



WHITE PAPER

Claims Denials:
**Causes, Impact, and
AI-Enabled Prevention
Strategies**

Executive Summary

400+ Providers surveyed

All major care settings — executives and managers — enterprises and independents

Claims denials:

Threat to healthcare enterprise

Why are denials so important?

Healthcare leaders say that reducing denials is a top revenue cycle priority. Initial denials put both payer and patient revenue streams at risk.

- Payer revenue delayed or lost
- Cost of recovery operation (appeals)
- Patient payment delays and potential nonpayment of unexpected patient balances
- Lower patient satisfaction due to negative denials experiences
- Denied claims not included in quality score, negatively impacting star ratings

Denials impact:

An objective look

What resources are employed to appeal denials, and with what result?

Across care settings, providers typically appeal most/all denied claims. The impact of denials varies across providers and care settings.

- Hospitals are hit hardest. Half recover less than 50% of initially denied claims charges, despite employing teams as large as 10-20+ full time employees (FTE) or more
- Physician practices achieve a greater recovery on initially denied claims charges, and frequently use one (or fewer) FTE to appeal denied claims

Causes of denials:

Full revenue cycle view

Where can revenue cycle teams intervene to prevent denials?

67% of providers pinpoint front-end workflows as the top contributor to denials.

- Initial denials are primarily caused by inaccurate or missing data, including patient identification, demographic, insurance, or benefits data gathered during registration.
- Initial denials are seldom attributed to over-burdened revenue cycle teams.
- Claims submission delays are rarely a cause of initial denials. Missing/omitted claims data is a more frequent contributor.

Moving forward:

Prevention solutions

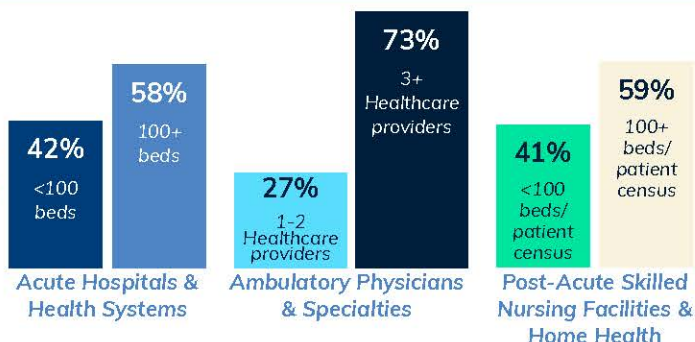
What innovations are on the horizon to reduce initial claims denials?

- Autonomous, real-time updating of patient demographic, identification, and benefits data throughout the revenue cycle
- Automated alert system within claims workflow to identify and correct claims most likely to be denied
- Intelligence/analytics layer running across a unified, automated revenue cycle to pinpoint friction/delay ripe for targeted AI intervention

Research method:

- Survey fielded in April 2024
- Survey included large, mid-size, and smaller providers
- Secondary research and benchmarking to enrich insights

Respondent Profile





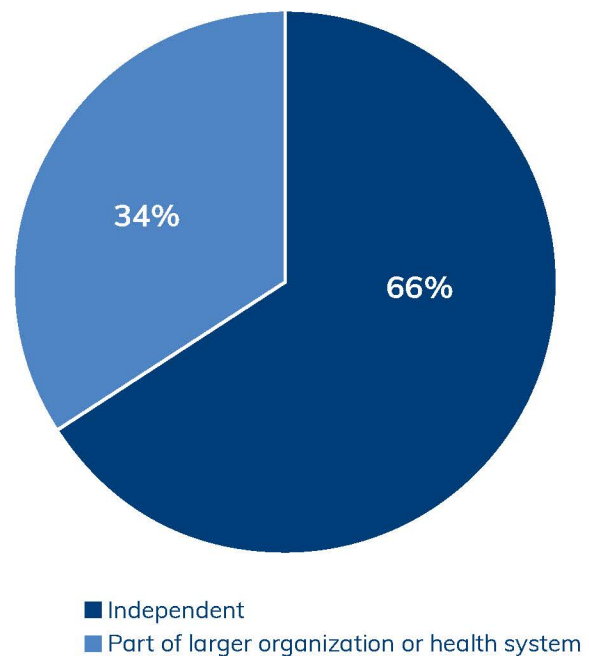
Research design

Over 400 leaders and managers across hospitals, health systems, physicians, specialists, other ambulatory practices, and post-acute providers were surveyed in Q2 of 2024.

All survey participants were screened for visibility across the revenue cycle (front-end to back-end).

For particular survey topics, participants were further screened for knowledge about possible causes of claims denials, and for knowledge about the financial impact of denials on their organization.

Organization structure



Executive Revenue Cycle Priorities

Top priorities of healthcare executives in 2024

When asked about priorities for the revenue cycle, claims denials are the leading mention among healthcare leaders. Many comments focused on speeding time to payment and maximizing collections, with denials reduction seen as an enabler of these goals.

“ Ensuring **reduced denials**, enhancing customer experience through advanced patient portal, AI-assisted coding, CDI.

“ **Denial management**, correcting registration errors before claim is sent.

“ To **eliminate manual intervention** and make electronic as many workflows as possible.

“ **Collecting every dollar** that we are due. Collecting 100% of recorded net patient revenue.

“ AI, cash collections, **denial reduction**, operational efficiencies.

“ **Denial management**, provider enrollment streamlining, credit balances, optimizing patient portal payment utilization, eCheck-in, efficiency in prior authorization.

What are your organization's top priorities for the revenue cycle?

Spontaneous verbatim responses were coded into categories shown in the chart below

Top Priorities for the Revenue Cycle



Base: C-Suite and Revenue Cycle VPs/Directors, n=175

Revenue Cycle Challenges: Where Do Denials Fit?

As measured in the context of other potential challenges, denials rise to the top.

