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The Hidden Cost of Healthcare Operational Bottlenecks

Why Credentialing Is Only the First Domino

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A Note From the Author

I wrote this report because I kept sitting across the table from healthcare executives who had already fixed their credentialing problem and still could not explain why revenue was not showing up on schedule. That gap is not a data problem. It is a framing problem. Credentialing is the loudest domino, so it gets treated as the whole system, and the four bottlenecks sitting quietly behind it, onboarding, scheduling, staffing, and workflow, keep compounding in the dark.

This report is an attempt to make that whole chain visible in one place, with sourcing an executive can actually stand behind in a board meeting. It is the first release in what is now an ongoing series from Koru Research Institute, including a second report on provider credentialing delays specifically, and a quarterly index tracking how fast the industry is actually moving. Read it the way I intended it: not as an argument for a vendor, but as a diagnostic you can run against your own organization before you spend the next budget cycle on the fire that happens to be loudest.

— Marcus J. Frazier

Abstract

Healthcare organizations lose hundreds of billions of dollars each year not to bad medicine, but to broken operations. This report examines the operational bottlenecks that quietly erode healthcare revenue and capacity: credentialing delays, provider onboarding friction, scheduling inefficiency, staffing turnover, disconnected workflows, and the absence of reliable performance data. Drawing on data published by CAQH, the American Medical Association, the NSI National Health Care Retention and RN Staffing Report, and the peer reviewed health services research literature, this report finds that administrative and operational friction accounts for tens of billions of dollars in avoidable loss annually across the U.S. healthcare system, with credentialing delays alone reported to cost individual practices thousands of dollars per provider per month.

The central finding of this report is that credentialing, while often treated by healthcare organizations as the primary operational challenge, is more accurately understood as the first visible symptom of a larger operational system. Organizations that treat credentialing as an isolated administrative task tend to under invest in the surrounding systems, onboarding, scheduling, staffing, workflow, and performance visibility, that ultimately determine whether an organization can scale. This report introduces two tools for addressing that gap: the Koru Bottleneck Matrix, a diagnostic framework for locating operational risk according to financial severity and operational visibility, and the Koru Engagement Model, a three stage methodology for acting on what the matrix reveals.

Keywords: healthcare operations, provider credentialing, revenue cycle, administrative burden, healthcare workforce, healthcare transformation, artificial intelligence in healthcare

A Note on Sources and Methodology

This report distinguishes between two tiers of evidence. The first tier consists of peer reviewed research published in journals including the New England Journal of Medicine, JAMA, and Health Affairs, along with primary data published directly by CAQH, the American Medical Association, and the National Library of Medicine. The second tier consists of figures reported by healthcare revenue cycle management firms, staffing agencies, and industry publications. These industry sourced figures are directionally consistent with one another and with the peer reviewed literature, but they are not peer reviewed, and in several cases methodology is not fully disclosed by the original publisher. Where a figure originates from this second tier, it is identified in the text as an industry estimate. This distinction is made deliberately: a research report intended to inform executive decisions should be honest about the strength of its own evidence.

1. Executive Summary

- U.S. healthcare organizations lose an estimated $760 billion to $935 billion annually to system wide waste, of which administrative complexity is the single largest identified category, at approximately $266 billion (Shrank, Rogstad, and Parekh, JAMA, 2019).

- Even after two decades of automation investment, the United States still spends approximately $1 trillion a year on healthcare administration, roughly 25 percent of total health expenditure, with earlier peer reviewed estimates placing the figure as high as 31 percent (Himmelstein, Woolhandler, and Campbell, New England Journal of Medicine, 2003; Health Affairs Research Brief, 2022).

- Electronic transactions and improved data exchange helped the industry avoid an estimated $258 billion in administrative costs in 2024 alone, yet CAQH identifies a further $21 billion in savings still available through fuller automation of manual and partially manual transactions (2025 CAQH Index).

- Credentialing delays are reported by industry analyses to cost individual healthcare organizations between approximately $6,000 and $10,000 per provider, per month, in unbillable revenue, with total losses per provider frequently exceeding $100,000 over a 90 to 120 day delay window (industry estimates; see Section 5).

