Increasing Efficiency with Health Plan Case Reviews in Utilization Management

An assessment of an AI-driven technology platform and how predictive analytics and a shared view with healthcare providers impacts efficiency

XSOLIS

Executive Summary

In a study conducted with Humana Medicare Advantage teams conducting utilization management case reviews, XSOLIS' CORTEX provided time savings efficiencies across three different modalities for comparison: **fax** versus **EMR access** versus **XSOLIS' CORTEX** (AI-driven technology platform) and **Precision UM** (enhanced capabilities that apply AI and ML to automate inpatient determinations).

- CORTEX to conduct clinical reviews rendered a determination **38%** more quickly than fax, and **15%** more quickly than EMR access.
- When coupled with Precision UM capabilities, CORTEX reduced the average time for approvals on qualifying cases to **9 minutes – 75.7% faster than clinical review time for approvals via EMR workflows and 83.3% faster than fax workflows.**
- CORTEX enabled Humana UM teams to reach a first-touch determination **66% of the time** – 36% better than first-touch determinations achieved through EMR access (42%).

In health plans' effort to reduce administrative burdens, inefficiencies, and provider abrasion, the findings of this study indicate opportunities for significant time savings, accelerated alignment and decision-making.

Current Industry Challenges

The untenable, costly healthcare spend in the United States is well-documented, with the Journal of the American Medical Association[1] (JAMA) estimating that nearly **$4 TRILLION** is spent annually, with **one-quarter of that spend wasted on non-clinical administrative functions**.

Of the 25% spent on administrative waste, there is a **$15 BILLION** opportunity to eliminate waste associated with medical necessity, required documentation and payer-provider communications[2].

Utilization review is an area of healthcare that is rife with friction due to the nature in which health plans and providers must align on the appropriate medical necessity for patients. The purpose of utilization review, however, is to ensure that the member's "five rights" are observed once admitted into the care facility – that the member receives the right services at the right time, by the right provider, in the right setting, for the right cost.

Utilization management (UM) supports the alignment between providers and health plans as they must come to consensus on the clinical merit of the treatment. However, it is more challenging for these groups to align on treatment/payment decisions with no clear, objective set of standards or guidelines that are used universally across the healthcare ecosystem to accelerate first-touch determinations. Exacerbating these inefficiencies are manual processes and variance in payer-provider communication protocols and tools – all of which lead to subjectivity, inefficiency, and administrative waste.

$4 TRILLION
SPENT ON DELIVERY OF CARE ANNUALLY IN THE U.S.

$1 TRILLION
SPENT ON ADMIN HEALTHCARE ANNUALLY IN THE U.S.

$15 BILLION
IN POTENTIAL SAVINGS BY ELIMINATING ADMIN WASTE RELATED TO MEDICAL NECESSITY

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[1] JAMA Network. (2021, Oct. 20) *Administrative simplification and the potential for saving a quarter-trillion dollars in health care.* LINK
[2] McKinsey & Co. (2021, Oct. 20) *Administrative simplification: How to save a quarter-trillion dollars in US healthcare.* LINK

Current Industry Challenges
(CONTINUED)

Solving for administrative and clinical burdens requires expedited solutions for healthcare executives nationwide, **as noted in a recent Chilmark Research study, Next Generation Utilization Management Through AI**. As the COVID-19 pandemic exacerbated pre-existing pain points in our healthcare system – with clinician burnout and staffing concerns at the top of the list – no longer do efficiency and full-time employee time savings equate to a reduction in staffing. They now provide relief to understaffed UM teams, among other areas impacting patient care and the financial resiliency of both health plan and provider organizations.

