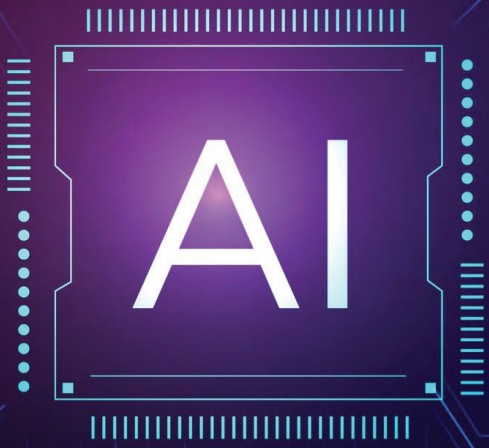
Ethos Industry Analysis



The Power of AI:
Transforming Insurance & Healthcare Management

Fall 2024

ethos

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Table of Contents

Executive Summary

Ethos' 2024 Annual Publication delivers a comprehensive analysis of emerging trends in AI and its transformative role within the insurance industry and medical management. The integration of AI offers innovative solutions to address industry challenges, improve operational efficiency, and stay ahead of potential threats. With the projected decrease of 400,000 workers by 2026, AI-driven advancements in areas such as telehealth, analytics, and personalized customer experiences have become increasingly critical for maintaining competitive advantage.

With Ethos's expertise in investigations and medical management, we provide actionable insights and strategies to help stakeholders navigate the complexities of modern claims management and fraud prevention.

About Ethos: Building on 20 years of experience as a national leader in investigations and medical management, Ethos provides a comprehensive suite of claims management solutions. Guided by a commitment to integrity and excellence, we empower our clients to uncover the truth, mitigate risks, and make confident, informed decisions. Our expert team delivers innovative, cutting-edge solutions designed to address the unique challenges of the industry. At Ethos, we believe knowledge is power—which is why our vision is to deliver better data, enabling better decisions and achieving better outcomes.

CEO Intro

As we mark another year of progress and innovation, I am pleased to present our annual publication, which this year delves into a topic of significant impact: the role of artificial intelligence in transforming our field.

In this edition, we explore the latest AI trends shaping the insurance landscape, from enhancing claims processing efficiency to revolutionizing medical management practices. With contributions from industry experts and insightful data analysis, our aim is to provide a comprehensive view of how AI is driving change and offering new opportunities for growth and improvement.

The world is experiencing a pivotal moment, where technology and human expertise must work together to meet evolving challenges and expectations. Our publication highlights key statistics and trends that underscore the importance of embracing AI and its potential to enhance our practices and outcomes.

I invite you to read through the insights shared in these pages and consider how these developments may influence your work. As always, we are committed to supporting you with the information and tools needed to navigate these advancements effectively.

Sharing information through carefully curated data is a central feature of our operation. Our intention through this kind of education is increased awareness for all. We believe with additional focus on collaboration toward the objectives we all share, we can help each other climb the mountains we all face.

Warm regards,
Micah Smith
CEO

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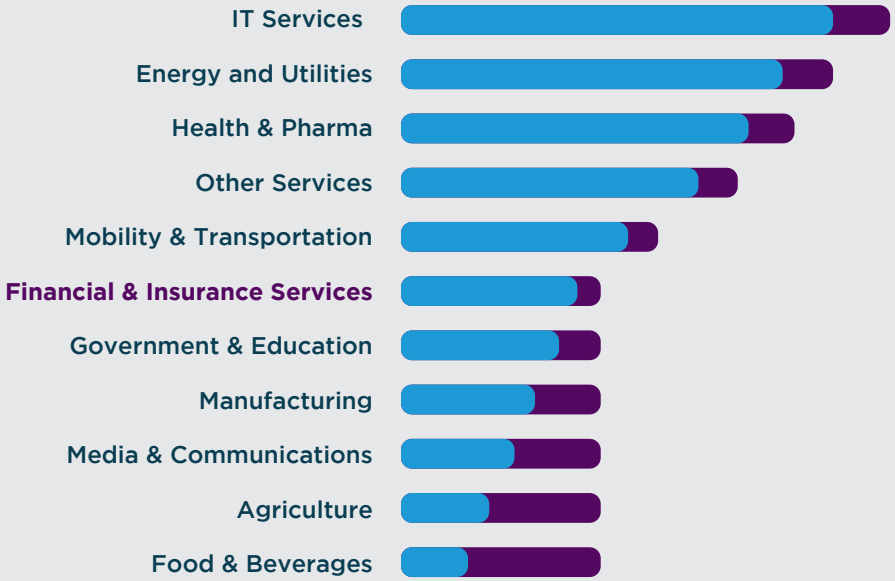
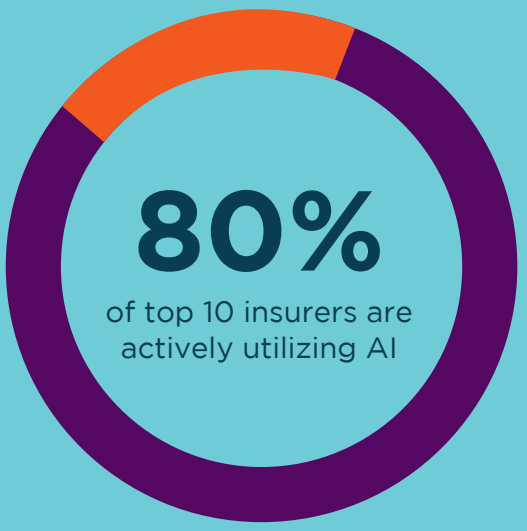
Data at a Glance