Top challenge

- When participants were presented with a series of potentially challenging aspects of the revenue cycle, **claims denials** were most often rated a top challenge

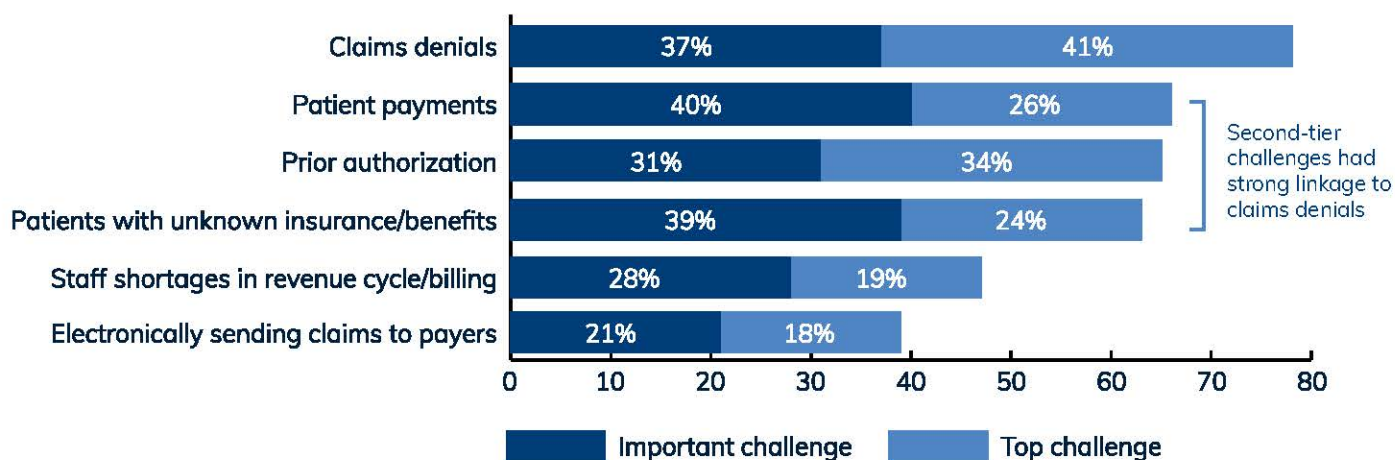
Second-tier challenges

- Front-end RCM workflows**, such as prior authorization and unknown insurance/benefits were a significant challenge. Patient payments was also considered an important challenge overall.

Third-tier challenges

- Of **lesser urgency** are revenue cycle staffing shortages and electronic claims submission

Top challenges and important challenges



Base: All respondents, n=489

Q. For your [organization], how great a challenge or concern is each of the items below?

Revenue Cycle Challenges: Where Do Denials Fit?

The challenge of denials for healthcare executives and managers

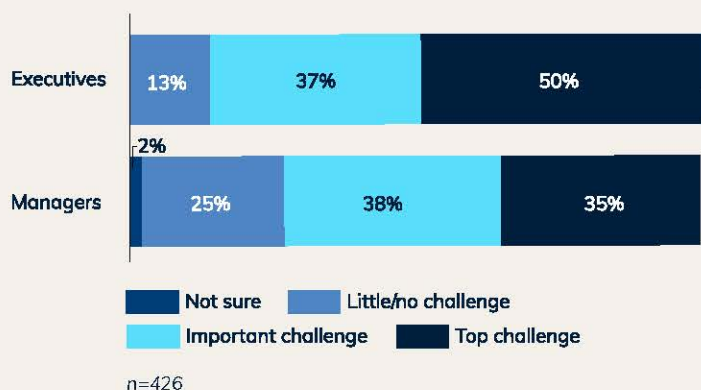
Although claims denials are a top challenge across care settings, each views denials differently. Participants from hospitals consider claims denials to be a greater challenge.



Role-based differences on denials

The perception of denials pain is not just a view held by leadership. Managers also point to denials as a considerable challenge.

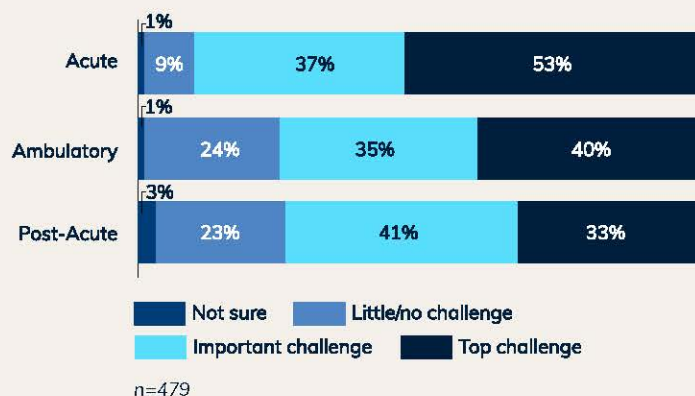
Claims denials as a revenue cycle challenge:
Executives and managers



Care setting differences on denials

Although hospitals are the most affected, substantial numbers of post-acute and ambulatory groups also feel the impact.