500,000 NURSES WILL RETIRE BY 2022[3]	**1.1 MILLION** NURSES SHORT BY 2030

In summary, there is a black hole of administrative spending and waste in utilization management that should be improved, but for which traditional solutions have not proven to be effective. Criteria-based guidelines do not account for the variance that exists from one payer-provider agreement to the other, nor can they reflect the member's full clinical picture. Worse, they do nothing to plug the leaks with hemorrhaging health plan and provider resources, who are increasingly asked to "do more with less."[4]
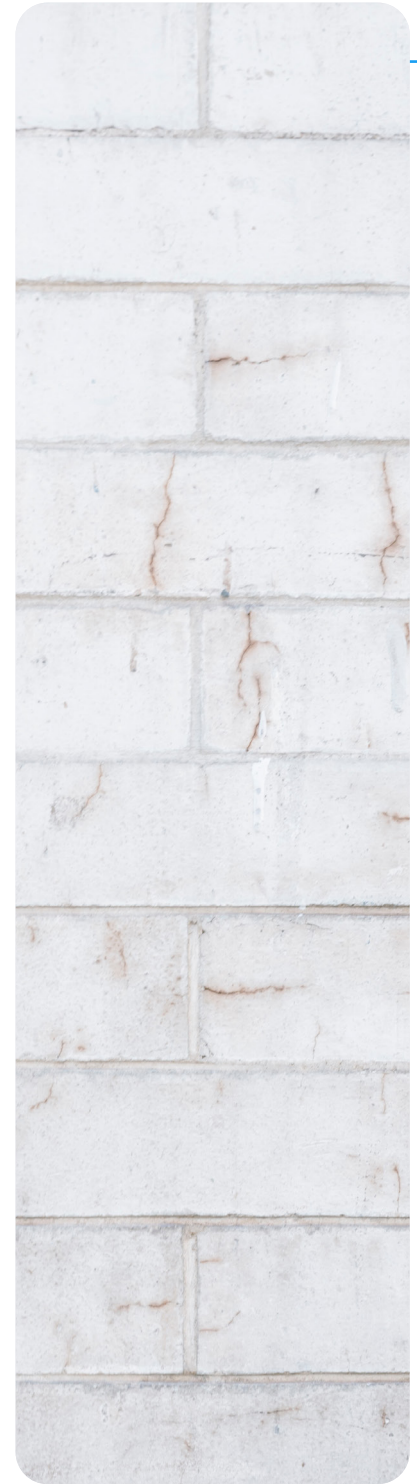
[3] Wolters Kluwer. (2022, April 21) *The nursing shortage demands boldness and creativity. Now.* LINK
[4] Fierce Healthcare. (2022, July 18) *Hospitals, provider groups push back on CMS payment rules as COVID-19 assistance dwindles.* LINK

What is CORTEX?

XSOLIS' CORTEX is an AI-driven technology platform providing a 360-degree approach to utilization management. CORTEX interfaces directly with the provider EMR (all major EMRs are supported) to ingest clinical and financial data such as orders, medical history, documents, procedures, meds, labs and vitals – and it applies real-time predictive analytics and machine learning to render an objective medical necessity score, called the Care Level Score (CLS).
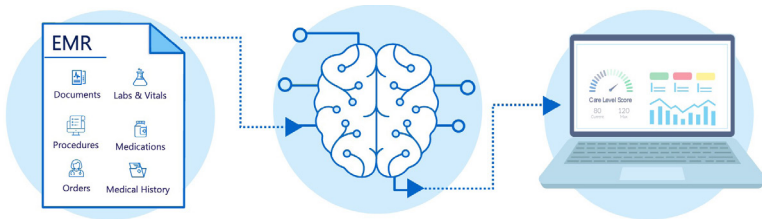
The CLS is a numerical representation of the likelihood of appropriate status for each member, and ranges from 0-157. The higher the score, the more likely an inpatient status determination. The lower the score, the more likely an observation status determination.
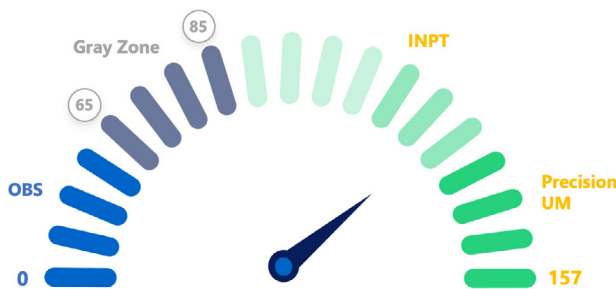
By harnessing the science of data to automate tasks within case management, CORTEX increases efficiencies while supporting medical necessity determinations. The CLS, then, is the guiding force that effectively prioritizes members and automates case reviews, lending consistency, objectivity, and much-needed efficiency throughout the Utilization Review process.

'How can we do more with less?' has never been truer than it is today. XSOLIS has allowed us to be extremely efficient and transparent, with shared value for payers, because neither of us have to wait for patient data to bake on an old stove anymore. It's like moving to a convection oven – with a shared window to peek in the oven as the patient's condition changes in real-time.

Sherri Ernst
Revenue Integrity and Utilization Management Officer

Covenant HEALTH.

