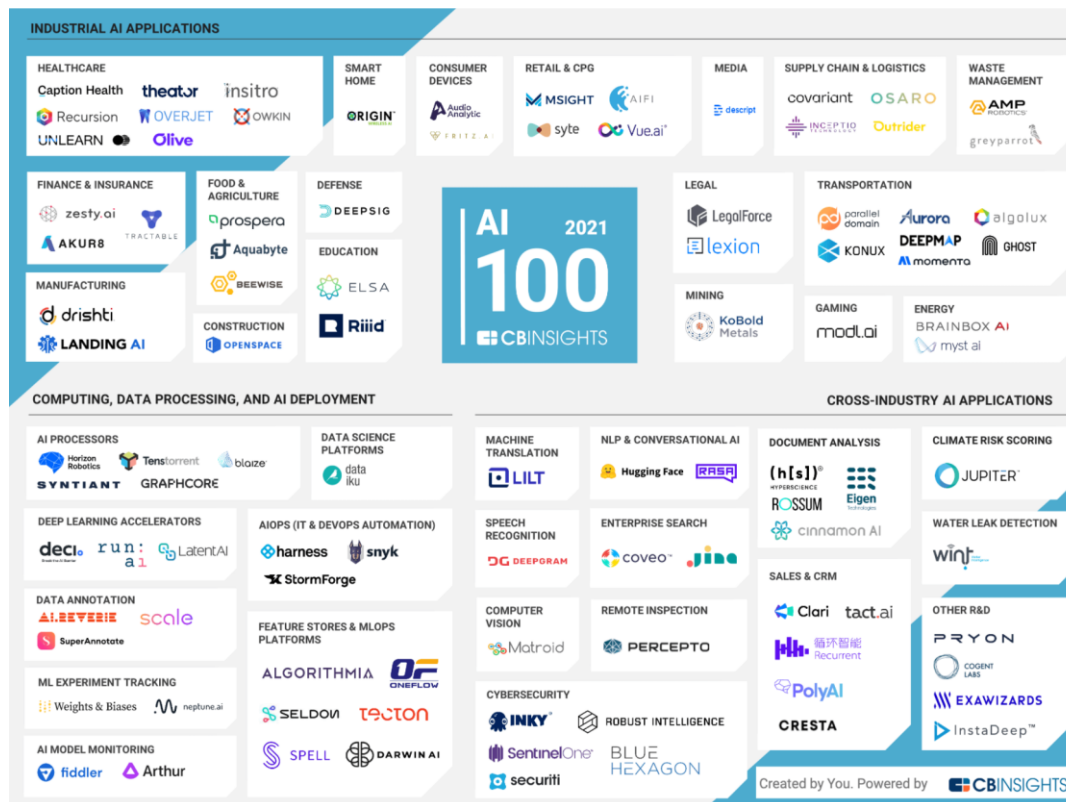
EVP, Chief Strategy Officer
Nuance Communications, Inc.



Automation using AI (“Augmented Intelligence”) is disrupting every industry and is rapidly accelerating in Healthcare and the revenue cycle

AI is helping to underpin digital transformation across industries

Augmented Intelligence is used across industries to maximize user experience and drive improved performance:



Revenue Cycle Imperatives from Healthcare Reform and Overall Market Pressures



Eligibility Processes
Patient Liability
Collections
Patient Care Management

**Revenue Cycle
 Imperatives**

Denials Management
Charge Capture
Appropriate Level of Care
Population Cost
Management

* Illustration adapted from HFMA Revenue Cycle Excellence presentation on Reform Impacts