Claims denials as a revenue cycle challenge:
Care setting

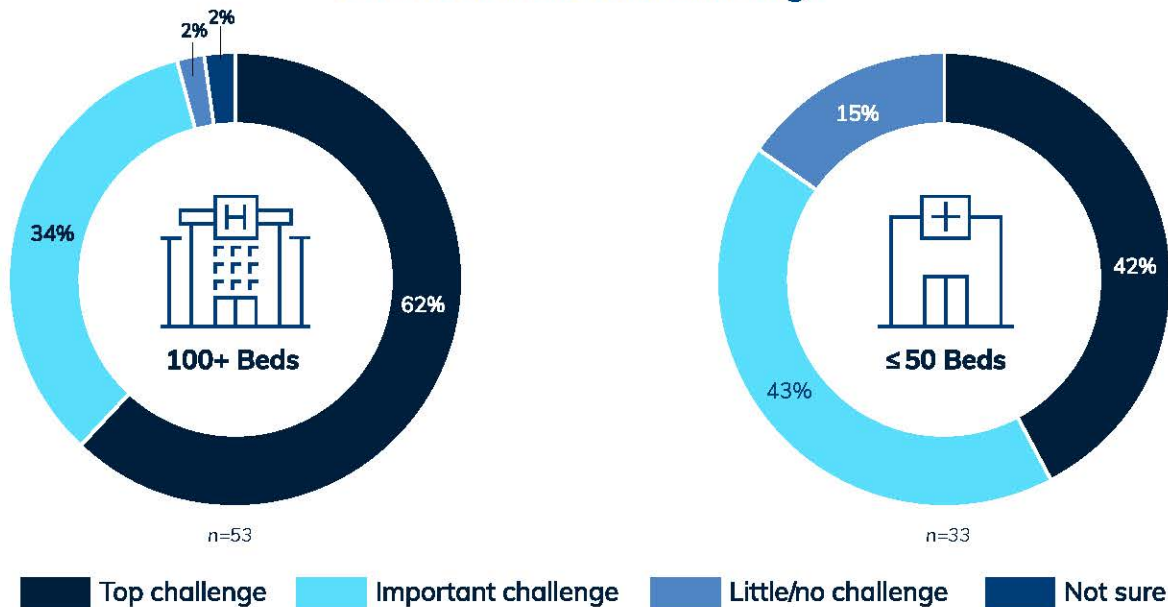


Revenue Cycle Challenges: Where Do Denials Fit?

The challenge of denials: Acute hospitals and health systems

As a direct impediment to their organizations' financial success, more than 9 in 10 hospital revenue cycle leaders and managers at mid-large hospitals say denials are an important challenge or concern. Denials are also a considerable challenge in small hospitals.

Claims denials as a challenge



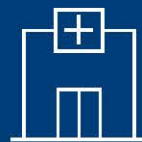
Challenges With Denials



Mid/Large Hospitals/ Health Systems

62% top challenge
+34% important challenge

= 96% Significantly challenged



Community and Critical Access Hospitals

42% top challenge
+42% important challenge

= 84% Significantly challenged

Revenue Cycle Challenges: Where Do Denials Fit?

The challenge of denials: Ambulatory physicians and specialists practices

While significantly challenged by denials, ambulatory providers are somewhat less likely than hospitals and health systems to say denials are a top challenge (although many do). This view is similar across practice groupings.

Claims Denials as a Challenge



Challenges With Denials



Primary Care

33% top challenge
+36% important challenge

= 69% Significantly challenged



Specialties*

39% top challenge
+35% important challenge

= 74% Significantly challenged



Other Ambulatory Facilities and Practices**

46% top challenge
+34% important challenge

= 80% Significantly challenged

*Specialties including Cardiology, Gastroenterology, Ophthalmology, Orthopedics, etc.

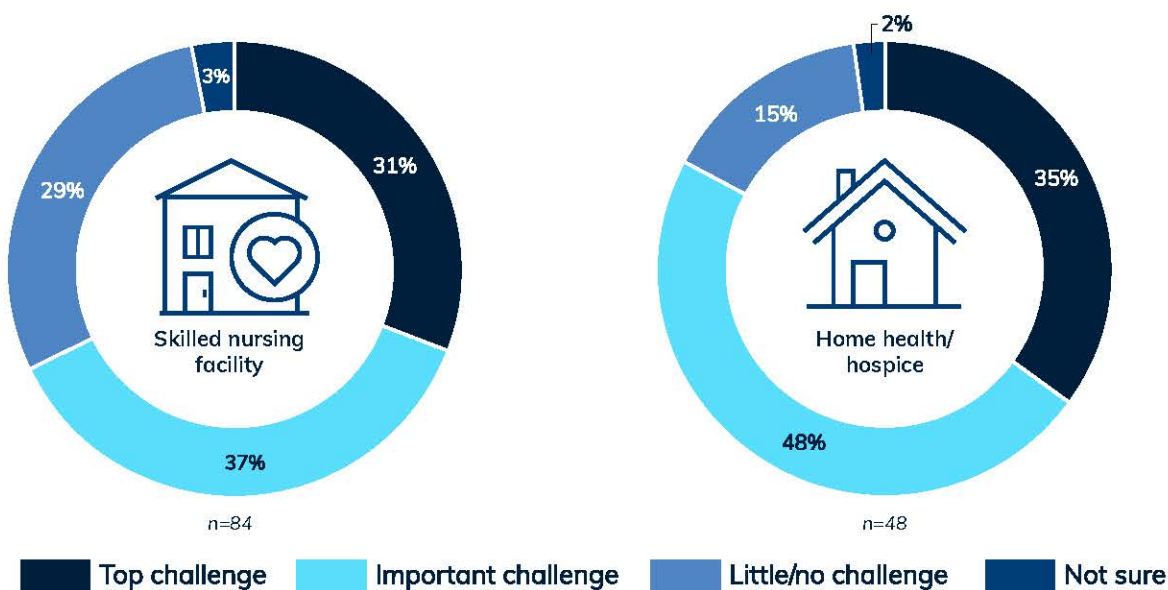
**Other Ambulatory Facilities and Practices: Federally Qualified Health Center, Ambulatory Surgical Center, Behavioral Health, Physical Therapy

Revenue Cycle Challenges: Where Do Denials Fit?

The challenge of denials: Post-acute home health and skilled nursing facilities

While denied claims are a considerable challenge for post-acute organizations in general, they are a greater concern for home health/hospice organizations than for skilled nursing facilities.