Humana + Covenant Health + XSOLIS:
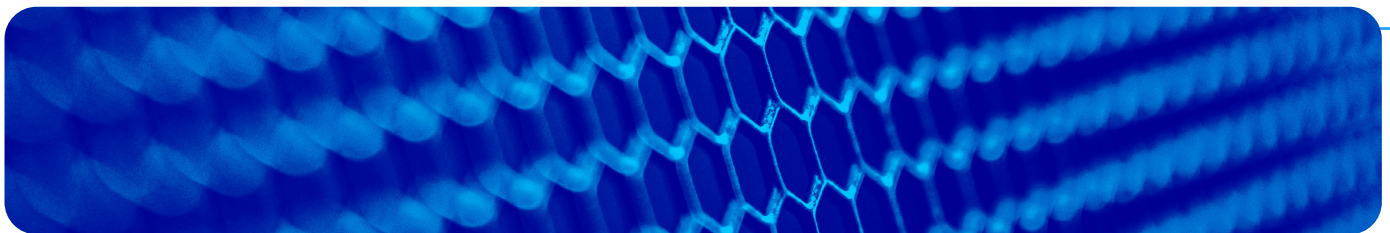## The CORTEX.AUTH & Precision UM Origin Story

Humana and Covenant Health engaged with XSOLIS in 2017, because Humana was going to lose direct clinical access in the wake of Covenant's EMR conversion. Covenant Health had already been using XSOLIS' CORTEX solution for utilization management since 2014 – to provide relief for its utilization management team from a "[blizzard of clerical tasks](#)," so they could instead focus on managing care and performing key clinical reviews, decreasing denials, and improving the team's productivity. With the EMR conversion looming, Humana Medicare Advantage would not only lose their EMR access to Covenant Health for medical necessity claims and documentation, but they would also be forced to revert to faxing and sending all supporting clinical documentation manually.

In less than one month's time after their go-live with CORTEX, Covenant Health had experienced a 10% average monthly decrease in concurrent denials (which increased to a 50% average monthly decrease over the next few months), reduced case touches, and reduced duplicative administrative work for both their staff and health plan connections. Covenant Health leadership wanted to explore whether their success with XSOLIS could be replicated for a shared health plan view of how they were determining and supporting medical necessity within CORTEX – a view of the platform as needed from the health plan's perspective. Among its mix of health plan connections, Humana also expressed interest in such a view, which would provide far more efficiency than faxing and even more data transparency than EMR access.

This shared view of CORTEX available to health plans was concepted in 2017 and became live in 2018, known as CORTEX.AUTH. Immediately, through the use of CORTEX.AUTH, Humana was able to save 15-17 minutes per case review.

Humana + Covenant Health + XSOLIS:
The CORTEX.AUTH & Precision UM Origin Story
(CONTINUED)

It was through the partnership of Covenant and Humana that XSOLIS expanded its CORTEX product to encompass the larger market need for increased efficiency that could benefit health plans as well.

Not only that, but the benefits of increased data transparency, communication and collaboration were symbiotic. Because Covenant was able to get more patient status determinations "right the first time" with CORTEX, they experienced improved relations with Humana once they were on board as well. Use of CORTEX by health plans is sometimes referred to as the payer "communication layer," because such a shared framework for clinical reviews opens communication and improves collaboration between health plans and providers where there had been no platform to facilitate this before.

XSOLIS worked with Covenant and Humana further, to apply analytics to automate inpatient determinations, allowing clinicians to focus on difficult cases while automating administration out of the mix. These enhanced capabilities were born out of the idea that a significant portion of status determinations can be automated because of the amount of data available to make accurate predictions – and that the precision of those predictions becomes increasingly accurate as machine learning is applied to more volume of cases. This process is known as **Precision UM**.

Once Precision UM automation was applied for Humana Medicare Advantage, XSOLIS provided 99+% alignment to historical determinations by Humana as well. To put things another way: Of all inpatient cases assigned to Humana Medicare Advantage, XSOLIS was able to identify 20-25% of inpatient cases, on average, with a 99% or higher degree of accuracy that it eliminated case reviews on.

```
var m = today.getMinutes();
var s = today.getSeconds();
m = correctTime(m);
    correctTime(s);
```

Methodology & Process

Understanding the complexities within health plan UM workflows are unique to how health plans engage with providers, XSOLIS worked with Humana to capture resource spend with UM activities for authorization requests and clinicals received via fax, through EMR access, and CORTEX with Precision UM. Of note, around one-third of office-based physicians still use only fax, mail, or e-fax to share patient health information with providers outside their organizations[5] – thus its inclusion with this study.