Risk of AI exposure across top 10 industries



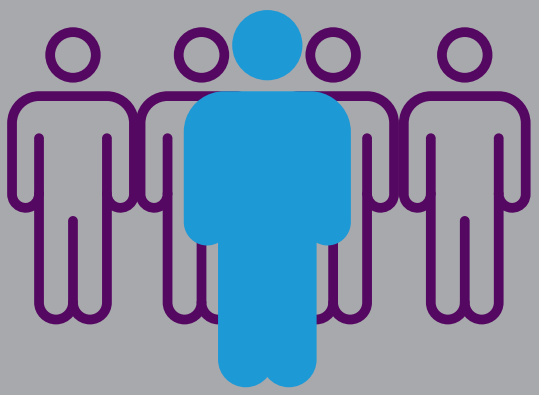
The insurance industry ranks sixth among 10 major sectors regarding current AI risk exposure

Current use of AI in the insurance industry



Approximately 80% of the top 10 insurers are actively utilizing AI and about 60% of the top 10 insurers use AI to streamline administrative tasks and optimize claims processing.

Use of AI and Machine Learning for Fraud Detection

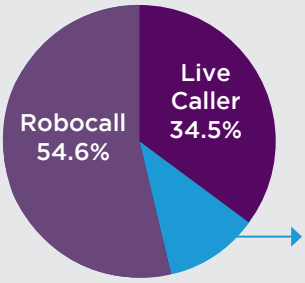


Nearly one in five anti-fraud professionals currently use AI and machine learning in their fraud detection efforts

Top Frauds

1. Imposters
2. Online Shopping Negative Reviews
3. Prizes, Sweepstakes, Lotteries
4. Investments
5. Business, Job Opportunities

2023 National Do Not Call Registry



10.9% of reports did not include a call type.

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Current Trends in Medical Management

The healthcare industry is witnessing significant advancements in medical management, driven by emerging technologies and innovative approaches. Key upward trends include:

Telehealth and Remote Care

- The expansion of telehealth, initially spurred by the pandemic, continues. Innovations like virtual consultations, telemedicine, and remote patient monitoring enhance accessibility, especially for remote or underserved populations.

Data Analytics and Artificial Intelligence (AI)

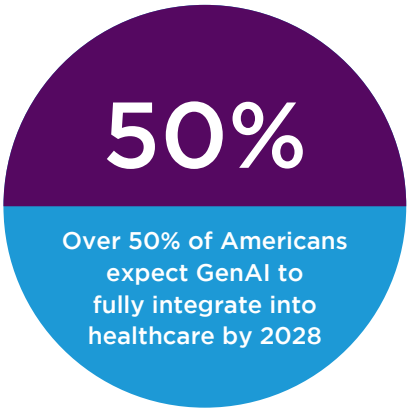
- Wolters Kluwer, a trusted information services company, reports that over half of Americans expect GenAI to fully integrate into healthcare by 2028.

- AI, including large language models (LLMs), machine learning models (MLs), and generative AI, is transforming healthcare by simplifying data implementation and interpretation.

- Notable Implementations
  - **GE HealthCare & NVIDIA:** Development of **SonoSAMTrack1** for ultrasound imaging, integrating AI models to automate image analysis.
  - **Oracle:** New **AI features** for its healthcare data platform, including a generative AI service for care management and an upcoming clinical assistant.

- The increasing role of AI in real-time health monitoring and predictive analytics is evident as these technologies advance.

American Opinion:
The integration of GenAI by 2028



Source: Wolters Kluwer, 2023

Patient-Centric Technolgies

- There is a growing emphasis on personalized patient care. Innovations are enhancing communication and collaboration between patients and healthcare providers, allowing for more tailored treatments based on individual characteristics, genetics, and lifestyle.

Virtual Healthcare Assistants

- AI healthcare assistants, similar to digital assistants like Siri or Alexa, perform tasks such as patient triage, remote monitoring, medication reminders, and health metric tracking. These tools enhance healthcare accessibility, efficiency, and cost-effectiveness.

- Despite these benefits, **challenges** include dependability, accuracy, data privacy, and the lack of human touch.

Technological and Scientific Advances

- Breakthroughs in pharmaceuticals, gene therapy, and biotechnologies are reshaping treatment strategies.

- 3D printing technology is significantly impacting the medical field, particularly in creating customized medical devices and exploring the potential for 3D-printed organs.