Claims denials as a challenge



Challenges With Denials



Skilled Nursing Facilities

31% top challenge
+37% important challenge

= 68% Significantly challenged



Home Health /Hospice

35% top challenge
+48% important challenge

= 83% Significantly challenged

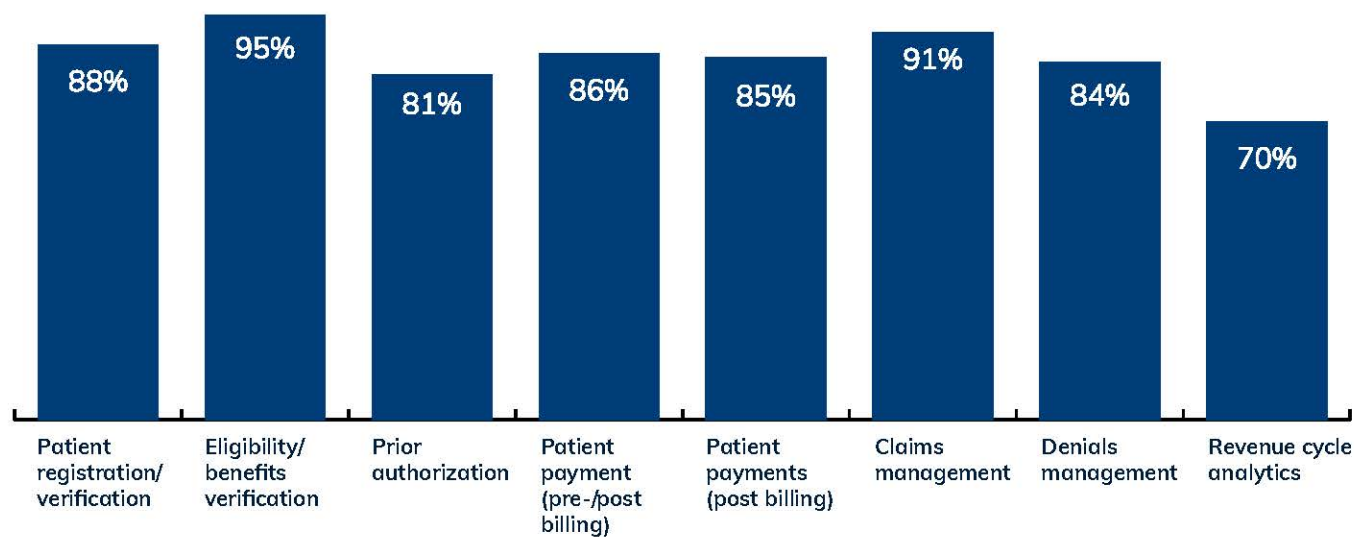
Contributors to Initial Claims Denials

Initial claims denials occur after healthcare professionals with sequenced workflows have guided the patient through access, registration, payment planning, and care delivery. Data stored during this patient journey becomes part of the submitted claim.

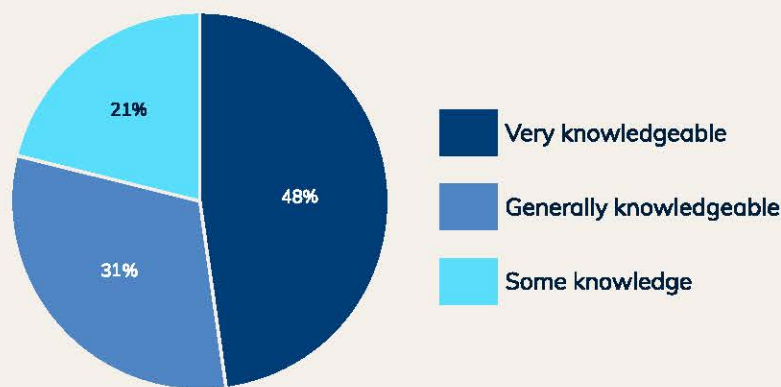
This section of the report explores the revenue cycle workflows that contribute the most to initial claims denials.

Note: Survey participants who offered their perspectives on this topic were familiar with most/all revenue cycle workflows and were screened for knowledge of initial claims denials [figures below].

Percent familiar with each workflow



Knowledge of initial claims denials



Base: All respondents with knowledge of initial claims denials, all care settings, n=352