- Prior authorization now consumes an average of 13 hours of physician and staff time per week, and two in five physicians employ staff whose only job is managing authorization paperwork (2024 AMA Prior Authorization Physician Survey).

- Registered nurse turnover cost healthcare organizations an average of $61,110 per nurse in 2024, and physician turnover is estimated to cost employers between $500,000 and more than $1 million per departure when recruiting, onboarding, and lost productivity are included (2025 NSI National Health Care Retention and RN Staffing Report; industry estimates).

- Patient no shows are widely reported to cost the U.S. healthcare system approximately $150 billion annually, with peer reviewed research placing the average cost of a single missed appointment at approximately $196 against an average no show rate of 19 percent.

- The organizations best positioned to capture this value are not the ones with the most advanced credentialing software. They are the ones that can locate their own bottlenecks accurately, using a tool like the Koru Bottleneck Matrix introduced in Section 12, and then address them with the same discipline they would apply to any other strategic priority.

2. Introduction: The First Domino

Consider a composite scenario, familiar to anyone who has run healthcare operations at scale. A twelve provider behavioral health group secures funding to add four new clinicians to meet growing demand in its community. The clinical hires go well. The demand is real. And yet, for reasons the leadership team cannot immediately explain, the growth does not appear in revenue for nearly four months.

The delay is not clinical, and it is not, in the end, really about the individual credentialing files sitting in a payer's queue. It is about what those files reveal: a set of connected systems, onboarding, scheduling, staffing, workflow, and reporting, that were never designed to move at the speed the organization now needs. Credentialing is simply the first domino that falls loudly enough to notice.

This is the pattern this report sets out to document. Healthcare organizations, and the vendors that serve them, have spent the past decade treating credentialing as a discrete problem to be solved with better software or faster turnaround times. That work matters, and the data in this report confirms that credentialing delays are genuinely expensive. But credentialing is a symptom, not the disease. An organization that fixes credentialing while leaving its scheduling, staffing, and reporting systems untouched has not solved its operational problem. It has simply moved the bottleneck one stage further down the line.

The remainder of this report is organized around the operational stack that determines whether a healthcare organization can convert growth into revenue: the scale of the problem, revenue leakage, provider onboarding, credentialing, scheduling, staffing, workflow, artificial intelligence, and executive visibility. It concludes with two tools for acting on that picture: a diagnostic matrix for locating exactly where an organization's bottlenecks sit, some of which turn out to be known fires everyone is already fighting, others of which are blind spots no one is watching at all, and an engagement model for addressing them once located.

3. The Hidden Cost of Operational Bottlenecks

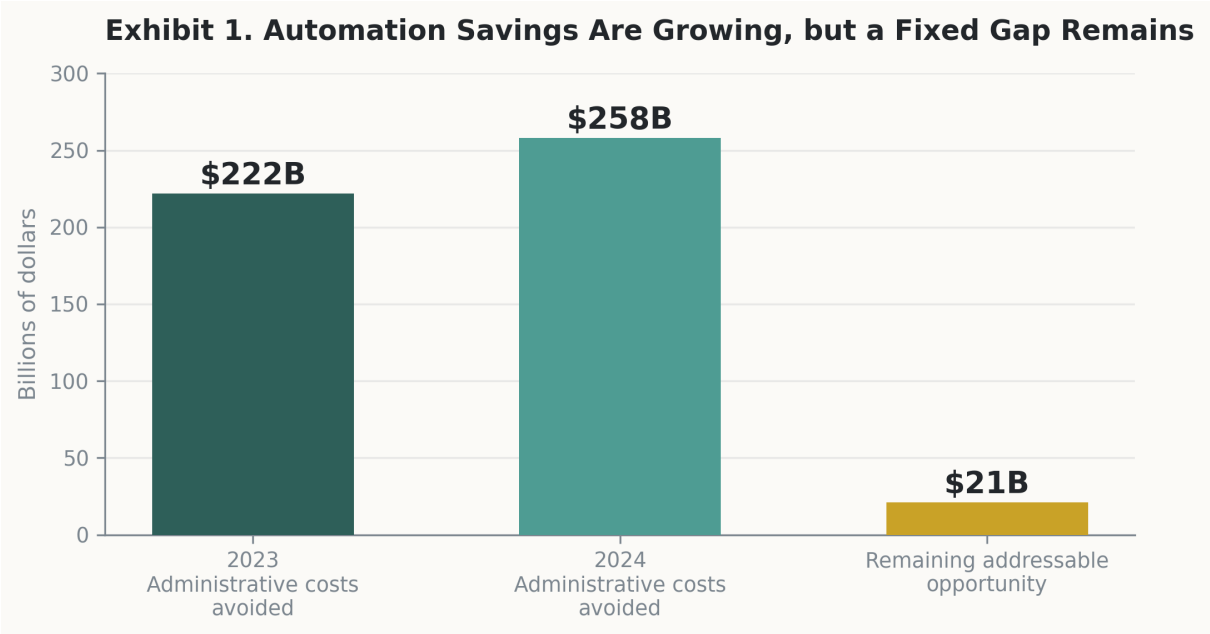
The scale of administrative and operational waste in U.S. healthcare has been studied for more than two decades, and while estimates vary by methodology and year, they converge on a consistent picture: administrative complexity is not a rounding error, it is one of the largest single line items in American healthcare spending.

