



WhiteSpace[®]
HEALTH

Playbook: Using AI to Resolve Common Denials

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“If you’re not looking at data,
you’re never going to improve.”




Sarah Scott, MHA, FACMPE
Director of Operations
Allcare Health

In a recent MGMA Stat poll dated March 5, 2024, a significant 60% of medical group leaders noted a rise in claim denial rates. This escalating trend underscores the crucial impact of denials on the revenue cycle, potentially leading to substantial financial losses and operational disruptions for healthcare practices.


Source: <https://bit.ly/3z9AmmA>

Authorization Denials




Pattern Recognition Models

ML models can be trained to recognize patterns in claims data that are indicative of missing or invalid information.




Data Quality Assessment Model

These models assess the quality of data submitted with claims attributes such as completeness, consistency, accuracy, and timeliness. They can flag missing or invalid information.




Predictive Analytics

ML-based models analyze historical data and identify patterns and trends associated with missing information denials, allowing providers to ensure complete and accurate documentation.



Real-Time Data Scrubbing

Prevents denials from missing or invalid information by defining objectives, collecting, and preprocessing data, and selecting, and training the model. Then, integrating it into the workflow.



Decision Support Systems

Considers patterns and probabilities, and provides recommendations on the most appropriate actions to take for a specific denied claim.

Authorization refers to the payer's agreement to pay for specified treatments before the patient receives care. This process is also referred to as preauthorization or prior authorization. As the name suggests, the insurance provider wants to ensure care is necessary before authorizing the planned treatment or service. Failure to obtain insurance approval to render care almost always leads to an authorization denial.

Procedures for obtaining a prior authorization are quite varied in healthcare. In the first step in determining whether an individual patient or service is eligible for coverage, it is necessary to establish whether the planned services require prior authorization or not. The request will be made based on the patient's health insurance coverage. Before granting coverage, insurance companies must approve requests for necessary medical treatments and benefit conditions.

Pre-authorization is a component of medical billing that guarantees claims are processed efficiently and error-free. It is important to note that the preauthorization number and details must be included on the final claim form submitted following the treatment. If there is no pre-approval, invoices are not paid.


To prevent authorization denial, providers need to ensure all relevant information is thoroughly documented, by submitting the authorization requests promptly. Providers need to familiarize themselves with specific authorization requirements and policies of different payers to ensure compliance with their criteria for coverage. They also need to be proactive in the appeal process by providing additional information or supporting documentation to overturn the decision as appropriate. AI plays an important role in reducing and minimizing this type of denial. Below are some of the important ways AI for claim denials helps resolve prior authorization denials.

“95 – 98% is the first pass clean claim rate for high-performing organizations. What is yours?”

Mark Anderson, MBA, LFHIMSS
CEO of AC Group




Missing and Invalid Information Denials




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Missing or invalid information denials occur due to various reasons, such as incomplete patient or provider details, incorrect coding, lack of authorization, missing documentation, duplicate claims, COB issues, or billing inaccuracies. These errors often result from insufficient data, coding errors, knowledge gaps, or procedural misunderstandings. This type of denial is almost always preventable. By proactively enhancing documentation practices, your organization can ensure the precision needed for submitting claims with “clean” patient and provider details.

Common AI Use Cases to Improve Informational Denials in Healthcare

It is easy to recommend improving documentation and prior authorization workstreams. The reality is that these processes can be complex, and time-consuming and if there is any personal multi-tasking or interruptions while they are in flight, errors and data omissions can occur quite easily. AI for claim denials has your back. It analyzes your claims to identify missing or invalid information. AI can also perform real-time checks and provide decision support. All three of these automated functions help ensure the accuracy and completeness of the information in claims submissions. Here are specific examples of how AI for claim denials can help catch missing and invalid data errors before claims are released and denials are returned. You may already be using some of them.

- Claim data analysis
- Real-time claim data scrubbing
- Natural language processing (NLP) to review clinical documentation
- Automated documentation improvement
- Continuous learning and adaptation
- Decision support

More Sophisticated AI Use Cases

AI for claim denials can be used to play an even more key role in reducing missing and invalid information denials. Here are some more sophisticated use cases of AI to reduce this denial type even further.

Pattern Recognition Models

ML models can be trained to recognize patterns in claims data that are indicative of missing or invalid information. For example, patterns of incomplete or inconsistent data entries can be detected using classification or clustering algorithms.