Contributors to Initial Claims Denials

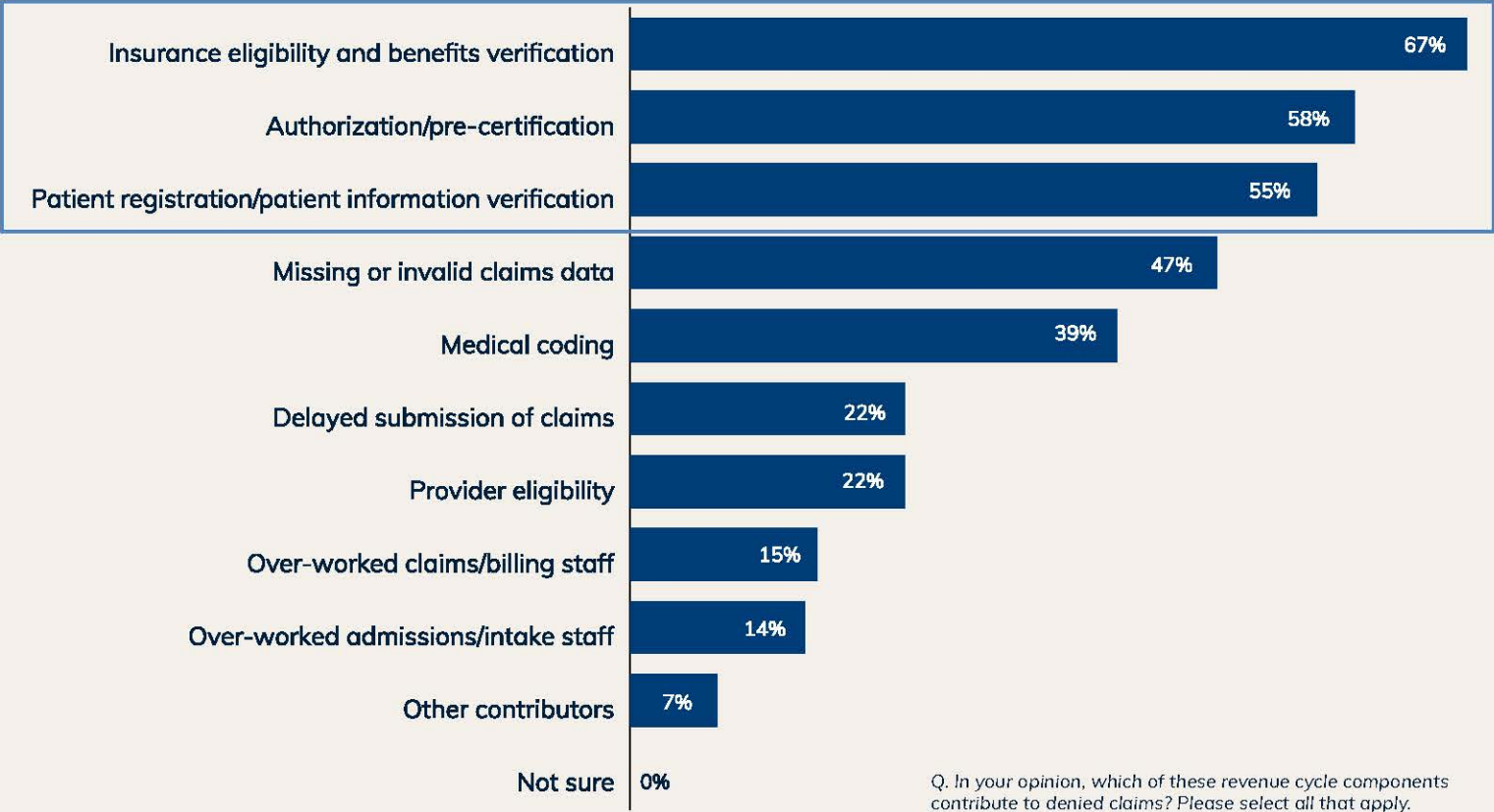
Full revenue cycle view

Leaders and managers from all care settings were asked to identify all workflow contributors to initial claims denials across the full revenue cycle.

Nearly 9 in 10 (87%) leaders and managers attributed initial claims denials to at least one workflow on the front end of the revenue cycle:

- Insurance eligibility and benefits verification
- Authorization/pre-certification
- Patient registration/patient information verification

Contributors to denied claims
(Multiple responses allowed)



Base: All respondents with knowledge of initial claims denials, all care settings n=396

Contributors to Initial Claims Denials

Top contributor view

Participants were asked to identify the single **top** contributor to denials at their organization.

Key findings include:

- **67% identified a front-end workflow** as the top contributor to denials
- **28% of participants identified insurance eligibility and benefits verification** as the single top contributor to denials

Top contributor to denied claims



Related technology trends

Automated and integrated smart registration workflows verify patient demographic data, discover unknown coverage, and return detailed insurance benefits, supporting the success with downstream payment workflows.

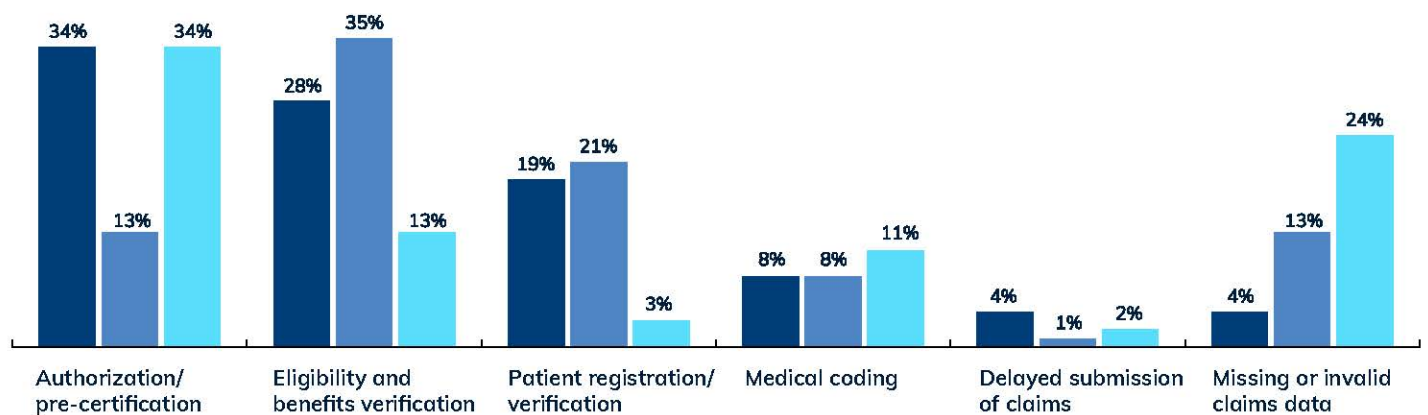
Eligibility and benefits verification is an area where artificial intelligence (AI) is enabling data enrichment of the payer request. This technology has had demonstrably higher rates of found coverage, helping to reduce member not found (MNF) responses and accelerate care access.

Contributors to Initial Claims Denials

Top contributor view by care setting

- Contributors to denied claims at acute organizations extend across the front end of the revenue cycle
- Ambulatory organizations see major contributors in eligibility and registration data
- Post-acute organizations point to prior authorization, with missing or invalid claims data in second place

Top contributors to denied claims by care setting



Q. Here are the revenue cycle components you indicated were contributing to denied claims. In your opinion, which one contributes the most to denials?