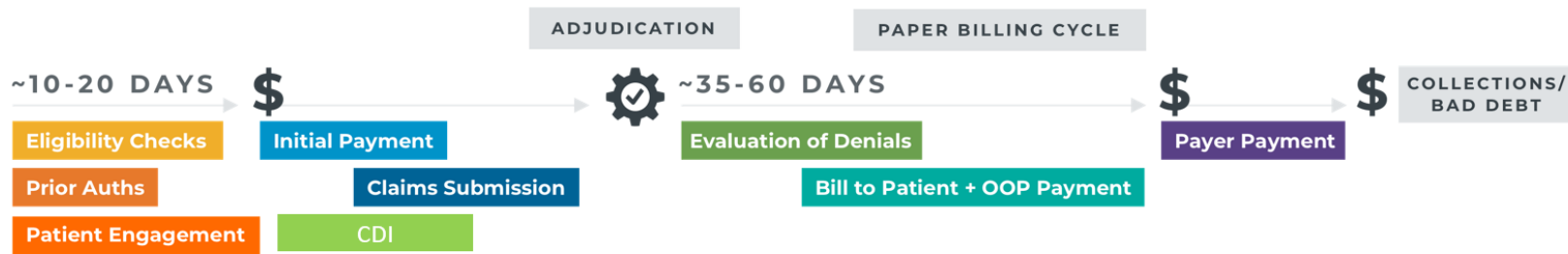


Revenue cycle ripe for AI technology disruption

- Integration of the clinical world with the revenue cycle world
- Siloed workflows; fragmentation
- Time consuming, manual error prone processes
- Revenue and margin pressures facing providers
- Massive amounts of data

Healthcare payments status quo is broken

Time-consuming, administrative tasks and rising out-of-pocket expenditures with limited transparency create pain points for patients, providers and payers



Pre-visit

- 67% of patients ask about healthcare service pricing before visits, but only about half end up being correct ^(a)
- 91% of providers surveyed report delays in care due to manual prior authorization tasks

Point of care

- Significant loss of \$\$, acuity capture, and quality
- 10% CAGR on patient out of pocket spending on healthcare
- 51% of Americans are putting off care because of concerns about their ability to pay

Post-visit

- 10%+ claims denial rates upon initial submission
- 60% of patients are more stressed out about their bill than quality of care ^(a)
- 77% of providers say that it takes more than a month to collect any payment

The need for the “clinical revenue cycle”

“

The fundamental underpinning is the need to integrate the clinical situation with the financial situation and move most of that financial work to the front-end.

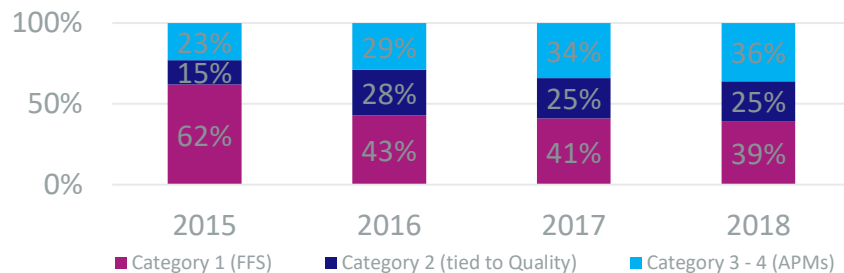
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Sandra Wolfskill

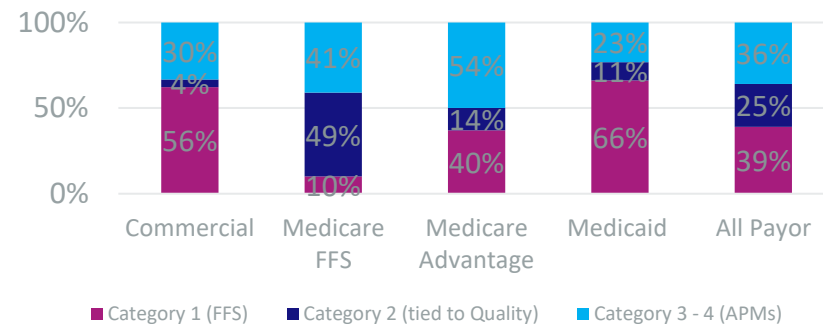
*Director, Healthcare Finance and Revenue Cycle
Healthcare Financial Management Association*

