Coalition Against Insurance Fraud

The State of Insurance Fraud Technology

Fraud Indicators

A study of insurer use, strategies and plans for anti-fraud technology

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ADVOCACY * INSIGHT * OUTREACH

A national alliance of insurers, consumers, government agencies and business partners dedicated to combating all forms of insurance fraud.

The State of
Insurance Fraud Technology

A study of insurer use, strategies and plans for anti-fraud technology

Executive Summary

For the third consecutive time in six years, insurers report increasing amounts of suspected fraud. Nearly three-quarters of insurers that participated in the 2018 survey say fraud has increased either significantly or slightly, an 11-point increase since 2014. Anti-fraud technology is seen as a major weapon to address increased fraud; many insurers use more-sophisticated technology tools and are greatly broadening their tech arsenals.

Insurers rely much less on traditional technologies such as business rules and red flags, and more on predictive modeling, link analysis and exception reporting. A few also employ artificial intelligence.

In the last two years, the technology offerings in the anti-fraud space have increased as new players have entered the field. Sources of data, especially from public sources, have grown as well. With increased competition and more outsourced services, costs in some areas have declined. This has allowed more insurers to expand their scope of tools to detect and investigate fraud. Smaller insurers especially have jumped onboard the anti-fraud technology train.

The expansion in anti-fraud technology does have growth pains, however. Insurers report increased frustration with integrating data into their systems, and continuing problems with high levels of false positives. The data-integration issues likely stem from the many different sources and formats of data now available to insurers.

The other main challenge for SIUs is the limited IT resources available to them internally. This has been cited as a major issue since the first anti-fraud technology study in 2012. Insurers increasingly are going outside their companies for such resources, especially since these services are becoming more-plentiful and costs have come down.

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Among other major findings:

• 41 percent say their tech budgets for 2019 will be larger, signaling even greater expansion for the future. Predictive modeling and link analysis/social network analysis are the two top areas where new money will be spent.

• The use of tools to detect underwriting fraud is growing rapidly as more tools become available, and insurers learn how to integrate them into their underwriting systems.

• The percentage of referrals insurers receive from their technology systems has not measurably changed in the last two years. This is a somewhat surprising result, given the increased use of technology.

• Insurers seems to be focusing more on quality of referrals than the number of referrals received as a metric for success.

• Cyberfraud is an area that many insurers are increasingly focusing on as security concerns by regulators and industry increase.

A note on demographics and study methodology: Insurers surveyed for this study include more non-property/casualty (non-pc) carriers than in previous studies. They include carriers that primarily provide life, health and disability insurance. Where significant deviations were found in results, they are noted in the "Other Findings" section. For some 2018 calculations, weighted answers were provided to help make more-accurate comparisons with 2016 data. The sum of many answers is greater than 100 percent due to multiple answers allowed and in many cases, rounding.

Areas where technology is employed

Source: Coalition Against Insurance Fraud, 2019
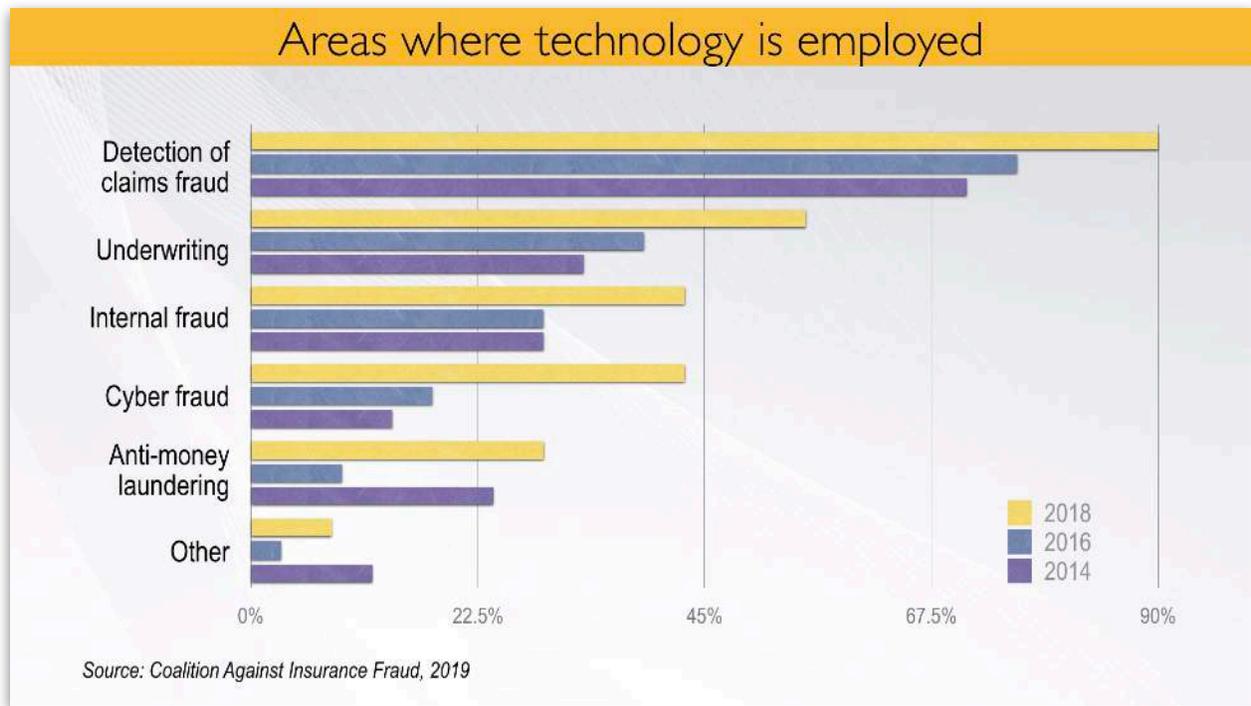
Detecting claims fraud continues to be the reason most anti-fraud technology is deployed. Every property/casualty company — and half of non-pc insurers surveyed — report detecting claims fraud as their primary reason for employing technology. This is a significant increase over 2016 results.