Acute n=79 Ambulatory n=212 Post-acute n=99

Total combined: n=390

Eligibility Aspirations

- “ Lightning-fast responses for eligibility requests
- “ Eligibility and payments tied into registration
- “ Provide full eligibility and benefit information, real time
- “ Help with finding insurance that is difficult to verify
- “ More timely notification of insurance coverage changes

Base: All respondents with knowledge of initial claims denials, all care settings

Contributors to Initial Claims Denials

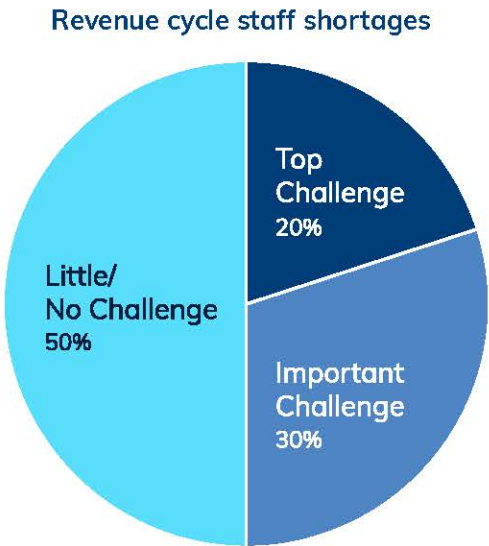
The role of revenue cycle teams in initial claims denials

The ongoing struggles of hospitals and other provider organizations with staff shortages have been well-documented, with nurses and other clinicians taking center stage in the conversation.

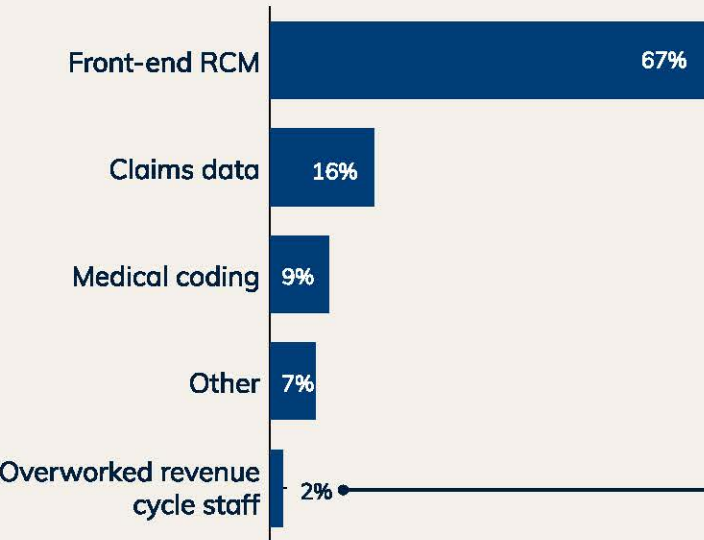
Lesser known is the challenge of staff shortages on revenue cycle teams. This survey addressed:

- 1. The level of challenge posed by revenue cycle staff shortages
- 2. Whether under-staffed revenue cycle teams are contributing to initial claims denials

These survey results show that about half of providers consider revenue cycle staff shortages to be a significant challenge.



Top contributor to claims denials



However, this research did not find a significant link between revenue cycle staff shortages and initial claims denials. Overworked revenue cycle staff are rarely seen as contributors to initial claims denials. Instead, survey results suggest that the most important contributors are in the data flowing from patient registration down through claims submission.

Base: All respondents with knowledge of initial claims denials, all care settings, n=396
Front-end RCM = Patient registration, eligibility verification, prior authorization



Opportunities in Denials Prevention and Management

Forward-thinking revenue cycle teams are already strategizing about bringing AI into denial prevention and management. Claims denials, along with their contributors, were a frequent mention when executives and managers were asked about improvements AI could bring to revenue cycle management.

How AI might address revenue cycle challenges



n=179

Q. How might artificial intelligence help address problems or challenges in your revenue cycle?

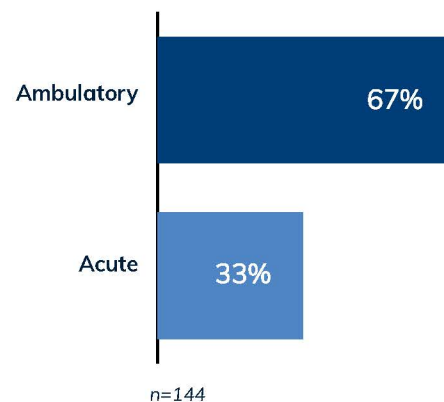
■ Denials and front-end RCM workflows seen as benefiting from AI



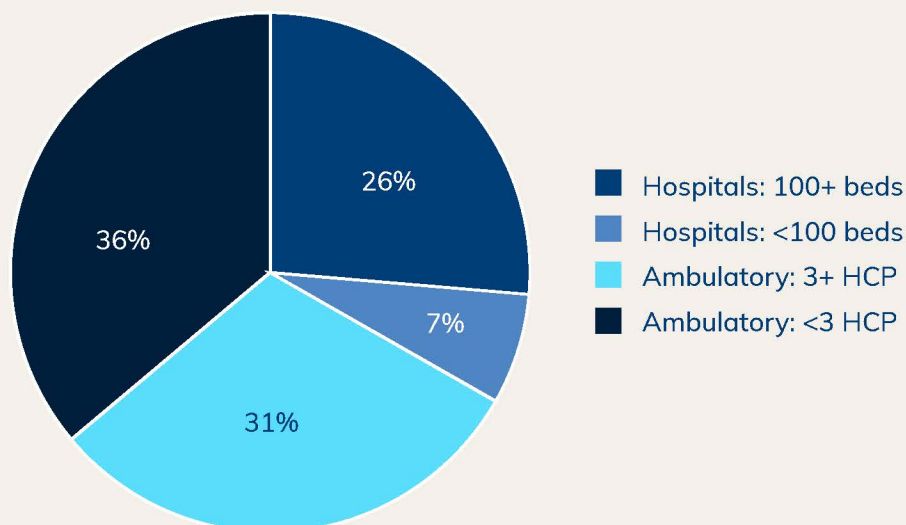
Impact of Denials

The provider cohort answering questions about the financial pain of denials had detailed knowledge about the specific financial impact of denials on their organization. Topics covered included questions about their organizations' overall incidence of initial claims denials, the resources used to appeal denials, and denials recovery success.