Health Care Payment Learning & Action Network results from their annual measurement data as of CY 2018. Medicare Advantage and Fee For Service are the most advanced in meeting the 2018 goal of 50% of payments aligned to APMs

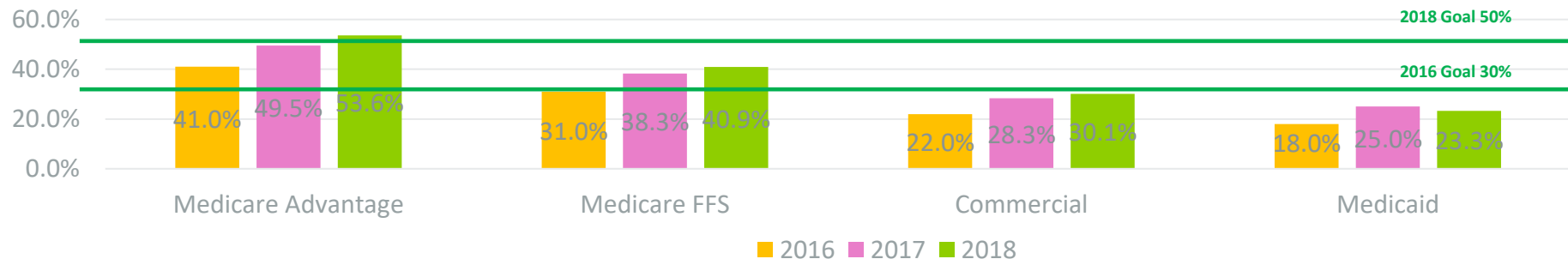
All Payors



2018 Results by Payor

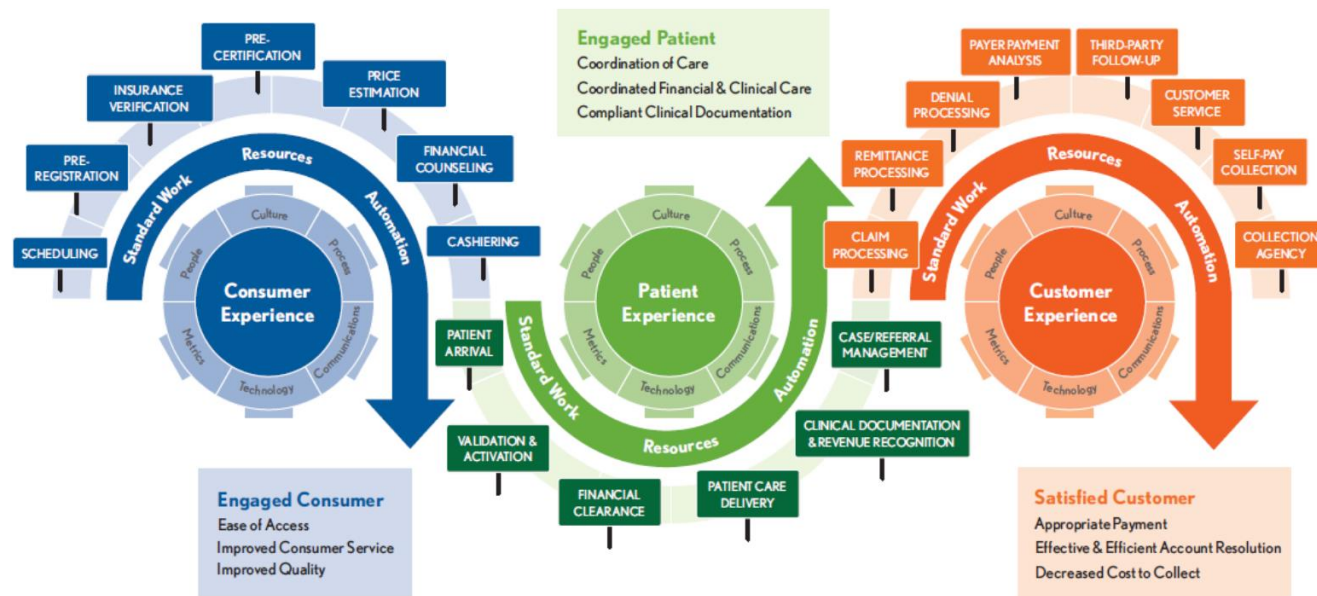


Category 3 – 4 APMs Percent by Payor 2016 - 2018



Automation using augmented intelligence is the disruptive technology that will create value and drive revenue cycle transformation.

AI automation can drive improved outcomes across the entire revenue cycle



Robotic Process Automation (RPA) vs AI

Robotic Process Automation

v

Artificial (“Augmented”) Intelligence

Robotic Process Automation (RPA) is a process to automate a repeatable, deterministic, rule-based task. They require a familiar, practiced and documented process to attain automation benefits.

Artificial Intelligence (AI) is a branch of computer science dealing with the simulation of intelligent behavior in computers; the capability of a machine to imitate intelligent human behavior. AI encompasses a plethora of technologies that “learn” or alter their behavior by interacting with the world or processing data derived from a real-world process.

Major applications of AI in the revenue cycle

The next wave of Artificial Intelligence applications will bend the cost curve, improve financial outcomes, and enhance the patient experience:

Real-Time Interventions: identifying potential issues throughout the Revenue Cycle and surfacing them real-time will have tremendous impact on reducing write-off and claim risk

- Real-time feedback loops in data entry, documentation, ordering, etc.
- Flagging account and denial risk throughout the encounter lifecycle

Personalization of Healthcare: gathering data on patient preferences, interactions, and financial transactions will enable a completely personalized experience

- Communication modes and preferences
- Financial clearance transparency for patients

Reducing Human Touch-points: the intersection of AI and RPA will enable repetitive, non-value add tasks to be automated throughout the Revenue Cycle

- Automating follow-up and appeal actions
- Reducing financial clearance touchpoints

Predicting Payer Behavior: *aggregating data across payer communications (277s, 837s, etc.) to anticipate claim processing issues*

- Identify changes in payer processing patterns real-time
- Forecasting individual claim reimbursement