Data Quality Assessment Model

These models assess the quality of data submitted with claims by analyzing various data attributes such as completeness, consistency, accuracy, and timeliness. They can flag missing or invalid information that may lead to claim denials in medical billing.

Predictive Analytics

Using ML-based models (Random Forest) to analyze historical data to identify patterns and trends associated with missing information denials in healthcare, enabling providers to anticipate potential issues and take proactive measures to ensure complete and accurate documentation.

Real-Time Data Scrubbing

Using an AI model to prevent denials in healthcare from missing or invalid information in medical billing by involving steps such as defining objectives, collecting, and preprocessing data, selecting, and training the model, and integrating it into the workflow.

Decision Support Systems

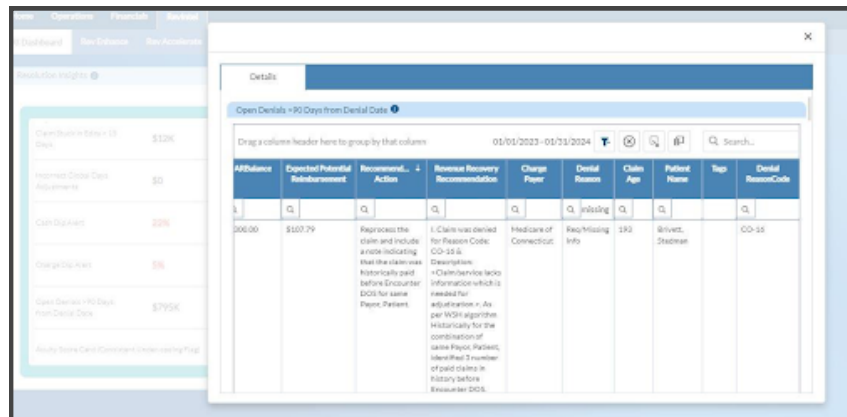
Using ML models as support tools for claim resolution by considering the patterns and probabilities, the model can provide recommendations to revenue cycle staff. It can suggest the most appropriate actions to take for a specific denied claim, increasing the likelihood of successful resolution, optimizing the efficiency of the revenue cycle, and lowering denial resolution expenses.

How the WhiteSpace Health Platform Resolves this Denial Type

The WhiteSpace Health Platform interprets historical data using AI algorithms and provides recommendations based on successful claims resolutions from the past to create guided steps that staff can quickly read and action. By taking the recommended steps, your organization’s denials have the best chance of being adjudicated and paid. Here is how our AI resolves missing and invalid information denials.

Step 1

The first step is to locate all the claims that were denied due to missing or invalid information. AI does this for you – and it ensures the accounts are still recoverable before grouping them together.

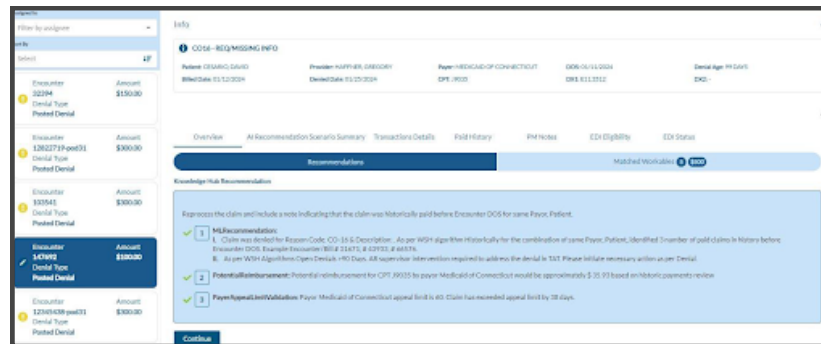


Affiliates	Expected Potential Reimbursement	Recommendations	Reversal Recovery Recommendation	Charge Payer	Denial Reason	Claim Age	Patient Name	Tap	Denial Reason Code
30600	\$107.79	Reopened the claim and include a note indicating that the claim was historically paid before Encounter DCS for same Patient	1. Claim was denied for Reason Code: CO-55. Disposition: + Claim service date information which is needed for adjudication. As per WSH algorithm historically for the combination of same Payer, Patient, Identifier 2 number of paid claims in history before Encounter DCS.	Medicare of Connecticut	Req Missing Info	392	Rivett, Sharon		CO-55

Step 2

For each claim, the platform delivers guided steps on how to best resolve the denial. These recommendations are based on historical claims and evidence of where your organization got paid.