In an early and still frequently cited study, Himmelstein, Woolhandler, and Campbell found that administrative costs consumed 31 percent of U.S. health spending in 1999, equivalent to $1,059 per capita, more than three times the per capita administrative cost in Canada's single payer system (New England

Journal of Medicine, 2003). A 2022 Health Affairs research brief updated the range to 15 to 30 percent of national health expenditures, and estimated that at least half of that spending, 7.5 to 15 percent of total national health spending, or $285 billion to $570 billion in 2019, does not contribute to health outcomes in any discernible way and should be considered waste rather than necessary overhead.

A 2019 systematic review published in JAMA by Shrank, Rogstad, and Parekh estimated total waste across six domains of the U.S. health care system at between $760 billion and $935 billion annually, approximately 25 percent of total health spending. Administrative complexity was identified as the single largest domain of waste, at approximately $266 billion a year, ahead of pricing failure, fraud and abuse, and the other categories the review examined.

Encouragingly, the trend is not static. The 2025 CAQH Index, built on data from more than 600 health plans and provider organizations covering 63 percent of insured lives, found that electronic transactions and improved data exchange helped the industry avoid an estimated $258 billion in administrative costs in 2024, up from $222 billion the year prior. CAQH's research also found that adoption of artificial intelligence in administrative workflows is accelerating, with more than half of health plans and roughly a quarter of provider organizations now using AI tools for administrative tasks. Even so, CAQH identifies a further $21 billion in savings still available through fuller automation of the transactions that remain manual or only partially electronic.



Source: 2025 CAQH Index; figures reflect administrative costs avoided industry wide through electronic transactions and data exchange, and the additional savings CAQH identifies as still achievable through fuller automation.

Two conclusions follow from this body of research. First, the opportunity is enormous, no other developed health system carries an administrative burden of this size. Second, automation alone has not closed the gap. Two decades of electronic transaction adoption have reduced, but not eliminated, the cost of administrative complexity, which suggests that the remaining opportunity depends less on any single technology and more

on how healthcare organizations design and operate the systems around that technology.

4. Revenue Leakage: Where the Money Disappears

Revenue leakage in healthcare rarely announces itself. It shows up as a slightly lower collection rate, a slightly longer accounts receivable cycle, a slightly higher denial rate, none of which trigger an emergency response on their own, but which compound into material losses over a fiscal year.

Claims denials are a central driver. Industry data cited by the Medical Group Management Association places the average cost to rework and appeal a single denied claim at $118, a cost incurred regardless of whether the appeal ultimately succeeds. At scale, across thousands of claims a year, denial rework becomes a fixed administrative tax that many organizations do not track as a discrete line item.

Scheduling inefficiency is another significant, and separately documented, source of leakage. Patient no shows are widely reported to cost the U.S. healthcare system approximately $150 billion annually. Peer reviewed research offers a more granular view: a study published in BMC Health Services Research found an average no show rate of 19 percent, with each missed appointment costing a practice approximately $196. A separate case study of a vascular laboratory found that a 12 percent no show rate produced a gross annual loss of $89,107 in that single department alone (see Section 7 for further discussion).