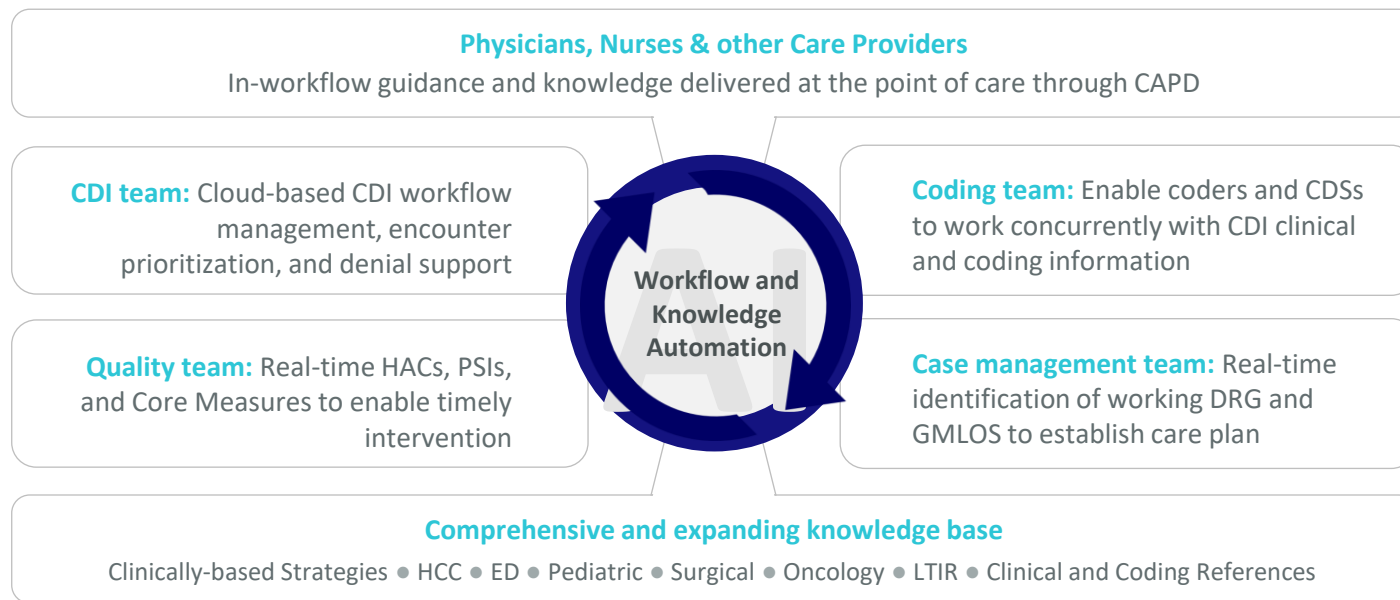
Current revenue cycle AI use case

1	Prior Authorizations Uses machine learning to identify upcoming services that require authorization and automate authorization requests and follow-up	5	Computer Assisted CDI and Physician Documentation Using AI to help clinical documentation integrity to drive proper acuity capture, coding, risk adjustment and quality reporting
2	Charity Care Screening Utilizes predictive analytics to automatically screen patients in a fair and consistent manner for financial assistance	6	Claim Status Checks Predict when a payer will remit reimbursement to minimize unnecessary staff touches
3	Patient's Likelihood to Pay Tailor each patient's financial experience while driving higher collections and lower overhead through predictive analytics	7	Denial Overturn Likelihood Focus staff efforts on denials with the highest likelihood of being overturned
4	Missing Charge Identification Uses predictive analytics and machine learning to identify charge capture leakage without creating manual edits	8	Potential Insurance Coverage Determine whether a self-pay patient is likely to have coverage and with what insurance

Real world examples of AI for the revenue cycle
that drive improved clinical and financial
outcomes

A closer look: AI-powered clinical documentation Improvement automation and intelligence

Proactively drive action for the “entire care” team through enhanced concurrent & proactive workflow



Even with all the EHR documentation requirements, poor clinical documentation still leaving significant \$\$\$ and quality “on the floor”

Surgeon and Cardiologist documented Congestive Heart Failure but not specific Type

331 Major Small and Large Bowel Procedure WO CC/MCC	Rel Wt	Exp Mort	Exp LOS	Exp Cost	Exp Readmit	Exp Payment
Secondary DX CHF	1.64	0.13%	5.67	\$12851	8.93%	\$10,824
330 Major Small and Large Bowel Procedure W CC	Rel Wt	Exp Mort	Exp LOS	Exp Cost	Exp Readmit	Exp Payment
Secondary DX Chronic Systolic Failure	2.57	0.73%	7.79	\$16681	12.25%	\$16,962
329 Major Small and Large Bowel Procedure W MCC	Rel Wt	Exp Mort	Exp LOS	Exp Cost	Exp Readmit	Exp Payment
Secondary DX Acute Systolic Failure	5.26	9.51%	13.59	\$30,302	18.69%	\$34,716

From the Advisory Board: The average 250-bed hospital **lost more than \$7M** in 2013 because of inaccurate and incomplete documentation—and this loss will **increase to almost \$13M in 2020** with the adoption of new payment models and the transition to ICD-10.

Ability to leverage “[AI intelligence](#)” library to drive improved clinical and financial outcomes across care settings via Computer-Assisted Physician Documentation



Inpatient Clinical Guidance

Identifies undocumented and unspecified diagnoses and improves CC/MCC capture.



