Making Healthcare Utilization Smart with Artificial Intelligence
Learning Objectives

• Defining artificial intelligence and related topics, and their relation to utilization review.

• Using AI to improve nurse and clinician workloads, refocusing attention on patient.

• Understanding how the payer-provider relationship is changing through technology.
Heather Bassett, MD  
Chief Medical Officer  
XSOLIS

Tonya Harrison, RN, BSN, MHA  
Director of Clinical Care Management  
Atrium Health

Sherri Ernst, RN, BSN, MBA  
Revenue Integrity & UM Officer  
Covenant Health
Background

- Dr. Heather Bassett has served as Chief Medical Officer since January 2013.
- She developed the real-time predictive analytics which drive XSOLIS’ technology.
- She received her bachelor’s from Carnegie Mellon and her Doctor of Medicine from the University of Texas Medical Branch, completed her residency in Internal Medicine at Vanderbilt Medical Center.
Sherri Ernst

- Clinical background includes two decades as an RN and over 17 years’ experience in case management,
- She is a certified case manager and a certified InterQual instructor.
- She received her master’s in health administration from Pfeiffer University.

Tonya Harrison, RN, BSN, MHA

Director of Clinical Care Management
Atrium Health
Background

- Clinical background that includes stints as an RN and NICU nurse, in addition to several years of consulting in the revenue cycle space.
- Sherri was tasked with leading the charge in transitioning Covenant to a centralized UR team.
- Leads a team that now includes almost 60 FTEs and impacts utilization review at Covenant Health’s 9 acute care facilities in East Tennessee.
Utilization Review: Current State

- Very manual process
- Administrative burden
- Limited, task-driven technology
- Decisions directly tied to revenue
What’s the result?

1. Inefficient processes
2. Strained relationships between payers and providers
3. Siloed data in healthcare
This is where AI can help

But what IS artificial intelligence?
What is Artificial Intelligence?

The theory and development of computer programs to do specific tasks by processing large amounts of data, recognizing patterns in data and learning from itself.

Technology augments, not replaces
AI can be used in disciplines like radiology and imaging to identify patterns and detect tiny changes.
AI in Action: Utilization Review
Interplay between EBM & Analytics
The XSOLIS Approach

Clinical & Financial Data
Directly from Your EMR

EMR
- Medications
- Labs/Vitals
- Medical History
- Documents
- Orders
- Procedures

Our Real-time, Predictive Analytics
Powered by Artificial Intelligence

Actionable Insight into Risk
At Users’ Fingertips, 24/7

Care Level Score
0-157
# Care Level Score

CLS identifies likelihood of inpatient status for each patient in real time, 24/7.

## CARE LEVEL SCORE

| MeL Predicts INPT | Current: 98 | Max: 120 |
|------------------|           |          |

Curr CLS: Labs, Vitals, Wellness, Meds, Procedures, Documents
Max CLS: Labs, Vitals, Wellness, Meds, Procedures, Documents

*example data*

## Accuracy

~98.8%

- **Automated Inpatient**: CLS ≥ 120
- **Inpatient**: CLS 86-120
- **“Gray Zone”**: CLS 65-85
- **Probable Outpatient**: CLS ≤ 65
In real-time, Cortex helps UR nurses identify which cases are in the wrong status and which cases are most time-sensitive for review.

The patient dashboard cuts through the “noise” of excess data in the EMR to review key information related to medical necessity.

Using a “visit synopsis,” UR nurses can streamline workflow, save time, and improve the ability to communicate medical necessity to payers.
The Journey towards Smart UM

What is it? How can I get there too?
Headquartered in Charlotte, NC, Atrium Health is one of the leading healthcare organizations in the Southeast.

Atrium Health by the numbers:

• 10 acute-care hospitals
• more than 7,600 licensed beds
• nearly 60,000 employees
• almost 12 million annual patient interactions
Why choose this UM model?

- Manage denials related to medical necessity
- w/ 2 MN rule, put extended obs patients “on someone’s radar”
- Help nurses work to top of license – what tasks require an RN?
Challenges

Traditional UM
- Two Midnight Rule Considerations & Constraints
- Doing the same things, with fewer staff & resources
- Manual, time-consuming reviews & processes

COP/Medicare Guidelines
- Admission based on Severity of Illness and Intensity of Service
- Ambiguity around clinical guidelines
- Well Documented UM Plan
Atrium Medicare Population

157,000 Total Atrium Inpatient Population*

20-30% are Medicare Beneficiaries

Up to 36% of Atrium’s Medicare Patients Eligible for Smart Review

* Volume based on core metro hospital group of 12 hospitals.
Undertaking Due Diligence

• How did you first envision the approach?