The revenue cycle is largely comprised of codified data in uniform formats. This makes the revenue cycle an excellent starting point for deploying AI to realize greater efficiency of staff and gains in cash collections. When AI algorithms are trained and fine-tuned to traverse ever-growing data sets, their recommendations become even more precise over time, which improves the first-pass clean claims rate and gets you paid faster.



Medical Necessity Denials

What is medical necessity?

Before jumping straight into resolving denials, we need to first define medical necessity. Medical necessity refers to the determination by an insurance company that a healthcare service or procedure is reasonable and necessary for the diagnosis or treatment of a patient's medical condition. This judgment is supposed to be based on accepted standards of clinical practice.

Are medical necessity denials preventable?

Medical necessity denials can sometimes be preventable. By ensuring thorough documentation and adherence to the payer's guidelines, providers give their medical necessity requests the best possible chance for approval by the payer. However, even when the rules are followed and clinical justification is solid, denials are not always entirely avoidable. Sometimes, factors such as insurance company policies and individual case complexities are cited in denying medical necessity.

Factors that cause medical necessity denials

Sometimes, when providers make a medical necessity request seeking approval to treat a patient, it is denied. Some common factors why payers deny medical necessity include:

- Insufficient documentation
- Inappropriate coding
- Out-of-network care
- Alternative treatment options
- Non-compliance with guidelines
- Lack of severity
- Preventable conditions
- Delays in treatment



AI helps prevent these denials

AI for claim denials helps prevent medical necessity denials by analyzing patient data, clinical documentation, and insurance guidelines to ensure that the proposed treatment plans align with established clinical criteria from the payer. AI looks for patterns in large datasets such as claims, EMR, or PMS and spots accounts that may be missing patient data, do not follow the payer's guidelines, or have missing or incomplete clinical documentation to justify the request. When AI finds inconsistencies in data patterns, it flags the account so billers, coders, and revenue integrity staff can review the account and address the items that have been surfaced by AI. It can be used to support accurate billing practices in a similar fashion.

Predictive analytics help even more

The use of ML-based models, and techniques, can improve predictive accuracy when predicting medical necessity denials. Temporal models can also be used to analyze longitudinal patient data and predict changes in medical necessity over time. This trending information allows providers to proactively anticipate potential issues and take preventive actions to avert the denials.

Appealing the denial

Even when you think the medical necessity request has been properly filed and it has been checked against all known criteria, sometimes denials still happen. At this stage, the provider needs to go to bat for the patient through the payer's appeal process. This can be time-consuming and the work it takes to generate an appeal is not reimbursed.

The appeal submission includes additional documentation that justifies why the provider believes the recommended treatment would be in their patient's best interest. Various types of medical records such as emergency department documentation, diagnostic test results, procedure documentation, consultation reports, progress notes, physician orders, clinical guidelines, and other sources can be submitted to support the appeal.

Overcoming Medical Necessity Denials WhiteSpace Health

The WhiteSpace Health Platform interprets historical claims data using AI algorithms and identifies payer patterns, guidelines, and provider recommendations. Staff can then use the actionable insights generated by AI to resolve act and resolve denied claims with the steps that have been historically proven to have the highest probability of successful resolution. Here is a high-level explanation of how it works.

Step 1

Find all the denials due to medical necessity. Group them together to work efficiently.

Step 2

AI in the platform looks for similar claims in historical data that were approved and paid. It consolidates the steps that lead to successful reimbursement and delivers guided steps so your team can always take the highest probability actions for resolving medical necessity denials.

“Tools that help track revenue are essential”



Stacy Yonker
CEO of Sarasota

Advantages of using AI for medical necessity denials

AI in the WhiteSpace Health Platform finds complex patterns in historical claims information and delivers guided steps to resolve medical necessity denials. Since appealing medical necessity denials is not a reimbursable activity, it is important to appeal denials quickly and effectively. AI supports successful appeals with historical evidence.

Even the newest employees can be immediately productive when they follow the guided steps provided by AI. This ensures even the most junior staff members can work quickly and effectively. And when appeals are overturned, patients can receive the care that is needed, and your organizational billings are enhanced.

Lack of Insurance Coverage Denials



A patient's insurance coverage has expired.