Outpatient (HCC) Guidance

Identifies chronic conditions and prioritizes focus to drive appropriate reimbursement and RAF scores in outpatient clinics.



Surgical & Cardiovascular Guidance

Surgical procedure and Interventional Cardiovascular detail capture to support documentation, coding, quality and compliance.



Pediatric Guidance

Offers specific support designed to improve how care is documented in pediatric settings.



ED Guidance

Covers highest-risk conditions in emergency medicine using content from The Sullivan Group to prevent adverse patient safety events.



Future Expansion

LTIR	Oncology	Quality/care gaps
Claims adjudication	Denials management	Prior authorization

AI Delivering Material Outcomes from Bedside to Boardroom

50%

Reduction in claims processing costs

1-3%

Improvement in Surgical NPR

63%

increase in mortality ratings

4-6

month return on investment

15-20%

Improvement in RAF scores

36%

improvement in extreme SOI and 24% ROM

28%

decrease in risk adjusted mortality

4-8%

CMI impact even when replacing existing programs

98%

Acceleration in posting speed

46%

Decrease in denials

60%

In point of service payments

85%

Of clients in top quartile of public quality report

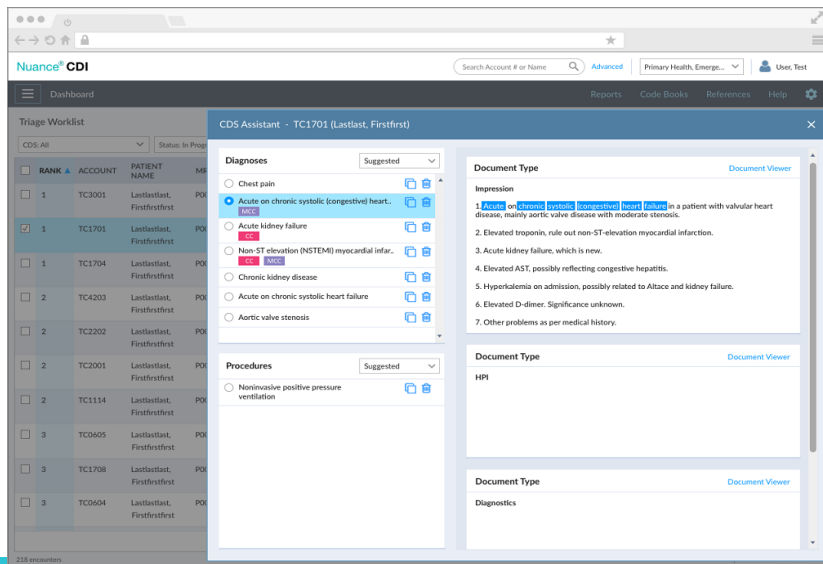
Inpatient CDI/CAPD

AI Powered CDI Assistant

Use AI to automatically prioritize all your cases across all payers 24x7 and provide in-workflow “concurrent” denial management support