The remaining opportunity identified by CAQH, $21 billion in achievable savings through fuller automation of eligibility verification, prior authorization, claim status inquiry, and related transactions, represents a further and more addressable form of leakage. Unlike denial rework or no shows, this is spending that organizations control directly, through the systems and workflows they choose to build.

What unites these categories is that none of them are visible in a standard profit and loss statement as a single number labeled operational leakage. They are distributed across denial management, front desk operations, billing, and payer relations, which is precisely why they persist. An organization cannot fix what its own reporting does not surface as a coherent problem, a theme this report returns to in Section 11.

5. Provider Onboarding: The Ninety Day Wall

No provider generates revenue on their first day of employment. Between the date a healthcare organization signs an offer letter and the date that provider's claims begin reliably clearing payer review sits a credentialing and enrollment process that, across commercial payers, Medicare, and Medicaid, most industry sources place at 60 to 120 days, and in some cases longer.

The financial exposure during that window is substantial. Multiple healthcare revenue cycle management firms report that credentialing delays cost organizations approximately $6,000 to $10,000 per provider, per month, in unbillable revenue, figures that should be read as industry estimates rather than peer reviewed findings, but which are broadly consistent across independent publishers. Applied across a typical 90 to 120 day delay, several of these analyses arrive at total losses in the range of $45,000 to $150,000 per provider, with specialists and surgeons, whose daily billing capacity is higher, facing losses reported as high as

$122,000 over a 120 day delay. One frequently cited MGMA finding suggests that credentialing delays can consume as much as 25 percent of a new physician's first year earnings.

These figures compound quickly for organizations hiring multiple providers at once, which is precisely the scenario in which growth capital is deployed and investor or board expectations are highest. A funded expansion that adds five providers simultaneously does not face one delayed onboarding, it faces five, running in parallel, each carrying its own multi month revenue gap.

Onboarding cost is not limited to the credentialing window itself. Industry analyses of physician recruitment place the average start up cost for a new physician, covering relocation, signing incentives, and ramp up support, at approximately $211,000, separate from the revenue lost during credentialing. It is not unusual for it to take up to two years for a newly hired physician to reach the productivity level of an established colleague. Organizations that treat the credentialing timeline as the entire onboarding problem consistently underestimate the true cost of bringing a new provider to full productivity.

6. Credentialing: One Domino, Not the Whole System

Credentialing deserves the attention it receives. Primary source verification, CAQH profile maintenance, payer enrollment, and hospital privileging are genuinely complex, genuinely regulated, and genuinely expensive to execute poorly. Nothing in this report should be read as minimizing that complexity.

The risk is not that healthcare organizations take credentialing seriously. The risk is that they take it as the entire operational challenge, rather than as the first and most visible stage of a longer chain. A provider who is credentialed but cannot be scheduled efficiently, supported by adequately staffed clinical teams, or tracked through a workflow that surfaces problems before they become financial losses, is not actually operationally ready, regardless of how quickly the credentialing file cleared.

This distinction matters most at the point of vendor and partner selection. An organization purchasing credentialing software, or engaging a credentialing specific vendor, is solving for the first domino. It is not, by itself, solving for the four sections that follow in this report: scheduling, staffing, workflow, and the reporting infrastructure that allows leadership to see all of it clearly. Organizations that conflate the two tend to experience the same operational surprise repeatedly: credentialing turnaround improves, and revenue still does not arrive on schedule, because the next bottleneck in the chain was never addressed.

The practical implication is straightforward. Credentialing should be evaluated, resourced, and vendor selected as one component of a broader operating system, not as a standalone project with its own success metric disconnected from the organization's actual revenue and growth targets.

7. Scheduling: The Silent Leak

Scheduling inefficiency is easy to underestimate because its costs are distributed across thousands of small events rather than concentrated in one large, visible failure. A single missed appointment feels immaterial. A 19 percent no show rate, the average identified in peer reviewed research published in BMC Health Services

Research, is not.

At an average cost of approximately $196 per missed appointment, a practice with modest patient volume can lose tens of thousands of dollars a year to no shows alone, a figure corroborated by a separate case study of a vascular laboratory, where a 12 percent no show rate produced $89,107 in annual gross loss in a single department. Industry estimates place the aggregate national cost of patient no shows at approximately $150 billion annually.