Over 100 hours of UM time were captured across 11 different reviewers, all of whom were UM nurse or director roles. The study was conducted across five providers and 15 facilities. One week was dedicated to tracking every "touch" within each of the request channels: **fax, EMR access, and CORTEX with Precision UM**.

Over the three-week study, Humana UM Teams logged entries covering 15 data points on every case, such as Member Identifier, Provider Facility, Initial Review, Reviewer, Clinical Availability, Clinical Review Start/End, Criteria Set, Outcome, MD Referral, and if a Peer-to-Peer was required.

This was a time-consuming and voluntary ask of the participants, or reviewers, who manually entered the relevant data into spreadsheets.

To provide consistent views of *how long it took to reach a status determination*, each case had to be introduced *and come to a final determination* during the recording period for the data to be included in the study. Final determination data included both approved and denied cases.

[5] America's Health Insurance Plans. (2022, July 27) *How health insurance providers are delivering on their commitments.* LINK

Hypothesis

Prior to conducting this time study, members of the XSOLIS payer team hypothesized time study findings, based on their knowledge of how Humana has historically been using XSOLIS' CORTEX solution:

- Direct access to member data within CORTEX would reduce the total time to reach a determination.
- Highlighting pertinent and relevant information through CORTEX's specialty views would reduce the number of touches required to reach a determination.
- Leveraging XSOLIS' analytics to identify qualifying Precision UM cases would significantly reduce the time to determination.
- Leveraging CORTEX, first-touch determinations would be more prevalent than competitive EMR access and faxed workflows.
- Through CORTEX, we would see better alignment between provider authorization requests and payer determinations.

![XSOLIS logo]

Results

Through streamlined workflows, specialty views into member admissions, and AI leveraged to automate status determinations, XSOLIS' CORTEX solution provides Humana Medicare Advantage UM teams added efficiency. This is supported through results following our health plan organization time study conducted with Humana.

Specifically, when examining clinical review times conducted via fax versus EMR access versus XSOLIS' CORTEX and Precision UM capabilities, we found that:

- **CORTEX** to conduct clinical reviews (at 34 mins) rendered a determination **38%** more quickly than fax (at 55 mins), and **15%** more quickly than EMR access (at 40 mins).
  - Based on information shared by Humana about the near-equal mix of fax and EMR access being used among their providers, our payer team also compared time savings to an average of these two methods. **CORTEX reduced the average time to reach a determination by 28.4% over the fax/EMR access average** (at 47.5 mins).
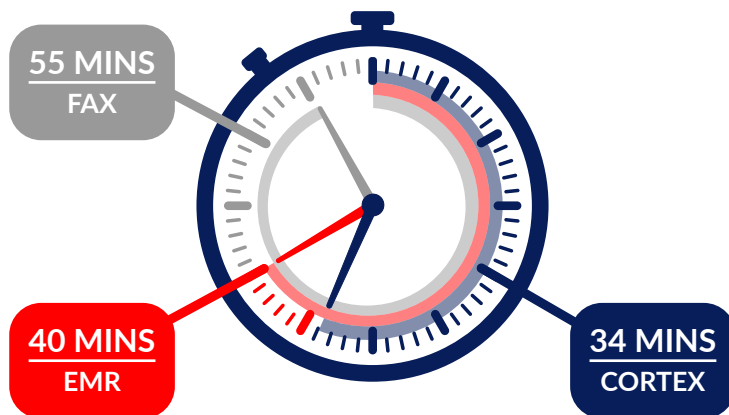
> It's time for healthcare organizations to do things differently when it comes to UM tools and processes.

Angela Frame
Director of Health Services

Humana

Results

(CONTINUED)

- When coupled with **Precision UM** capabilities, which automates *approval decisions*, CORTEX reduced the average time for approvals on qualifying cases to **9 mins.**

  - For a true comparison view of all approvals, the XSOLIS team limited the data scope to learn this is **75.7% faster than clinical review time for approvals via EMR workflows (at 37 mins) and 83.3% faster than fax workflows (54 mins).**
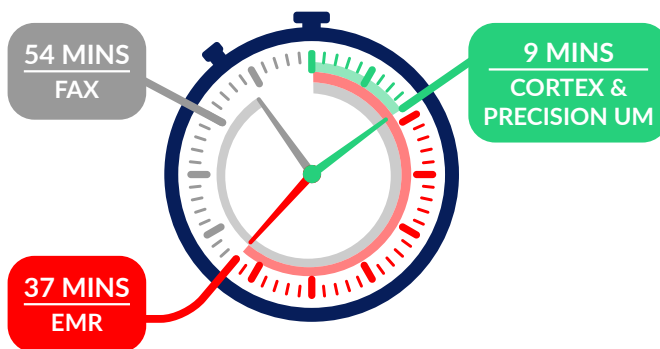
54 MINS FAX

9 MINS CORTEX & PRECISION UM

37 MINS EMR

- CORTEX enabled Humana UM Teams to reach a first-touch determination **66% of the time** – 36% better than first-touch determinations achieved through EMR access (at 42%), and 32% better than first-touch determinations achieved through fax (at 50%).