• What considerations did you face when actualizing a new and unfamiliar model?
Conditions of Participation

- **Must have a well documented/approved UR plan** – “It should also establish procedures for the review of medical necessity of admissions, the appropriateness of the setting, the medical necessity of extended stays and the medical necessity of professional services” – COP §482.30

- **For Medicare (and a majority of commercial payer contracts), no one screening tool is required** – “While utilization review (UR) committees may continue to use commercial screening tools to help evaluate the inpatient admission decision, the tools are not binding on the hospital, CMS or its review contractors.” – CMS 2 MN IP Admission Guidance

- **Must assess** “the need for and duration of care based on complex medical factors such as history and comorbidities, the severity of signs and symptoms, current medical needs, and the risk of an adverse event, which must be clearly documented.” – CMS 2 MN IP Admission Guidance
Considerations

**UM Committee Buy-in**
- Leadership sign-off
- Comfort range for accuracy
- Integrating into UM training and methodology

**Data**
- Building upon existing XSOLIS technology
- Retrospective intake of claims information
- At what point is the real-time review actionable?

**Compliance**
- Conditions of Participation
- Final discharge status
- Does this approach meet regulatory requirements?
What is a Smart Review?
For any cases with CLS >120, only two touches are required:

Look at record to verify there is an order in the chart

Verify that the payer qualifies

Payers currently included:
- Medicare, Medicaid,
- Select commercial plans
- Medicare Advantage plans which have EMR access
What’s the Right Score?

- How did you implement the smart-review function?
- Did you do any compliance audits?
- Did you update your UM plan? If so, how?

Started using smart-review at CLS of 130, then dropped to 120, and now aiming to move to 115 with an accuracy of 95%
Smart review doesn’t replace smart nurses
CLS Accuracy Analysis

**Final Accuracy Rate**
- 75-100: 89%
- 101-120: 91%
- 121-157: 97%

**Final Overturn Rate**
- 75-100: 37.1%
- 101-120: 51.6%
- 121-157: 63.5%
Outcomes

• Has this approach made staff more efficient?
• How has Smart Review impacted workflow?
• How has it impacted compliance?
Partnership Results

9.8% Reduction in total observation rate
9.1% Increase in conversion rate
27.5% Decrease in Short stay rate

1.6 efficiency gain per FTE
“Rip off the Band-aid — use Cortex exclusively”

— Tonya Harrison
Reframing the payer-provider relationship

Covenant Health is paving the way for smart collaboration
Headquartered in Knoxville, TN, Covenant Health is a community-owned, not-for-profit healthcare system and the area’s largest employer.

Covenant by the numbers:
• 9 acute care hospitals
• 1,500 affiliated physicians
• More than 10,000 employees
Covenant Health Payer Mix

- Medicare: 56%
- Commercial: 24%
- TennCare: 13.5%
- Other: 6.5%
- Other: 56%
Centralization Goals

• Processes are efficient.

• Processes bring value to our organization.

• Equity in our workload.

• Continue to improve communication efforts.
State of the Industry: The 3 V’s

Volume
Doing more with less

Variability
Subjectivity in medical necessity determinations

Viability
Revenue protection for sustained operations; shift towards outpatient reimbursement
Ability to perform payer notifications

Performing Clinical Reviews

Review incorrect patient status

Manage the phones, man the faxes

Manually performing observation calculations
From Idea to Solution

- 2014: Converted to Centralized UR
- 2016: Went Live with XSOLIS
- 2017: Payer Concept Formed
- 2018: XSOLIS / Payer Implementation Plan
- Summer 2018: Payer Goes Live
- January 2019: Moved to UM by Exception

Aligning the Vision: Covenant & Payer
Communicate.
Escalate.
Collaborate.
**Value for Providers**

- Supports accurate status decisions
- Analyzes the clinical merit of each case automatically
- Increases efficiency, productivity and throughput
- Helps in managing Obs and Conversion Rates
- Identifies trends on an individual and aggregate level

**Value for Payers**

- Allows payer staff to review and approve cases concurrently
- Offers the same analytics and insight to payer nursing staff
- Reduces administrative burden of managing reviews and appeals
- Ensures access to the right clinical data

**Common framework of data**
How does the relationship evolve?

- Broader access across payer teams/functions
- Leverage more connectivity and data
- Move to reviews “by exception”
Could you imagine a day?

When you could exchange case information with each payer within a common platform?

When a nurse or physician from a payer accesses your review and all relevant information?

When reviews and authorizations for a subset of cases can be automated?
“The most compelling thing about this venture [with the payer] was the relationship. When I look back to where we were from where we are today, I am very happy to say we’re collaborating.”

— Sherri, October 2018
Partnership Results: Covenant

- Appropriate reduction in observation rate: 5.5%
- Increase in average monthly conversions: 80%
- Decrease in average monthly medical necessity denials: 22.8%
“We all need to be asking for this”
Start planting the seed now

• Payer alignment is possible, and preferable
• Challenge the status-quo, always ask “what if?”
• Get your regional payer rep(s) on board
• Journey begins with internal buy-in
2019 & Beyond...a new approach to UM
TAKEAWAY CHECKLIST

- Reach out to a peer who is using XSOLIS
- Schedule your personalized demo with our team
- Get your payer reps engaged in your journey towards smarter utilization
Thank you for attending!

We’ll be in touch soon.