These advancements represent a shift towards a more technologically advanced, patient centered healthcare system. For insurance companies, this means adapting to new technologies and trends, which could impact insurance claims. AI and telehealth could streamline claims processing, but proactive adaptation and strategic foresight will be crucial to continued success. To remain competitive, insurers should adopt forward-thinking strategies, such as policy innovation, advanced analytics, partnerships with technology and healthcare providers, staff training, and AI-enhanced customer service.

Proven Success and Growing Resilience

Insurance serves as a safety net, fostering a more stable and predictable financial environment for clients. Recent data and trends underscore the industry's increasing effectiveness and continued success across written premiums, market growth, consumer satisfaction, risk management, and economic resilience.

Total Written Premiums

In 2023, the U.S. insurance industry collected approximately $1.54 trillion in premiums across various sectors, including property/casualty and life/annuity insurance, underscoring the industry's significant financial footprint and its capacity to provide widespread coverage and protection to policyholders (Insurance Information Institute).

Market Growth

The global insurance market has shown exceptional resilience and growth. As of early 2024, it was valued at around $6.8 trillion. It is projected to grow at a compound annual growth rate (CAGR) of 4% through 2026, indicating ongoing confidence in insurance as a financial safety tool.

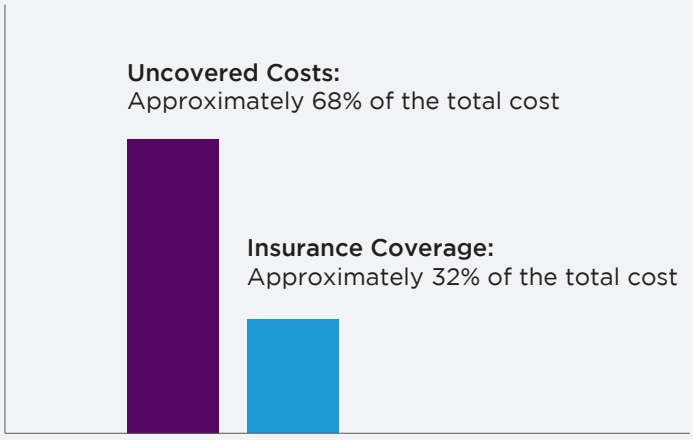
Economic Impact

The insurance industry is vital to the economy because it supports almost every production stage. **Analysis across 380 U.S. industries reveals that Insurance Carriers rank in the top 3% for economic importance alongside critical sectors like banking and petrochemicals** (BlackRock). This significance explains why insurance premiums and availability fluctuations can affect overall consumer prices and broader financial stability, underscoring the sector's wider role in stabilizing and supporting economic activity.

Insurance Industry Resilience

Insurance companies have demonstrated their strength during significant events such as natural disasters—for example, the insurance sector in the U.S. covered over $30 billion in losses from natural disasters in 2023, showcasing its role in managing and mitigating the financial impact of such events. There were 28 weather and climate disasters in 2023, surpassing the previous record of 22 in 2020, tallying a price tag of at least $92.9 billion. (NOAA)

The Impact of Insurance in the $92.9 Billion Climate Disaster of 2023

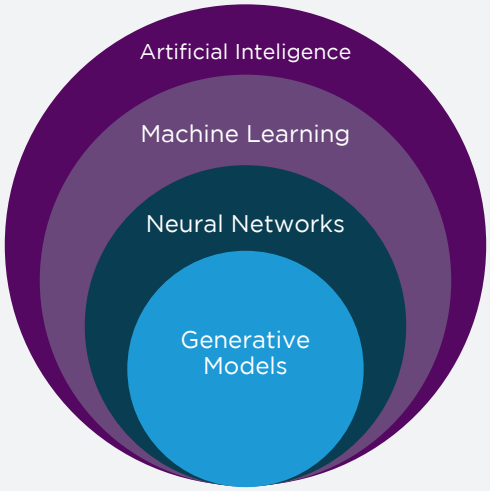


Insurance mitigated **nearly one-third** of the financial impact from climate disasters in 2023.

Pattern Recognition vs Generative AI

While each of the many forms of AI can transform insurance, generative AI has garnered exceptional attention for its ability to create new data and content. Generative AI uses algorithms like ChatGPT to generate text, images, videos, or other data in response to prompts, which can be crucial for risk assessment, fraud detection, and personalized customer interactions.

While generative AI offers vast data generation and analysis capabilities, its applications may be considered less central to the core operations of insurance and limited compared to other AI models because it requires such a high level of data quality, interpretability, and task specificity.



Pattern recognition AI may prove to be more beneficial as it focuses on analyzing existing data patterns, making it particularly well-suited for the insurance industry's complex, data-rich environment. Its ability to analyze historical data, detect trends, and predict patterns to make explainable, data-driven decisions allows it to excel in risk assessment,claims processing, customer insights, operational efficiency, and regulatory compliance.

Implementing pattern recognition AI into investigations offers several benefits, including speeding up the investigative process by automating repetitive tasks, reducing errors, enhancing decision-making accuracy, and lowering operational costs.