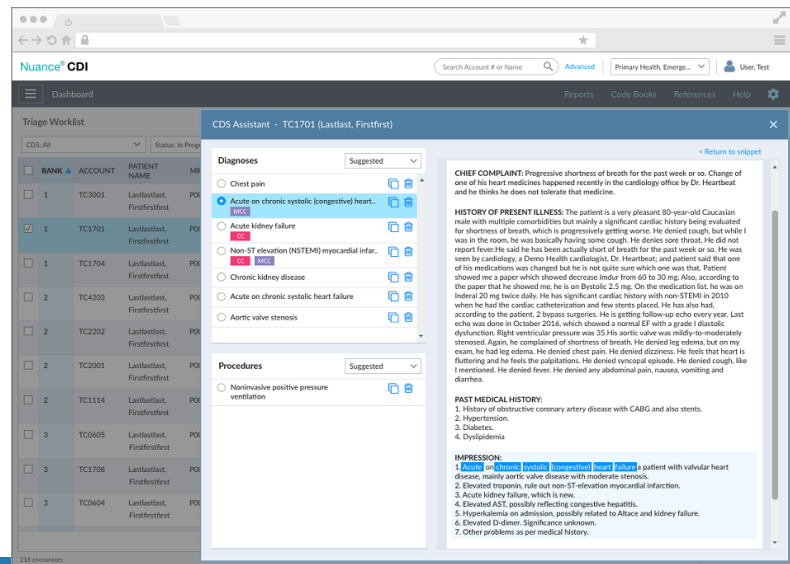
Highlights

- Customize 35+ workflow rules according your organization’s priorities
- Easily add the diagnosis from the assistant to your working review



Highlights

- Expand the snippet to see the entire document from your EHR



Integrated AI Powered Computer-Assisted Physician Documentation (“CAPD”) inside Epic



Delivering real-world results

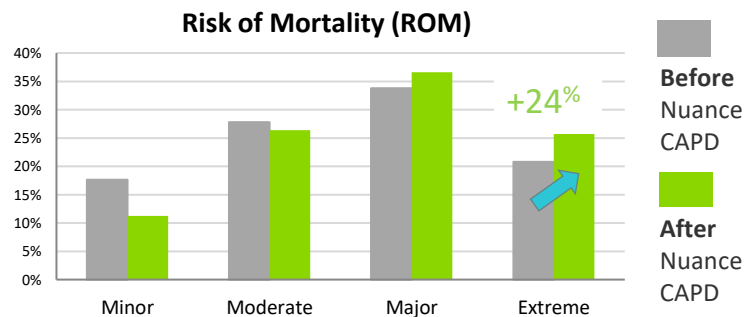
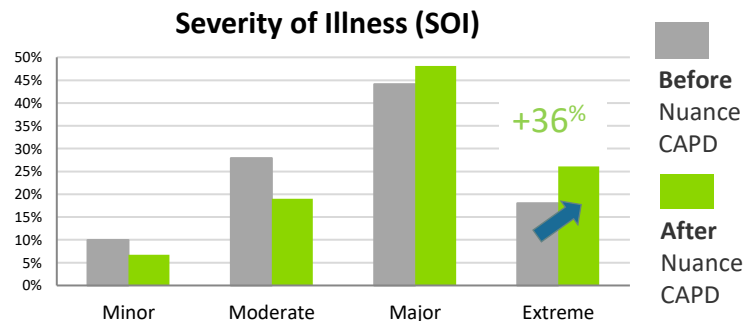
National IDN	Multi-hospital IDN in the Midwest	Multi-hospital IDN in Florida	Multi-hospital IDN in Ohio
<p>30 facilities Inpatient CAPD</p> <p>Results in first 8 months:</p> <ul style="list-style-type: none"> • \$2.7M in additional reimbursement • 41% improvement in extreme SOI capture • 49% improvement in extreme ROM capture 	<p>17 facilities CDE One + CDI Services</p> <p>Results in first 18 months:</p> <ul style="list-style-type: none"> • \$37.6M in reimbursement impact • 3.49% CMI improvement • 10% increase in review rate in the 6 months following implementation 	<p>7 facilities CDE One</p> <p>Results in first 10 months:</p> <ul style="list-style-type: none"> • \$5.4M in reimbursement impact at pediatric facilities • \$19.8M in reimbursement impact across all facilities • 2.14% CMI improvement • 40% increase in all payer review rate 	<p>2 facilities CDE One + CDI Services</p> <p>Results in first 18 months:</p> <ul style="list-style-type: none"> • \$20.6M in reimbursement impact • 2.56% CMI improvement

And delivering results for even more customers



One Inpatient AI Powered CAPD Client Example from a large multi-state IDN

More accurate documentation and improved hospital quality ratings



Quality and Compliance

- Overall shift in capture of SOI and ROM from Minor/Moderate to Major/Extreme
- 36% improvement in capture of Extreme SOI
- 24% improvement in capture of Extreme ROM