Coverage has been terminated.



Or coverage has not been initiated.

Denied claims are one of the largest sources of frustration for CFOs and revenue cycle managers (RCM) in all sorts of healthcare organizations. Denials impede the ability of RCM professionals to create a predictable and well-optimized stream of cash flow that is essential for the health of the business. At an individual claim level, many accounts possess both patient responsibility and payer components. Payer denials can affect whether the patient receives a correct and timely bill for their services – which impacts the provider’s collections. Denials may have the potential for customer service implications that can cloud perceptions of clinical excellence.

Reasons for Lack of Coverage Denials

This type of denial results from the patient’s failure to maintain insurance coverage or to keep the specifics of coverage updated with their provider. The main reasons for a lack of coverage denial are:

- A patient’s insurance coverage has expired.
- Coverage has been terminated
- Or coverage has not been initiated.

“Payers might be big, but with data, we are smarter.”



Sarah Scott, MHA, FACMPE
Director of Operations
Allcare Health

Tips for Prevention

Lack of insurance denials is preventable. To avoid a lack of coverage denials, staff need to focus on four things:

- Patient education.
- Patient engagement.
- Pre-visit verification.
- Leveraging technology, such as electronic eligibility and benefits verification systems.

Timely Intervention is Key

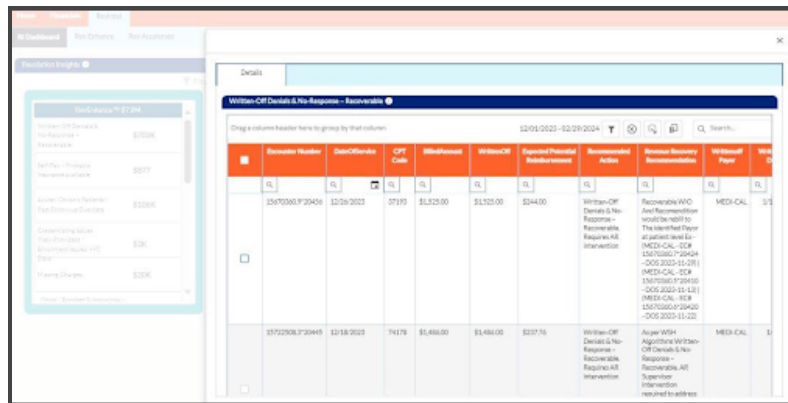
Timely intervention and follow-up are essential to secure reimbursement for denied claims, the appeals processes, and proactive identification of trends or patterns to ensure targeted interventions occur before timely filing deadlines pass. Identifying the root causes of eligibility denials and implementing corrective actions are also needed at the source of their occurrence to prevent them from happening again.

The WhiteSpace Health Approach

WhiteSpace Health’s RevEnhance™ solution interprets historical data and aids with the best path to resolution-based recommendations, so users and staff can act on the claims that were denied by the payer filter and act accordingly towards resolution.

Step 1

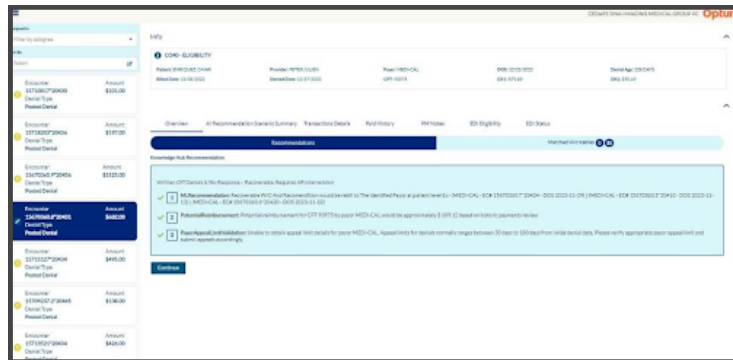
AI in the platform identifies all the lack of coverage denials that can still be recovered.