An even-larger increase occurred in use of technology to uncover underwriting fraud. Reported use has doubled in the last six years (27 percent to 55 percent). For the first time, a majority of insurers say they use technology solutions to uncover underwriting fraud.

Two other areas — internal fraud and cyber fraud — also have shown major increases in use of technology.

Other findings:

• All areas increased from 2016 to 2018. Nearly 60 percent of non-pc insurers use technology to detect money-laundering schemes. Only 20 percent of pc insurers use tech to uncover such schemes.

• Use of technology to detect cyber fraud has doubled in two years, likely due to regulatory requirements recently enacted to put such systems in place.

Technologies employed

Source: Coalition Against Insurance Fraud, 2019
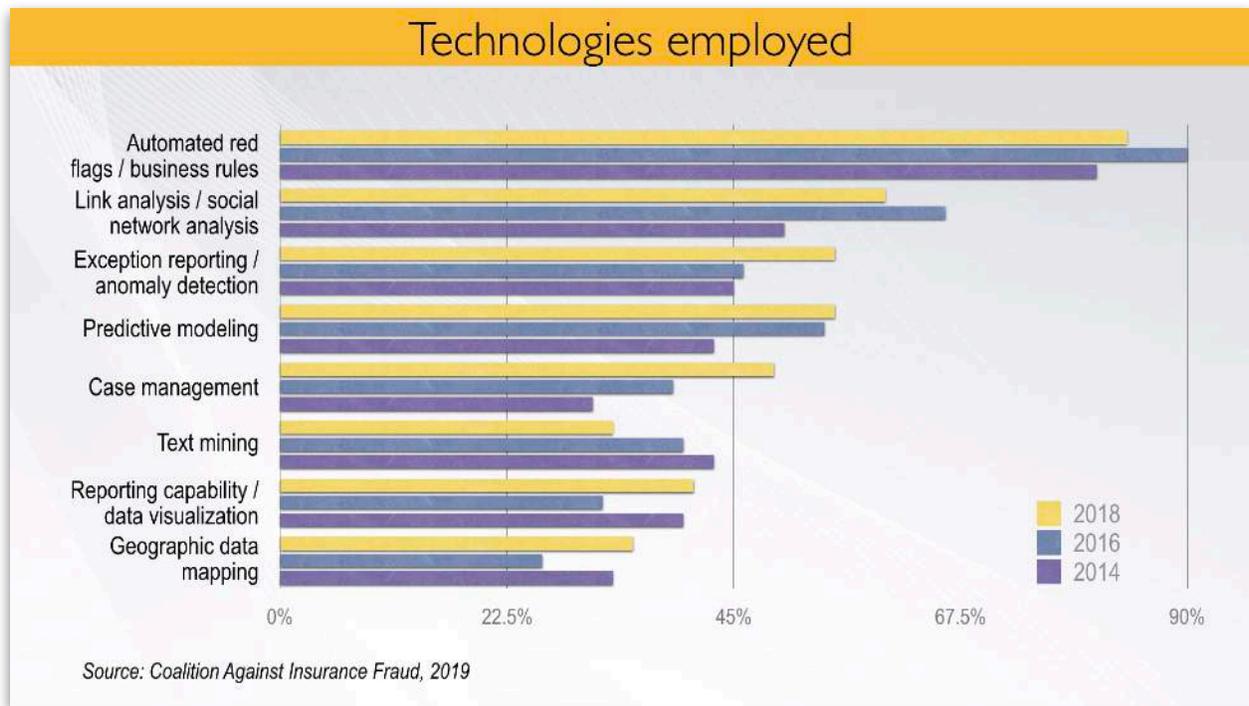
As insurer use of anti-fraud technology matured the last few years, most insurers have shifted from relying on single technologies to blending tools to increase capabilities and refine detection techniques. That trends continues. As insurers opt to use newer analytics, many are relying much less on — and in some cases, even abandoning — old-school technologies such as automated business rules and red flags.