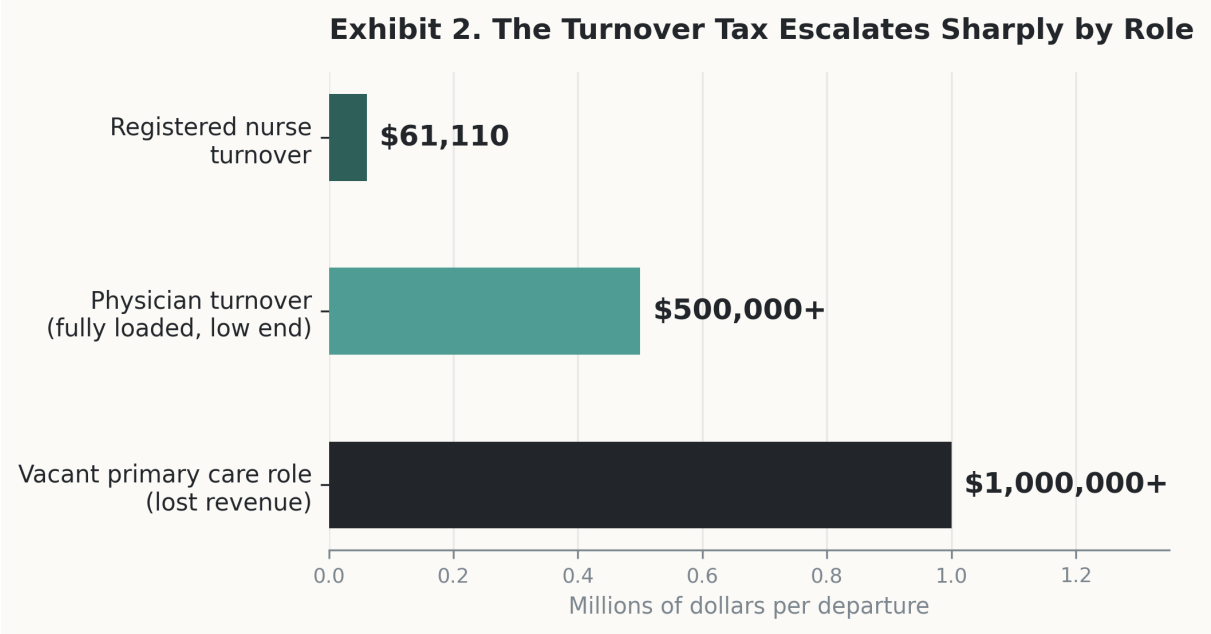
Scheduling data quality compounds the problem. Research on appointment lead times, based on an analysis of 4.2 million scheduled appointments across roughly 13,000 providers, found that new patients who wait more than one month for an initial appointment are more than twice as likely to cancel and not reschedule compared to patients who are seen within one week. In other words, the scheduling system itself, not just patient behavior, is a driver of the no show rate, which means it is also a lever organizations can pull directly. Industry reporting on scheduling technology suggests that self scheduling tools can reduce no show rates by approximately 29 percent, and that correcting the underlying provider and scheduling data, rather than relying solely on reminder messaging, has allowed some health systems to book meaningfully more patients using existing clinical capacity.

Scheduling belongs in the same operational conversation as credentialing for a simple reason: a fully credentialed, fully staffed provider whose schedule is inefficiently built will still underperform financially, and the fix has little to do with payer enrollment.

8. Staffing: The Turnover Tax

Workforce turnover functions as a recurring tax on healthcare operations, one that resets the organization's onboarding, training, and productivity clock every time a position turns over. The 2025 NSI National Health Care Retention and RN Staffing Report, based on data from 450 hospitals across 37 states, found that the average cost of turnover for a single staff registered nurse reached $61,110 in 2024, an 8.6 percent increase from the year prior, with the national RN turnover rate at 16.4 percent and the average time to recruit an experienced RN at 83 days.