Provider cohort by care setting



Select Provider Cohort: Profile by Size Within Care Setting



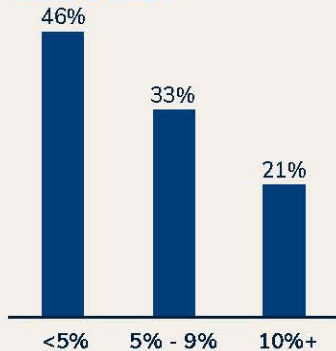
Acute hospital and health system high-level view

Mean percentage of initially denied claims (all payers): **9.2%**

Revenue impact

For over half of hospitals and health systems, denials represent 5% or more of net patient revenue (NPR).

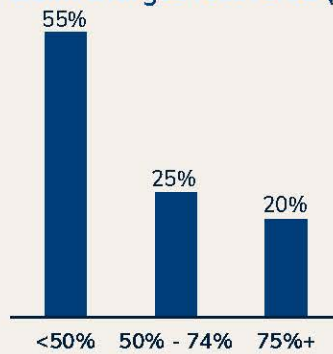
Percentage of NPR of initial denials



Limited recovery of revenue

Half of hospitals and health systems recover less than 50% of denied claim charges, a blow to their bottom line.

Percentage of initially denied claim charges recovered (% of \$)



Expenditure on staffing for limited recovery

Some hospitals and health systems have 20+ full-time employees (FTEs) working denied claims.

Number of FTEs for managing denied claims



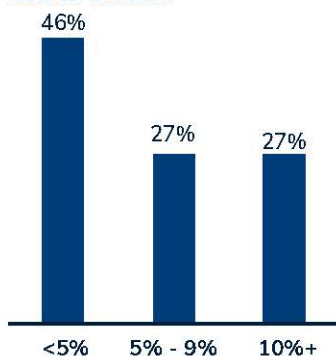
Ambulatory physician and specialists high-level view

Mean percentage of initially denied claims (all payers): **6.7%**

Revenue impact

For over half of ambulatory practices, denials represent 5% or more of NPR.

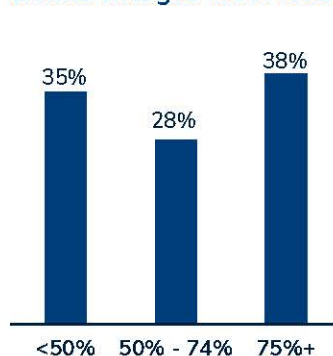
Percentage of NPR of initial denials



Recovery of revenue varies

Roughly 2 in 5 ambulatory practices recover 75%+ of denied claims charges; nearly as many recover less than half.

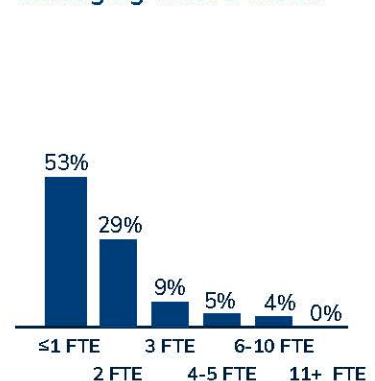
Percentage of initially denied claims charges recovered



Limited expenditure on staffing for recovery

Half of practices have one or fewer FTEs working denied claims.

Number of FTEs for managing denied claims



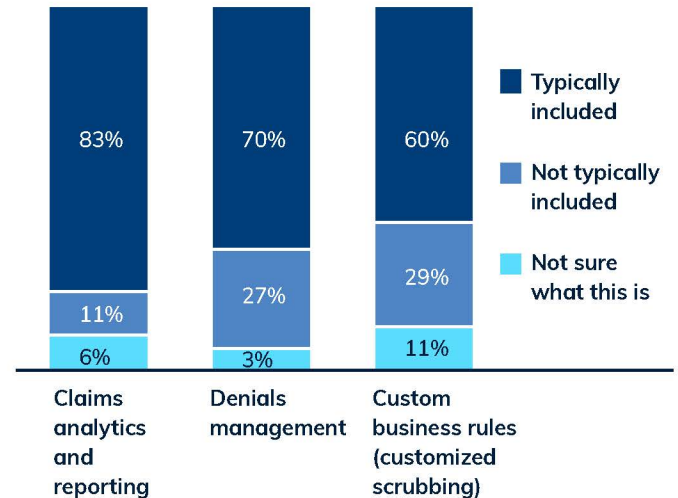
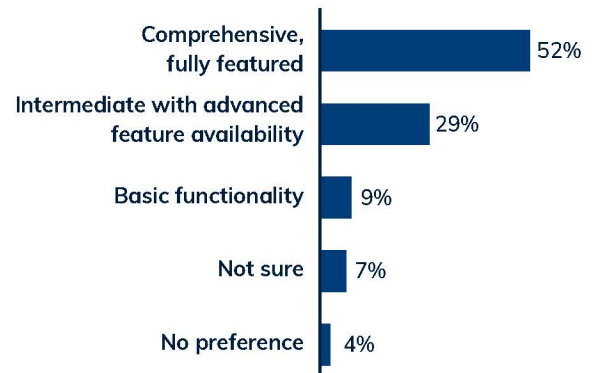
Impact of Denials

Addressing denials with claims management software

Claims systems are the last line of defense against claims denials. More comprehensive systems offer advanced customizable scrubbing, as well as pattern detection of claims likely to be denied.

This research suggests that leaders and managers expect today's claims management systems to go well beyond core features such as submission and status checking. Many already expect that advanced claims scrubbing, claims analytics and reporting, and denials management should be included in such systems [figures to the right].