Pattern Recognition Technology:

Given a pattern, its recognition and classification can consist of one of the following two tasks:

- Supervised classification identifies the input pattern as a member of a predefined class. (Descriptive)

- Unsupervised classification assigns the input pattern to a hitherto undefined class. (Explorative)

The types of classifications either already exist in the system (supervised classification) or are learned based on similar inputs (unsupervised classification)

Besides generative and pattern-recognition AI, several other forms, such as machine learning (ML), natural language processing (NLP), and robotic process automation (RPA), intend to impact the industry by improving efficiency, accuracy, and customer experience.

Benefits of AI in Healthcare Insurance

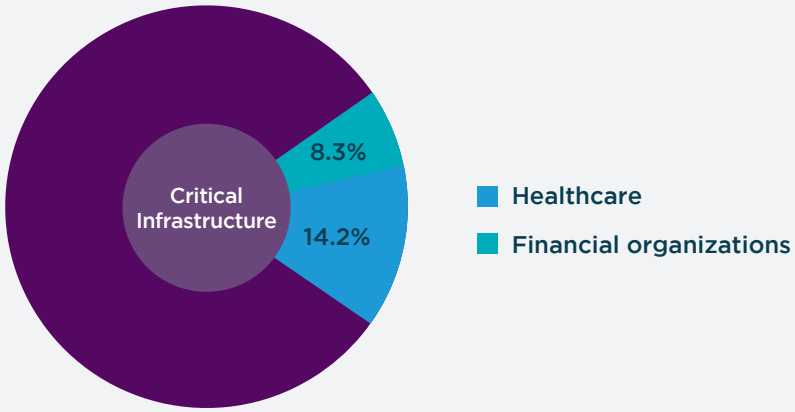
AI and its ability to rapidly process data bring tangible benefits to the healthcare insurance industry, improving everything from fraud detection to risk assessment and underwriting. This means quicker settlements, personalized insurance plans, enhanced customer support, proactive health management, and increased consumer transparency, building long-term trust and satisfaction between consumers and insurance providers.

Challenges Introduced by AI

However, AI also introduces challenges to the insurance industry. Key issues include heightened cybersecurity risks and data privacy concerns. The 2024 Allianz Risk Barometer highlights the healthcare sector bears the brunt of cybercrime activity, accounting for 14.2% off all attacks targeting critical infrastructure. Financial organizations are another major target, accounting for 8.3% of attacks on critical infrastructure since the start of 2023.

Top Global Business Concerns

Highlighting the most pressing cybersecurity risks faced by businesses worldwide.



Source: Allianz Risk Barometer

AI's integration into insurance and medical management also attracts tech-savvy fraudsters, who increasingly exploit AI-based attack vectors like data poisoning and fake recognition trickery.

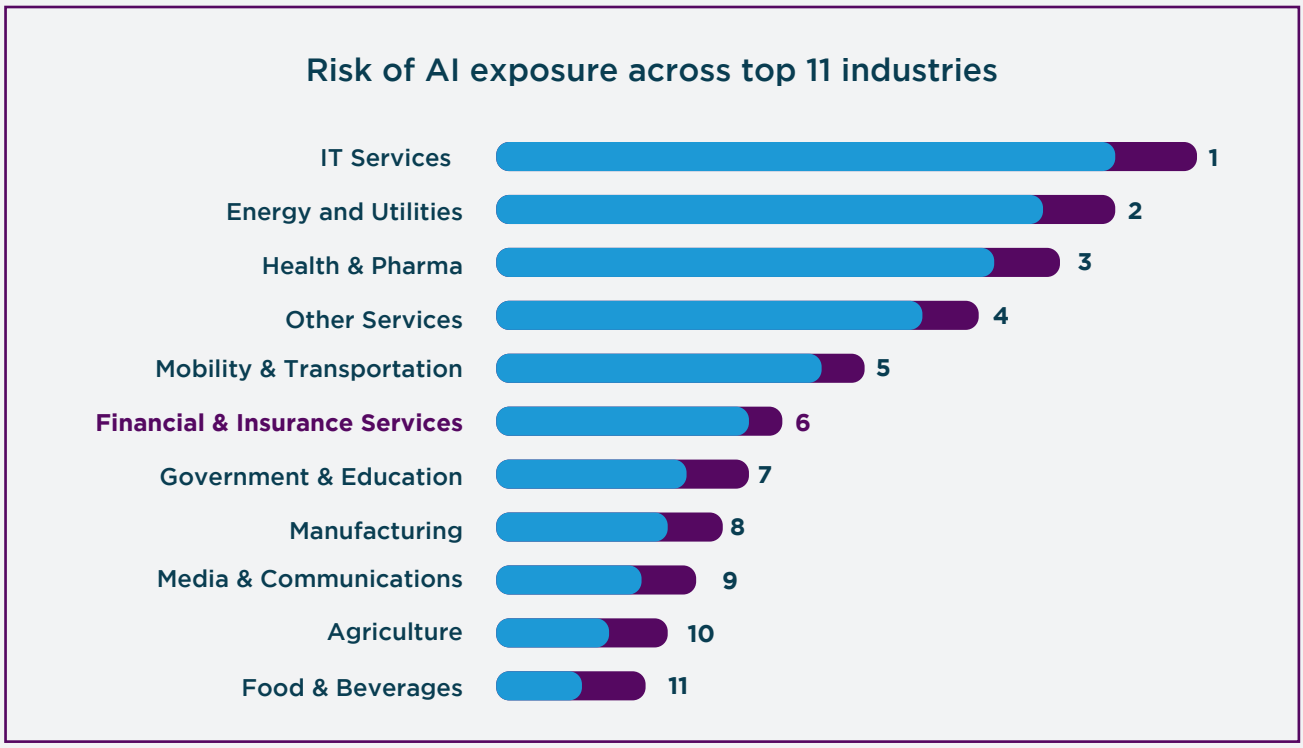
The rise of **fraud-as-a-service (Faas)** further compounds these issues, providing cybercriminals with tools and infrastructure for various fraudulent activities.