Physician turnover carries an even larger financial footprint. Industry analyses of physician recruitment estimate that replacing a physician costs employers between $500,000 and more than $1 million when recruiting fees, sign on incentives, onboarding, and lost clinical revenue during the vacancy and ramp up period are included, with some analyses placing the fully loaded average closer to $1.2 million per departure. A vacant primary care role alone is estimated by recruitment industry sources to generate approximately $1 million in lost revenue over the course of a prolonged vacancy.



Source: 2025 NSI National Health Care Retention and RN Staffing Report; industry analyses of physician recruitment and turnover cost. Physician and vacancy figures reflect the low end of reported ranges.

Staffing turnover interacts directly with the other bottlenecks documented in this report. A newly credentialed provider hired to replace a departed colleague reenters the same 90 to 120 day revenue gap described in Section 5. A short staffed front desk team is less able to correct the scheduling data issues described in Section 7. And an organization already stretched thin on administrative staff is the same organization least able to absorb the 13 hours per week of prior authorization work documented in Section 9. Staffing is not a human resources issue that sits apart from healthcare operations. It is one of the primary mechanisms through which operational bottlenecks compound.

9. Workflow: Where Good Intentions Go to Die

Prior authorization is one of the clearest, best documented examples of workflow friction in American healthcare, and it illustrates a pattern that recurs throughout this report: the cost is not concentrated in any single failure, it is distributed across thousands of routine interactions that individually seem manageable and collectively consume enormous capacity.

The American Medical Association's most recent Prior Authorization Physician Survey, based on responses from 1,000 practicing physicians, found that prior authorization now consumes an average of 13 hours of physician and staff time per week, the equivalent of nearly two full working days. Forty percent of physicians report employing staff whose job exists exclusively to manage authorization paperwork. Ninety four percent of surveyed physicians say prior authorization contributes to burnout, and 88 percent report that it increases overall utilization of health care resources, the opposite of its stated purpose.

Prior authorization is a workflow problem before it is a policy problem. The same organizations that struggle with authorization turnaround frequently also struggle with referral tracking, results follow up, and the internal handoffs between front desk, clinical, and billing staff that determine whether a visit converts

cleanly into a paid claim. A McKinsey and Harvard analysis published as a JAMA Viewpoint estimated that of the $265 billion in administrative spending that could plausibly be eliminated without compromising care, the majority, an estimated $175 billion, is achievable through the actions of individual organizations alone, without requiring broader policy or regulatory change. That finding is the strongest evidence in this report that workflow redesign, not just software procurement or policy reform, is where a meaningful share of the addressable opportunity actually sits.

10. AI: The Force Multiplier, Not the Fix

Artificial intelligence adoption in healthcare administration has moved from pilot programs to standard practice more quickly than most other parts of the industry. The 2025 CAQH Index found that more than half of health plans and approximately one quarter of provider organizations now use AI tools in administrative workflows, alongside continued growth in electronic prior authorization and FHIR based data exchange.

The evidence in this report supports a specific, and more disciplined, view of what AI actually does well in this context. It is a force multiplier applied to an existing process, not a substitute for designing that process correctly. An organization that applies AI to a disorganized credentialing workflow will process disorganized work faster. An organization that applies AI to a scheduling system built around staff convenience rather than patient access will fill a poorly designed schedule more efficiently. In both cases, the underlying operational design, not the presence of AI, determines whether the result is genuine improvement or simply faster failure.

The American Medical Association's own survey data introduces an important caution here. Even as AI adoption accelerates on the payer side, six in ten physicians surveyed expressed concern that AI may increase, rather than decrease, prior authorization denial rates, and 74 percent report that denials have already increased over the past five years. This is not an argument against AI adoption. It is evidence that AI deployed without operational discipline, clear workflow ownership, and accurate underlying data can make an existing bottleneck worse rather than better. The organizations most likely to benefit from AI in the next several years will be the ones that first build the operational structure, credentialing, scheduling, staffing, and workflow, that AI can then accelerate.

11. Executive Dashboards: Measuring What Matters

A recurring theme throughout this report is that operational losses are rarely visible as a single, clearly labeled number. That is not an accident of healthcare's complexity, it is, at least in part, a data and reporting problem, and there is direct evidence of it even at the most basic level of hospital financial reporting.