Execution Number	Date/Order#	CPT Code	Blended Amt	W/Blended	Proposed/Paid	Resolution	Reason for Denial	Recommended Action	W/Blended Amt
15670300.F20456	12/29/2023	37195	\$1,925.00	\$1,925.00	\$244.00	Written-CR Denial & No-Response - Recoverable	Recoverable W/O. The Reason for Denial is not at patient-level Ex (MED-CAL - ICR 15/10/2023-09/28/2023-11-29) (MED-CAL - ICR 15/10/2023-09/28/2023-11-29) (MED-CAL - ICR 15/10/2023-09/28/2023-11-29)	Request AI Intervention	MED-CAL 3/2
15722908.F20445	12/18/2023	74179	\$1,488.00	\$1,488.00	\$237.76	Written-CR Denial & No-Response - Recoverable	As per WSH Algorithm W/Blended Amt - Recoverable	Request AI Intervention Supervisor intervention required to address	MED-CAL 1/1

Step 2

ML presents evidence-based steps so staff can select the actions with the highest probability of successful adjudication and collection.

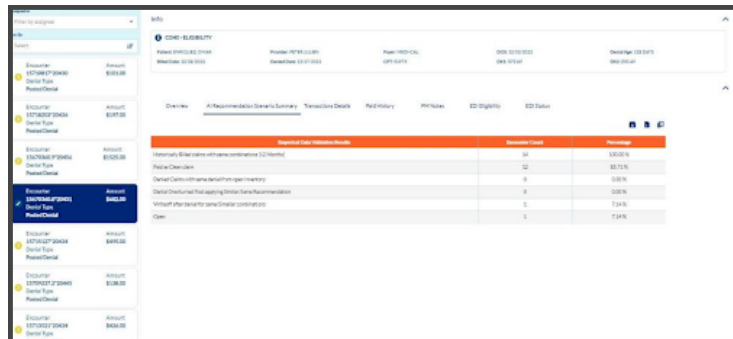


The screenshot shows the 'ERM - ELIGIBILITY' interface. On the left, a list of accounts is displayed with columns for 'Account', 'Amount', 'Date Type', and 'Reason Code'. The account '12476002723604' is selected. The main area shows details for this account, including 'Patient ID', 'Patient Name', 'Plan', 'DOB', and 'Residence'. Below this, there are tabs for 'Overview', 'Recommendations', 'Transaction Details', 'History', 'PH Notes', 'ED Eligibility', and 'ED Status'. The 'Recommendations' tab is active, showing three numbered items:

1. ML Recommendation: Recommend POC Authorization for the identified Plan at patient level - MED-CAL - ERM 20230127 2023-2023-01-28 (MED-CAL - ERM 2023000123604-000-000-000)
2. Patient Authorization: Patient authorization for CPT 93775 by your MED-CAL unit is approximately 3.0% based on historical authorization.
3. Plan Approval/Validation: Unable to obtain appeal info details for your MED-CAL. Appeal links for details normally range between 30 days to 90 days from initial denial date. Please verify appeal link and submit appeal accordingly.

Step 3

Monitor data validation results and compare expected to actual collections.



The screenshot shows the 'ERM - ELIGIBILITY' interface. On the left, a list of accounts is displayed. The account '12476002723604' is selected. The main area shows details for this account, including 'Patient ID', 'Patient Name', 'Plan', 'DOB', and 'Residence'. Below this, there are tabs for 'Overview', 'Recommendations', 'Transaction Details', 'History', 'PH Notes', 'ED Eligibility', and 'ED Status'. The 'Overview' tab is active, showing a 'Required Data Validation Results' table:

Required Data Validation Results	Expected Count	Percentage
Historical Bill rates and volume combination 3.0 Percent	0	0.00%
Plan as Open Plan	12	60.00%
Default Contract terms default on open history	0	0.00%
Default Contract Term applying Billing Group Recommendation	0	0.00%
Verdict after appeal for same/initial contract	1	5.00%
Clear	1	5.00%

Benefits of Revenue Cycle AI

Saves FTE (Full Time Equivalent) Time

By applying AI and ML to the lack of coverage claims, your team is immediately presented with a list of accounts that are still recoverable, eliminating the need to download reports from the EMR/PMS system, load them into a spreadsheet, sort, calculate which claims have yet to hit the timely filing deadline, prioritize by dollar value or other criteria – all before working the accounts can commence. When staff are in short supply, moving repetitive manual tasks to software is a smart business decision.

Eliminates Errors

Culling through claims and other information, grouping, analyzing, and presenting data is a key strength of AI. Humans do not have this capability. Additionally, people often introduce errors, particularly as the complexities of the calculation and analysis increase. AI ensures the highest quality data so you can take the right actions – quickly.