  - It may seem counter-intuitive that fax yielded more first-touch determinations than EMR access. However, our experience with this finding is that premature access to the EMR resulted in additional touches before clinical data points were available or complete enough to render a determination – in essence, more touches with less efficiency.

> In order to collaborate and improve health outcomes for our members and our providers' patients, we must be collaborative with the data. AI-driven solutions open the door to all sorts of ways we can better collaborate as health plans and providers.

Dr. Rebecca Colon
Regional VP of Health Services

Humana

Conclusion

Since the beginning of its engagement with XSOLIS in 2017, Humana has expanded its collaborative provider CORTEX-based partnerships from nine Humana pilot payer connections in one state, to now, 71 live Humana payer connections live across 10 states, and counting.

Since the CORTEX solution is meant to be a collaboration network – accelerating data-driven decision making across a connected network of health plans and providers with its shared views, these findings are further proof that such a collaborative approach builds trust among provider connections, since both parties benefit by automating manual processes, eliminating subjectivity for more consistent outcomes, and accelerating first-touch determinations. This is the inherent, most shared value of the CORTEX solution – the time and resource savings to both sets of user groups.

XSOLIS solves for friction between payers and providers, while realizing that friction is only a byproduct of inefficient processes that exist between the two groups, particularly in utilization management. By harnessing the science of data with AI-driven workflows to make their processes quicker and easier – providing transparency while ensuring medical necessity and appropriateness of care – we also begin to see increased alignment. Through this alignment, XSOLIS identifies thresholds with high degrees of inpatient requests to approvals and is able to automate the work on both sides – allowing teams to re-allocate saved time to other patients requiring attention.

Conclusion

(CONTINUED)

This health plan time study quantifies the gained efficiency in a tangible way, which helps to better explain the growth trajectory of XSOLIS customers in recent months – and particularly as Precision UM is becoming deployed more pervasively throughout our customer base. As of April 2022, XSOLIS had grown its payer network by 111% and its hospital partnerships by 44% in the last year. As more payers and providers join the network, the more collaboration and efficiencies can be achieved.

> "With today's staffing challenges, AI-driven workflow-solutions have become mission-critical to our organization."

Dr. Rebecca Colon
Regional VP of Health Services

Humana

To learn more about CORTEX as a solution for health plans, visit
XSOLIS.COM/SOLUTIONS/CORTEXAUTH

To read the Chilmark Research white paper that features this payer time study,
Next Generation Utilization Management Through AI, visit
[LINK]

Additional Information

- In addition to time savings for health plans or providers, XSOLIS also reduces friction between the two groups via our shared framework for collaboration. CORTEX.AUTH is the payer view of the AI-driven technology platform, while CORTEX.UR is the provider view – referred to throughout the study as CORTEX, because it is a shared platform. This initial payer time study also encourages the idea that this study could be replicated with XSOLIS provider clients as well – how much time does providers' use of CORTEX save when compared to fax, EMR access provided to their payer connections, versus when those payers are using CORTEX, which can be further augmented with Precision UM capabilities.

- Future studies could explore *if specific Criteria Sets* (e.g., pneumonia; renal failure, chronic) showed improved review time and "number of touches" in CORTEX compared to EMR access or via fax.

- This time study did not include medical director and non-clinical resources. XSOLIS' payer team discussed this added parameter during preliminary finding meetings, but it should explored further to fully unpack the benefits of this time savings in operational/labor costs.

- While this time study was executed over a three-week period, we were not able to use some of the case entries due to determinations not being initiated or completed within the reporting period, as mentioned above. In future iterations of this study, data collection over a more expansive period could provide a larger sample size and allow for a larger percentage of cases to be counted toward the study.

- One of the hypothesis statements was: "Through CORTEX, we would see better alignment between provider authorization requests and payer determinations." While first-touch determinations imply better alignment between providers and health plans, this study did not gather anecdotal commentary to support this hypothesis more specifically. Further, providers and health plans each collect their own data for denials, but they didn't have any efficiency data available – thus the impetus for this particular study.