Financial Integrity

- CAPD impact clarifications generating \$36m in incremental appropriate reimbursement (ave. expected client to see 1-3% CMI correction and \$1,200 average revenue improvement per clarified admission)


Clinician Satisfaction

- “As a physician, I think the *real value of the solution is that it’s not disruptive*. If you are going to ask a question to clarify something ask me when I’m in the note, not an hour or a day later. If I’ve moved on, the question is an interruption in my day”

Outpatient (HCC) CAPD




Advisor




Etheridge, Randall

MRN 1012





2 HCC Opportunities


Documentation supports additional HCC diagnoses. Please review and add additional diagnoses as required.




Recapture Opportunity: Chronic Obstructive Pulmonary Disease



J44.9 Chronic obstructive pulmonary disease, unspecified




[Add to problem list](#)



Suspect Opportunity: Diabetes with Chronic Complications, Diabetes without Complication





E11.22 Type 2 diabetes mellitus with diabetic chronic kidney disease




[Add to problem list](#)

E11.9 Type 2 diabetes mellitus without complications



[Add to problem list](#)



1 Specificity

Additional detail is needed to complete these diagnoses. Please update your note.

Surgical CAPD

Surgical Documentation Challenges

Rework/Lost Time/Burnout

Surgeons spend an extraordinary amount of time (~10min./case) on repetitive administrative tasks.

Care Quality

Downstream care and coding teams depend on accurate, complete, and timely information.

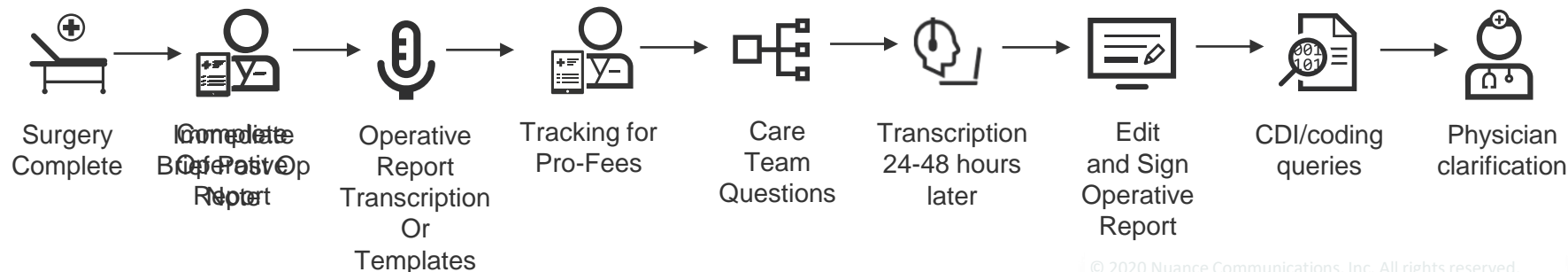
Regulatory Burden

The rules around clinical & surgical documentation are constantly evolving. Compliance risk.

Revenue Integrity

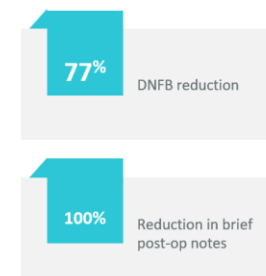
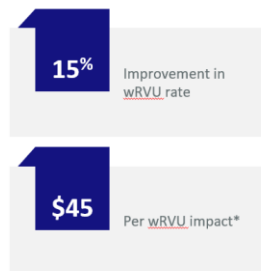
2-4% of Net Surgical Revenue at risk due to incomplete and inaccurate documentation.

Surgical Documentation Excellence



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Financial and Operational Outcomes



Analysis based on:

~20,000 weighted wRVU – 837 claims data

~19,000 APCs claims data

Closing thoughts....

Questions?

Peter.Durlach@nuance.com



Thank you.