Preferences for claims systems feature set



Related Technology Trends

Revenue cycle intelligence systems offer a layer of intelligence, analytics, and diagnostics spanning the revenue cycle from start to finish. Aided by AI, these systems put revenue cycle leaders in the driver's seat by providing a unified view highlighting points of friction or delay.

“It would be helpful if all steps of the revenue cycle should be on one software flowing smoothly – a more efficient process.”

“Insight is key.”

“Build software that will analyze trends in denials.”

Impact of Denials

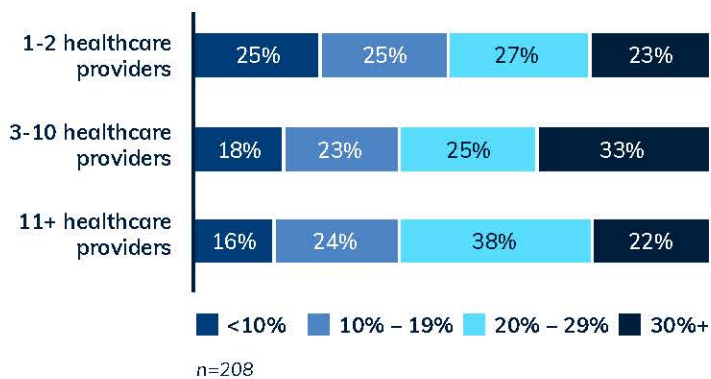
Patient payment trends

With the growth of high deductible insurance plans, patient payment has become a significant component of providers' revenue stream. For ambulatory practices, patient payments can comprise 20-30% of revenue, or more.

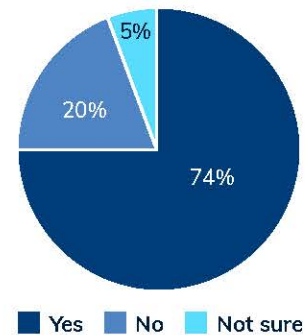
Both increased patient contribution to provider revenue and the need to offer patient-friendly payment alternatives have motivated providers to evolve their payment options. Providers are evolving from cash/check/credit to formal payment systems with many options for payment and payment communication such as text-to-pay [figures below].

Although these solutions help facilitate patient payments, claims denials put patient revenue at risk.

Percentage of revenue from patient payments
(Ambulatory practices)



Use a formal patient payment software system



“ We are trying to be more open to the tech generation that is coming in more and more.

“ We make it easy for patients to pay using multiple payment methods.

Denials impact on patient payment

The core linkages between claims denials and adverse patient payment outcomes are:

- Payment delay due to the denials appeal
- Uncertainty about what the patient may owe
- Stress on both patient and provider as cash flow and financial stability are threatened

For patients, large dollar denials affect their treatment experience and can cause financial uncertainties.

From the provider's perspective, delays in billing mean delays in receiving patient payment. Additionally, greater patient responsibility creates greater risk that the patient might not pay their bill in full. Adverse patient financial outcomes may have deleterious effects on patient engagement with the provider, and ratings of their care.

Discussion: Points of Innovation

In 2024, healthcare revenue cycle leaders remain focused on collecting faster and more fully on what is owed from payers and patients. Increasing automation is the most frequently mentioned strategy in driving toward this goal, and providers envision targeted AI implementation to reduce claims denials as a promising development.

In efforts to address denials, revenue cycle leaders value the expertise of their teams and want them driving decision-making and process, with AI assisting, particularly on front-end revenue cycle to reduce denials. They view their teams as key to successful revenue cycle workflows, suggesting that improvements in patient demographic and benefits data will be the key to further revenue improvement..

Innovative strategies for denials prevention

Accurate patient and plan benefit data upfront and throughout.

Data (or gaps in data) collected during patient registration was considered the biggest contributor to initial claims denials.

Solution:

Advanced/automatic patient demographic and benefits reverification throughout the revenue cycle.

Automated identification of potential denials before claims are submitted.

Sophisticated claims management systems are evolving as a last line of defense against denials. These systems have advanced claim scrubbers with customizable rules engines used to focus on errors that matter, AI-enabled alerts of claims likely to be denied, and auto-correction of benefits information on file.

Solution: Comprehensive claims management systems with AI-enabled features to drive revenue cycle performance rather than simply submitting claims.

360-degree view of revenue cycle to highlight improvements that matter the most.

Innovative providers are already benefitting from revenue cycle analytics systems, a layer of intelligence spanning the revenue cycle, from start to finish. This intelligence layer pinpoints areas for improvement, either through workflow-focused AI or other interventions.

Solution: Revenue cycle intelligence/analytics spanning multiple workflows with diagnostic and corrective capabilities.

“ Collecting every dollar that we are due. Collecting 100% of recorded net patient revenue.

“ Eliminate manual intervention and make electronic as many workflows as possible.

Summary

- Healthcare leaders across all care settings say that reducing claims denials is a top revenue cycle priority
- More than 67% pinpoint front-end revenue cycle workflows as the top contributor to claims denials
- The use of AI to update patient demographics, identification, and benefits data throughout the revenue cycle is considered a key high-potential strategy against claims denials
- Claims systems serve as a last line of defense against denials, with advanced systems providing customizable scrubbing and pattern detection for likely denied claims
- For more findings from Inovalon's research study related to AI's potential in healthcare revenue cycle management, [view this white paper](#).

About us

Inovalon is a leading provider of cloud-based SaaS solutions empowering data-driven healthcare. The Inovalon ONE® Platform brings together national-scale connectivity, real-time primary source data access, and advanced analytics into a sophisticated cloud-based platform empowering improved outcomes and economics across the healthcare ecosystem. The company's analytics and capabilities are used by nearly 20,000 customers supporting more than 53,000 sites of care. For more information, visit www.inovalon.com.

Inovalon
4321 Collington Road
Bowie, MD 20716
(301) 809-4000

www.inovalon.com