Uses Evidence

ML uses hard evidence and seeks out patterns where your organization was successfully reimbursed in the past to make its guided recommendations on how to best act. By removing “tribal knowledge” and training inconsistencies between employees, AI allows your team to act based on the evidence that has historically shown to get you paid.

Coding Related Denials



Pattern Recognition



Predictive Analytics



Automated Appeals Process



Coding Guideline Adherence

Mistakes in medical coding, such as assigning wrong diagnosis or procedure codes or using inappropriate modifiers, can result in claim rejections. These errors typically stem from insufficient documentation or a misunderstanding of coding rules and guidelines.

To prevent medical coding denials, healthcare providers need to implement a comprehensive documentation strategy. This includes:

- Educating physicians and staff on proper documentation practices
- Providing real-time feedback mechanisms
- Establishing tailored CDI programs
- Conducting regular audits
- Developing clear coding policies
- Utilizing technology solutions
- Fostering effective communication channels
- Implementing robust quality assurance processes
- Offering regular compliance training

Through these efforts, healthcare organizations aim to enhance documentation accuracy, Minimize medical coding denials, and uphold revenue integrity.

Four ways AI can reduce medical coding denials

AI plays a significant role in minimizing coding-related denials. Below are four of the main ways that AI for claim denials can virtually eliminate medical coding denials.

Pattern Recognition

Analyzing historical data to identify recurring patterns and trends associated with medical coding denials is crucial for understanding their root causes. ML (Machine Learning) algorithms automatically detect patterns that may not be obvious to human analysts.

Pattern Recognition

By leveraging ML and deep learning models, AI can capture complex patterns in data and are highly flexible so provider organizations can anticipate potential medical coding denials before they occur. These models can also analyze various data points to identify patterns indicative of denial, allowing for proactive intervention to address coding issues before claims are submitted.

Automated Appeals Process

Automating the generation of appeal letters and supporting documentation based on denial reasons and relevant clinical data streamlines the appeals process and improves efficiency. When combined with RPA (Robotic Process Automation) AI for claim denials can manage repetitive tasks involved in appeal generation, freeing up human resources for more complex tasks.

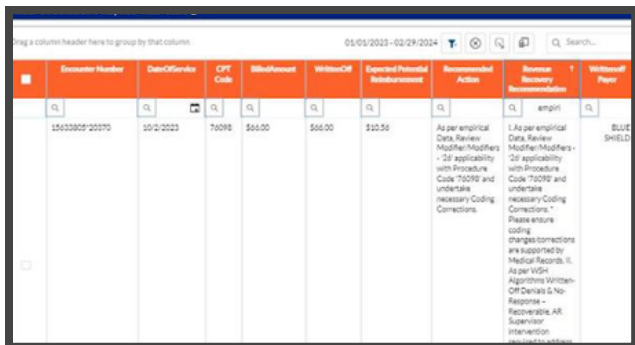
Coding Guideline Adherence

Ensuring coding consistency with current guidelines and regulations is essential for reducing the risk of medical coding denials due to non-compliance. ML-based models can analyze coding practices against established guidelines, flagging any discrepancies for review and correction.

How does WhiteSpace Health resolve medical coding denials?

Step 1

Identify all claims with coding-related denials. By grouping claims with the same or similar reasons, the platform creates leverage and expedites the appeals process.



Encounter Number	Date of Service	CPT Code	Bill Amount	Writeoff	Expected Potential Reimbursement	Recommended Action	Review Recovery Recommendation	Writeoff Paper
1503300920070	10/0/2023	76098	\$66.00	\$66.00	\$10.56	As per empirical Data Review Modifier Modifiers - 2d applicability with Procedure Code 76098 and undertake necessary Coding Corrections.	As per empirical Data Review Modifier Modifiers - 2d applicability with Procedure Code 76098 and undertake necessary Coding Corrections. Please ensure coding changes corrections are supported by Medical Reports. As per WSH Algorithm Write-Off Denials & No-Response - Reversing all Supervisor intervention	BLUE SHIELD

“Data in the WhiteSpace Health Platform lays the issues bare, allowing managers to fix problems with nuanced approaches for each staff member.”



Stacy Yonker
CEO
Sarasota Arthritis Center

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A 30-year veteran in healthcare IT, Carrie Bauman is responsible for marketing communications and business development strategies that drive brand awareness, growth, and value for clients, partners, and investors



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