A study using the Medicare Cost Reports, the only universal, public source of U.S. hospital financial data, examined administrative expense reporting across 5,639 hospitals and found that the vast majority, 78.3 percent, reported only a single, undifferentiated administrative and general expense line, offering no visibility into which specific administrative functions were driving cost. Among the smaller share of hospitals that did report administrative expenses in more detail, 31.2 percent of the reported subcategories

appeared to be mislabeled. The researchers concluded that, as structured today, this dataset is not a reliable or actionable tool for hospitals or policymakers seeking to identify and address excess administrative spending.

If this is true at the level of federally mandated cost reporting, it is reasonable to assume the same problem exists, often in a more acute form, inside individual healthcare organizations that lack a dedicated financial reporting infrastructure at all. An executive team cannot manage what it cannot see, and cannot see what its own systems were never built to surface. Executive dashboards that connect credentialing status, scheduling utilization, staffing turnover, denial rates, and prior authorization turnover into a single, regularly reviewed view are not a convenience. Based on the evidence assembled in this report, they are one of the few tools available that make the other four bottlenecks, provider onboarding, scheduling, staffing, and workflow, visible enough to manage before they compound into the kind of revenue gap described in the introduction to this report.

12. The Koru Bottleneck Matrix™

Every organization examined in this report has a version of the same diagnostic failure: it allocates operational attention to whichever problem is loudest, not whichever problem is most expensive. The Koru Bottleneck Matrix exists to correct that, by plotting operational issues along two axes rather than one.

The first axis is financial severity, how much a given bottleneck actually costs the organization, drawing on the kind of data assembled throughout this report. The second axis is operational visibility, whether the organization's own reporting, dashboards, and leadership conversations would surface that cost without deliberate investigation. Crossing these two axes produces four quadrants, and a healthcare organization's entire operational stack can be sorted into them.

Severity vs. Visibility	Low Operational Visibility	High Operational Visibility
High Financial Severity	**Blind Spots** High cost, low visibility. Staffing turnover, workflow friction, and the administrative expenses hospitals themselves cannot accurately report. Never fixed because leadership does not see it as a single, named problem.	**Known Fires** High cost, high visibility. Credentialing lives here. Exactly the reason it gets fixed first, and exactly why fixing it alone creates the illusion that the operational problem is solved.
Low Financial Severity	**Background Noise** Low cost, low visibility. Minor inefficiencies not yet worth executive attention. Worth monitoring, not worth resourcing ahead of the categories above.	**Distractions** Low cost, high visibility. The squeaky wheel problems that consume disproportionate executive attention because they are annoying and visible, not because they are expensive.

Table 2. The Koru Bottleneck Matrix

The diagnostic value of the matrix is in the quadrant most organizations never think to look at: blind spots. Known fires get resourced because they are visible and expensive, credentialing is the clearest example in this report, and Section 6 argues that this is precisely why organizations stop there. Distractions get resourced because they are visible, even though they are not expensive, simply because a visible problem is easier to justify acting on than an invisible one. Blind spots, the staffing turnover documented in Section 8, the workflow friction documented in Section 9, the reporting gaps documented in Section 11, receive the least attention of any quadrant despite frequently carrying the highest aggregate cost, precisely because nothing in the organization's own systems is built to surface them.

Used as a diagnostic exercise, the matrix asks a healthcare executive to plot their own organization's operational issues, credentialing turnaround, scheduling utilization, staff turnover, prior authorization burden, reporting quality, honestly against both axes, before deciding where to spend the next budget cycle. In most organizations examined for this report, that exercise redirects at least one dollar of planned spending away from a known fire and toward a blind spot. That redirection, more than any single technology or vendor decision, is what separates organizations that solve their operational problem from organizations that solve their credentialing problem and call it the same thing.

13. The Koru Engagement Model

The Bottleneck Matrix answers where an organization's operational risk actually sits. It does not, by itself, answer what to do next, and a diagnostic without a delivery mechanism is only half a framework. The Koru Engagement Model is the second half: a three stage methodology for moving from an accurately diagnosed problem to a resourced fix, sequenced so that the highest severity, lowest visibility issues, the blind spots the matrix is specifically designed to surface, do not lose out to whichever fire is loudest that quarter.