Ethical and Operational Concerns

Moreover, AI raises important ethical questions and concerns about biases, workforce adaptation, and the complexity of integration. As AI relies on vast amounts of sensitive customer data, ensuring data privacy, maintaining regulatory compliance, and implementing robust cybersecurity measures become essential pillars for successful AI management in the insurance industry.

AI Risk

The Swiss Re Institute's recent **white paper** ranks the insurance industry sixth among 11 major sectors regarding current AI risk exposure and seventh for future risk. Healthcare, currently ranked below IT, is expected to become the most exposed sector in the next decade.



The insurance industry, unlike other highly regulated sectors such as healthcare, pharmaceuticals, and mobility, stands to gain more than it could lose with the integration of AI. Insurers have the potential to provide coverage for AI-related risks, such as performance issues with technologies like consumer chatbots, cyber risks, data privacy concerns, and ethical challenges. Providing such services address regulatory and reputational issues while helping clients manage and reduce AI-related risks.

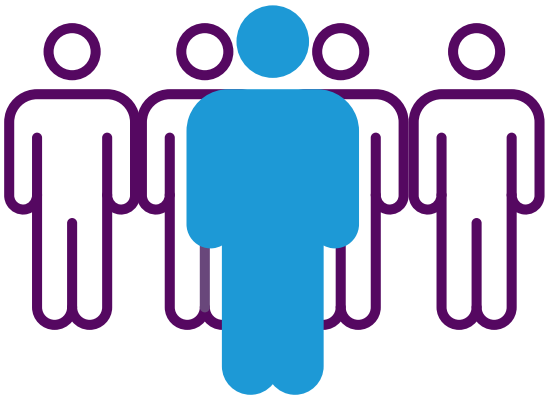
However, a hindrance known as 'silent AI risk' may arise if AI becomes ubiquitous and not explicitly accounted for in insurance policies. This leads to a buildup of unidentified risks within insurance portfolios, potentially causing significant losses.

AI promises to revolutionize the insurance industry by improving risk management, enhancing customer service, and leading to the development of more innovative products. Given these benefits, AI's potential for errors and failures– common across all industries– requires careful consideration by insurers. As experts in managing vulnerabilities, insurers must focus on sustainability and resilience to navigate the complexities and opportunities AI technologies present.

AI Risk

Nearly one in five anti-fraud professionals currently use AI and machine learning in their fraud detection efforts, with another 32% planning to adopt these technologies within the next two years. 83% of organizations expect to implement GenAI as part of their anti-fraud programs over the next two years. AI and machine learning used in anti-fraud programs is expected to triple over the next two years.

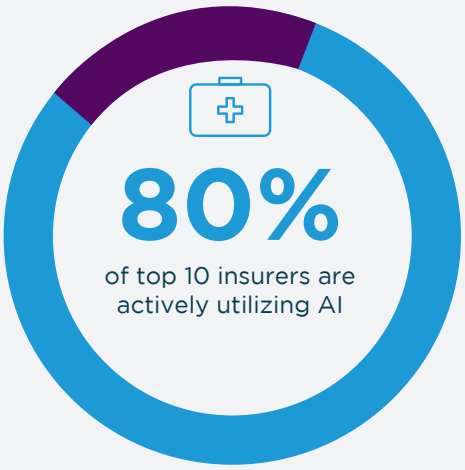
Use of AI and Machine Learning for Fraud Detection

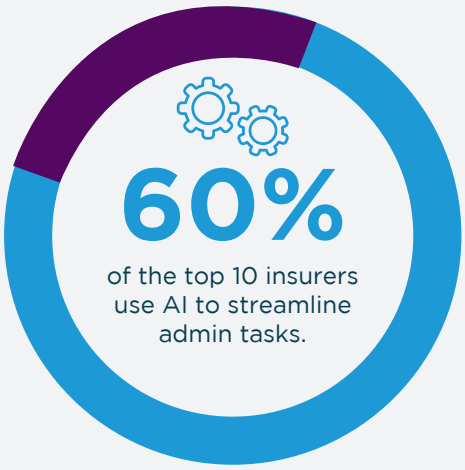


Nearly **1 in 5 anti-fraud professionals** currently use AI and Machine Learning for fraud detection

AI Trends in Top U.S. Insurers: Current Uses, Future, and Opportunities

The current state and future plans for AI in the insurance industry, focusing on its use among the top 10 U.S. insurance companies to understand how AI is enhancing services and to identify opportunities for future growth and challenges.





- **Widespread Adoption:** Approximately 80% of the top 10 insurers are actively utilizing AI for various applications. This includes major players like UnitedHealth Group and CVS Health, who lead in AI adoption.
- **Focus Areas:** About 60% of the top 10 insurers use AI to streamline administrative tasks and optimize claims processing. Around 50% focus on enhancing patient care management and customer interactions through AI.
- **Future Opportunities:** While AI is making strides in its current applications, there are several overlooked areas with significant potential:
  - **Advanced Predictive Analytics:** Beyond basic claims predictions, AI can delve deeper into predictive modeling for emerging health risks, enabling more proactive interventions.
  - **Behavioral Health Insights:** Leveraging AI to analyze behavioral health data could lead to earlier interventions and more tailored mental health support.
  - **Customer Experience Personalization:** There is room to expand AI's role in creating hyper-personalized customer experiences, enhancing engagement through tailored recommendations and interactions.
  - **Ethics and Transparency:** Developing AI solutions with built-in ethical considerations and transparency can build trust and compliance, addressing growing concerns in data privacy and security.

Current and Future AI Uses in Top US Insurance Companies

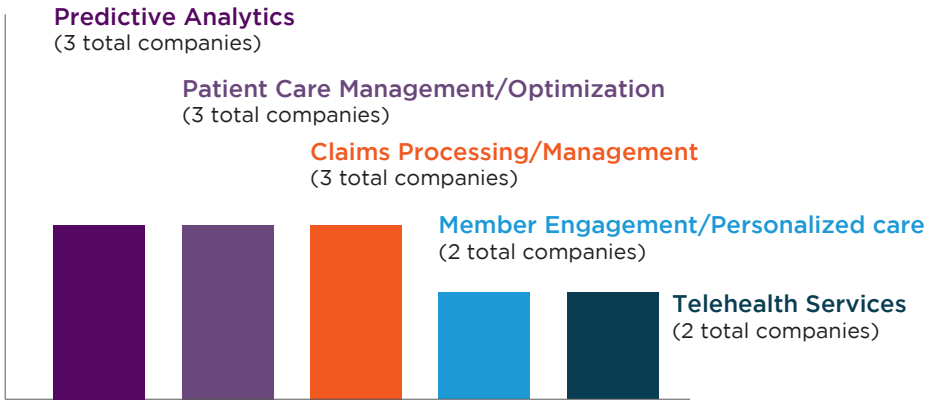
Current Use

- Predictive Analytics
- Patient Care Management
- Claims Processing
- Member Engagement and Personalized Care
- Telehealth Services

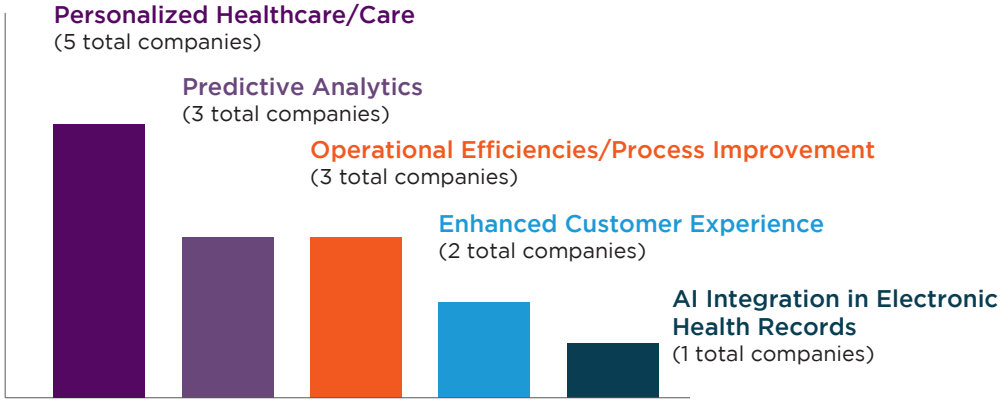
Future Use

- Personalized Healthcare
- Predictive Analytics
- Operational Efficiencies
- Enhanced customer experiences
- AI in Electronic Health Records

Most frequently named current uses of AI



Most Frequently Mentioned Future Plans for AI:



Importance of Investigative Services

Key to Effective Medical Management and Fraud Prevention

Investigative services are integral to enhancing the accuracy and reliability of medical evaluations, especially in the insurance industry. By conducting **objective medical reviews, forensic analysis, surveillance, and field investigations**, they thoroughly examine medical claims, help identify fraudulent activities and reduce unnecessary medical expenses.