It is deliberately a methodology, not a technology platform, and deliberately a sequence rather than a menu. Organizations that skip directly to execution, hiring a credentialing vendor, for instance, without first running the diagnostic, tend to resource known fires correctly and blind spots not at all, which is the exact failure pattern this report documents from Section 3 onward.

Stage	Name	Focus	Outcome
01	**Insight™**	Diagnose the operational stack using the Koru Bottleneck Matrix, and quantify where revenue is leaking.	A fixed fee operational assessment with a defensible return on investment case.
02	**Execute™**	Build and stabilize the systems: credentialing, CAQH, payer enrollment, and practice launch, so revenue starts moving.	Providers credentialed, enrolled, and generating revenue on a defined timeline.
03	**Optimize™**	Sustain performance: KPI dashboards, workflow refinement, and AI enablement under ongoing advisory.	Executive visibility into the metrics that predict revenue before it is lost.

Table 3. The Koru Engagement Model

Organizations typically enter this model at Stage One, Insight, running the Bottleneck Matrix regardless of how urgent their credentialing backlog feels on day one. The reason is straightforward: without a clear, quantified view of where revenue is actually leaking across all four quadrants, resources allocated to Stage Two, Execute, are allocated on the basis of which problem is loudest rather than which problem is most expensive. Organizations with an already functioning credentialing process, but no clear KPI visibility, may enter directly at Stage Three, Optimize. The model is sequential in logic, not rigid in application.

14. Limitations of This Report

This report synthesizes published data rather than presenting new primary research, and that synthesis has specific limits worth stating plainly. First, the industry sourced figures on credentialing delay costs, discussed in Section 5, vary meaningfully across publishers, from approximately $6,000 to $10,000 per provider per month in lost revenue, depending on specialty, payer mix, and geography. This report presents the range reported across multiple independent sources rather than a single point estimate, and readers applying these figures to a specific organization should treat them as directional rather than precise.

Second, several of the statistics cited in this report, including patient no show cost estimates and physician turnover cost estimates, originate from industry publishers rather than peer reviewed research, as disclosed in the methodology note above. Where peer reviewed research exists alongside industry estimates, both are presented, and the peer reviewed figures should be weighted more heavily.

Third, this report is authored by the founder of a healthcare operations firm. The Koru Bottleneck Matrix and the Koru Engagement Model presented in Sections 12 and 13 reflect the diagnostic and operating approach of that firm. Readers should evaluate the underlying data independently of the frameworks offered to interpret it, and the author has structured this report, including the sourcing methodology disclosed above, to make that evaluation possible.

Future research from Koru Research Institute will examine specific components of this operational stack in greater depth, including a planned second report on the financial mechanics of provider onboarding and a third examining the specific design patterns that separate healthcare organizations with reliable executive reporting from those without it.

15. Conclusion: The Organization That Wins

Every healthcare organization examined in the research underlying this report is, in some sense, the same organization: a group of clinicians and administrators trying to deliver care faster than their own operational infrastructure can support. The villain in this story is not any single vendor, payer, or regulation. It is bottleneck itself, the accumulated friction of credentialing delays, inefficient scheduling, staffing turnover, disconnected workflow, and invisible performance data, compounding quietly until it shows up as a missed growth target or a board level question no one can fully answer.

The organizations that win are not the ones that eliminate every bottleneck simultaneously. They are the ones that stop treating credentialing as the whole system, plot their own operations honestly across the

matrix in Section 12, known fires against blind spots, and then execute against that view with the same discipline they would apply to any other strategic priority. Credentialing is the first domino. What an organization does about the dominoes behind it, especially the ones its own dashboards were never built to show it, is what determines whether growth becomes revenue, or simply becomes a longer waiting room.

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Koru Health works with medical groups, behavioral health organizations, urgent care networks, Federally Qualified Health Centers, and private equity portfolio companies to diagnose and rebuild the operational systems that determine whether healthcare organizations can scale.

Koru Research Institute is the research and publishing arm of Koru Health, based in New York, NY. Its mission is to bring rigorously sourced, transparently cited analysis to questions that healthcare executives are otherwise left to answer with vendor marketing or internal anecdote. This is the first report in an ongoing series.

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