Objective Medical Reviews

Impartial, evidence-based evaluations that help accurately assess medical claims. Organizations use board-certified specialists to provide unbiased assessment, ensuring decisions are based on clinical documentation rather than subjective opinions or conflicts of interest. These reviews are vital in the insurance industry and typically involve independent medical professionals who analyze medical records, perform physical examinations, and provide unbiased opinions based on clinical evidence.

Forensic Analysis Units

Employ advanced technology and scientific methods to interpret medical evaluation data. This includes reviewing medical records, conducting autopsies, and performing toxicology tests in medical management. Their role extends to verifying the authenticity and accuracy of medical records and diagnoses, which is crucial in legal contexts. Analysts detect inconsistencies in medical billing, treatment records, and insurance claims, uncovering fraudulent activities like billing for unperformed services, inflating costs, or falsifying diagnoses.

Surveillance

Involves monitoring claimants' activities to detect inconsistencies between their reported conditions and observed behavior. This investigation can uncover fraudulent activities by documenting evidence contradicting an individual's claims. Field investigations often include interviewing witnesses, conducting site visits, and gathering physical evidence, which provides a broader context to the medical claims under review.

AI in action

PathfinderAI, developed by Ethos, is an AI-driven solution designed to support fraud detection and response in various business lines. While traditional fraud detection programs can alert companies to potential issues by flagging anomalies, PathfinderAI extends this capability by providing tailored recommendations for addressing confirmed fraud.

Using historical claims data, PathfinderAI generates predictive alerts on potential fraud for each claim. Unlike standard flagging systems, PathfinderAI provides customized strategies to address each flagged case, optimizing the approach based on the claim's specific context. Additionally, PathfinderAI offers an estimate of the return on investment (ROI) if its suggested strategies are followed, helping companies understand the potential financial impact of each decision.

Key features of PathfinderAI include:

- **Customized Response Plans:** Offers tailored suggestions to resolve flagged cases effectively.
- **Predictive Insights:** Utilizes historical data to improve detection accuracy and minimize false positives.
- **Scalability:** Efficiently processes high volumes of claims, enabling quick reviews across large datasets.
- **ROI Estimation:** Provides potential cost savings and ROI forecasts, supporting informed decision-making.

This AI solution has demonstrated improvements in cost efficiency, faster claim resolutions, and significant reductions in false positives, helping companies better manage fraud risks across operations.

Key Takeaways

The healthcare industry is experiencing a transformative era fueled by new technologies such as telehealth. Telehealth continues to expand beyond its pandemic-driven surge, with virtual consultations and remote patient monitoring enhancing accessibility for remote and underserved populations. A recept report by Wolters Kluwer indicates that over half of Americans anticipate the full integration of generative AI (GenAI) into healthcare by 2028. Notable implementations include GE HealthCare's development of SonoSAMTrack1 for automated ultrasound imaging and Oracle's new AI features for healthcare data platforms. Patient-centric technologies are advancing personalized care, with virtual healthcare assistants improving efficiency and accessibility, though challenges such as data privacy and accuracy remain. Technological and scientific breakthroughs, including 3D printing and gene therapy, are reshaping treatment strategies. For the insurance industry, this indicates the need for proactive strategic adjustments.

Additionally, Artificial Intelligence (AI) offers notable benefits to the healthcare insurance industry, such as enhanced fraud detection, improved risk assessment, and personalized insurance plans. By enabling quicker settlements and better customer support, AI contributes to greater transparency and customer satisfaction. However, the integration of AI also introduces challenges, including heightened cybersecurity risks and data privacy concerns. The 2024 Allianz Risk Barometer highlights significant global concerns about data breaches and cyber incidents. Additionally, AI attracts sophisticated fraud tactics and raises ethical and operational issues related to bias and regulatory compliance. Despite these challenges, AI's transformative potential in risk management and customer service is evident, with substantial adoption among top U.S. insurers who are exploring advanced predictive analytics and personalized customer experiences. As AI continues to evolve, insurers must navigate these complexities to harness its benefits effectively while treading lightly through the potential risks.

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Sources

- **South University. (2023, October). Healthcare management trends: Emerging opportunities and challenges. South University.** https://www.southuniversity.edu/news-and-blogs/2023/10/healthcare-managertrends
- **Marr, B. (2023, October 3). The 10 biggest trends revolutionizing healthcare in 2024. Forbes.** https://www.forbes.com/sites/bernardmarr/2023/10/03/the-10-biggesttrends-revolutionizing-healthcare-in-2024/
- **Medical Design Briefs. (2024). Emerging trends shaping the future of healthcare. Medical Design Briefs.** https://www.medicaldesignbriefs.com/component/content/article/49993-2024-emerging-trends-shaping-the-future-of-healthcare
- **Insurance Information Institute. (n.d.). U.S. insurance industry: All sectors. Insurance Handbook.** https://www.iii.org/publications/insurancehandbook/economic-and-financial-data/us-insurance-industry-all-sectors
- **Statista. (n.d.). Global insurance market size 2020-2025. Statista.** https://www.statista.com/statistics/1192960/forecast-global-insurance-market/
- **Centers for Disease Control and Prevention. (n.d.). Lack of health insurance. CDC.** https://www.cdc.gov/places/measure-definitions/prevention/index.html#lackhealth-insurance
- **Kaiser Family Foundation. (2023). KFF survey of consumer experiences with health insurance. KFF.** https://www.kff.org/private-insurance/poll-finding/kff-survey-ofconsumer-experiences-with-health-insurance/
- **BlackRock. (n.d.). Insurance and inflation. BlackRock.** https://www.blackrock.com/us/individual/insights/insurance-inflation
- **Insurance Journal. (2024, April 30). Global insured catastrophe losses exceed $13 billion. Insurance Journal.** https://www.insurancejournal.com/news/international/2024/04/30/772116.htm#:~:text=However%2C%20Aon%20said%2C%20it%20is,or%20more%20than%20$13%20billion
- **Debofsky Law. (n.d.). What is objective medical evidence of disability? Debofsky Law.** https://www.debofsky.com/articles/what-is-objective-medical-evidence-ofdisability/
- **KPMG. (2019). Forensic investigations talkbook.** https://assets.kpmg.com/content/dam/kpmg/be/pdf/2019/05/KPMG_Forensic_Investigations_Talkbook.pdf
- **NAAG Forensic. (n.d.). Services. NAAG Forensic.** https://naagforensic.com/services/
- **Command Investigations. (n.d.). Services. Command Investigations.** https://gocommand.com/services/
- **UnitedHealth Group. (2023). 2023 UnitedHealth Group sustainability report.** https://www.unitedhealthgroup.com/content/dam/sustainabilityreport/2023/pdf/2023-UHG-Sustainability-Report.pdf#page=68
- **CVS Health. (2022). Digital innovation. CVS Health 2022 in Review.** https://cvshealth2022inreview.com/digital-innovation/
- **Quartz. (2023). CVS Pharmacy's AI-powered calls aim to reduce wait times and frustration. Quartz.** https://qz.com/cvs-pharmacy-ai-call-1851603749
- **Emerj Artificial Intelligence Research. (n.d.). Artificial intelligence at Cigna. Emerj.** https://emerj.com/ai-sector-overviews/artificial-intelligence-at-cigna/
- **AI Expert Network. (n.d.). Case study: How Cigna is transforming health insurance and patient care with AI. AI Expert Network.** https://aiexpert.network/case-studyhow-cigna-is-transforming-health-insurance-and-patient-care-withai/#:~:text=Cigna%20uses%20AI%20to%20streamline,chronic%20conditions%2C%20improving%20patient%20outcomes
- **Centene Corporation. (n.d.). Innovation & thought leadership: Using technology to improve health outcomes. Centene.** https://www.centene.com/why-weredifferent/corporate-sustainability/empowering-health/innovation-thoughtleadership.html#:~:text=Using%20Technology%20to%20Improve%20Health,and%20contain%20rising%20healthcare%20costs
- **Minemyer, P. (2023, June 28). Elevance Health wants to use AI to simplify and personalize healthcare. Here's how the insurance giant is making it happen. Fierce Healthcare.** https://www.fiercehealthcare.com/payers/elevance-health-wantsuse-ai-simplify-and-personalize-healthcare-heres-how-insurance-giant
- **Kaiser Permanente. (2023, April 20). Fostering responsible AI in health care. Kaiser Permanente News.** https://about.kaiserpermanente.org/news/fosteringresponsible-ai-in-health-care
- **American Medical Association. (2023). Kaiser Permanente's AI approach puts patients and doctors first. American Medical Association.** https://www.amaassn.org/practice-management/digital/kaiser-permanente-s-ai-approach-putspatients-and-doctors-first

Sources

- **Limit.com. (2023). How insurance companies use AI: Key insights from 10-K filings.Limit.**
  https://www.limit.com/blog/how-insurance-companies-use-ai-key-insightsfrom-10-kfilings/#:~:text=Berkshire%20Hathaway,'t%20understand%20at%20all.%E2%80%9D
- **Emerj Artificial Intelligence Research. (n.d.). Artificial intelligence at Humana. Emerj.**
  https://emerj.com/ai-sector-overviews/artificial-intelligence-at-humana/
- **Humana. (2024). Humana and Google expand partnership to help reduce cost of care and improve member experiences. Humana Press Release.**
  https://press.humana.com/news/news-details/2024/Humana-and-Google- Expand-Partnership-to-Help-Reduce-Cost-of-Care-and-Improve-Member-Experiences/default.aspx#gsc.tab=0
- **Health Care Service Corporation. (2024). Artificial intelligence and data science predict social determinant of health needs. HCSC Newsroom.**
  https://www.hcsc.com/newsroom/category/experience/artificial-intelligence-datascience-predict-social-determinant-of-health-needs
- **Emerj Artificial Intelligence Research. (n.d.). Artificial intelligence at State Farm. Emerj.**
  https://emerj.com/ai-sector-overviews/artificial-intelligence-at-state-farm/
- **State Farm. (n.d.). State Farm patents.**
  https://patents.statefarm.com/