In fact, those two tools seemed to have peaked in 2016 and reported use has now started declining. Picking up the slack are predictive modeling, exception reporting, data mapping and for a handful of insurers, artificial intelligence.[1]

Other findings:

- Large insurers and non-pc companies are least likely to integrate business rules and red flags into their anti-fraud systems.

- No non-pc insurer reported using text mining in their technology mix.

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1 In terms of use for fraud detection, no common definition of what technologies constitute artificial intelligence was found or offered to survey participants. Those reporting use of artificial intelligence were asked to explain the type of technologies. The results varied widely, suggesting the need to better define what exactly constitutes artificial intelligence.

Where built and housed

Source: Coalition Against Insurance Fraud, 2019
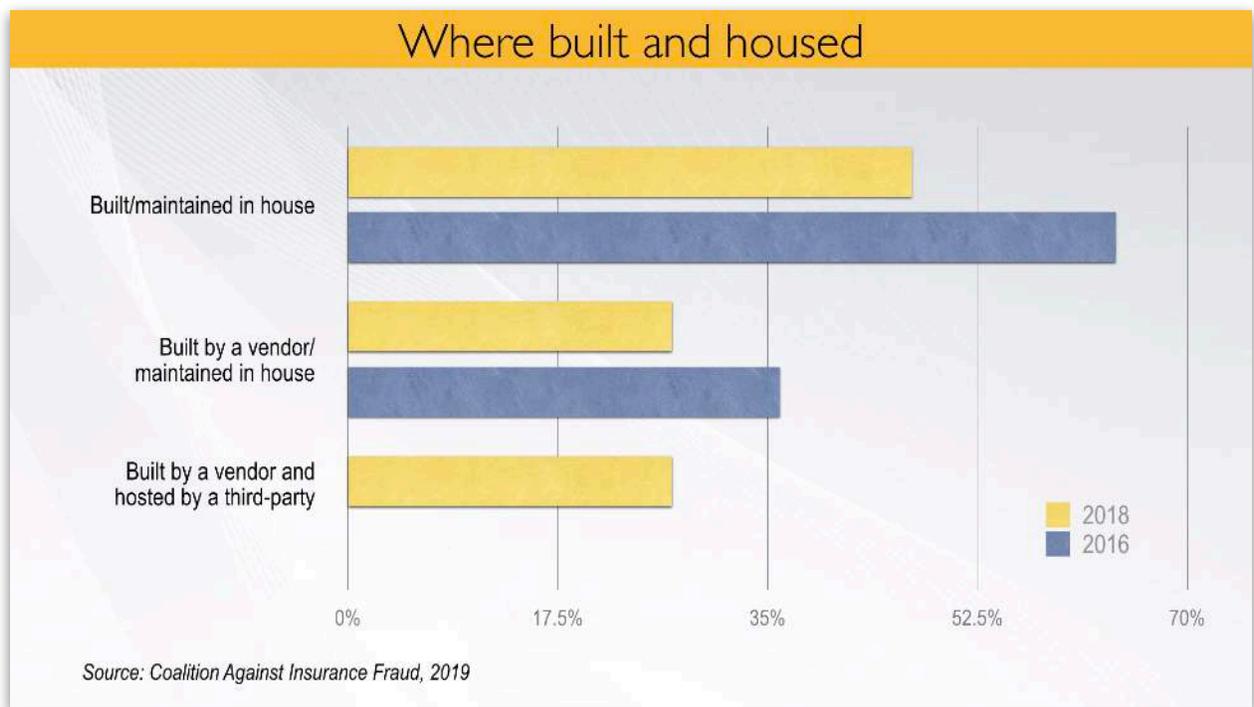
In 2016, a total of 64 percent of insurers surveyed said their systems were built and maintained in-house. In 2018, that total fell to 47 percent, a significant shift. So what happened? The lack of IT resources internally and growth of outside sources (along with declining costs) convinced more insurers to look outside for tech solutions. This trend is likely to continue as more vendors come online with anti-fraud services that insurers deem to be cheaper and better quality than what they can do in house.

Other findings:

- 27 percent of insurers said their systems were built and hosted by outside vendors.
- Large insurers were least likely to build and maintain their systems in house.

Data sources

Source: Coalition Against Insurance Fraud, 2019
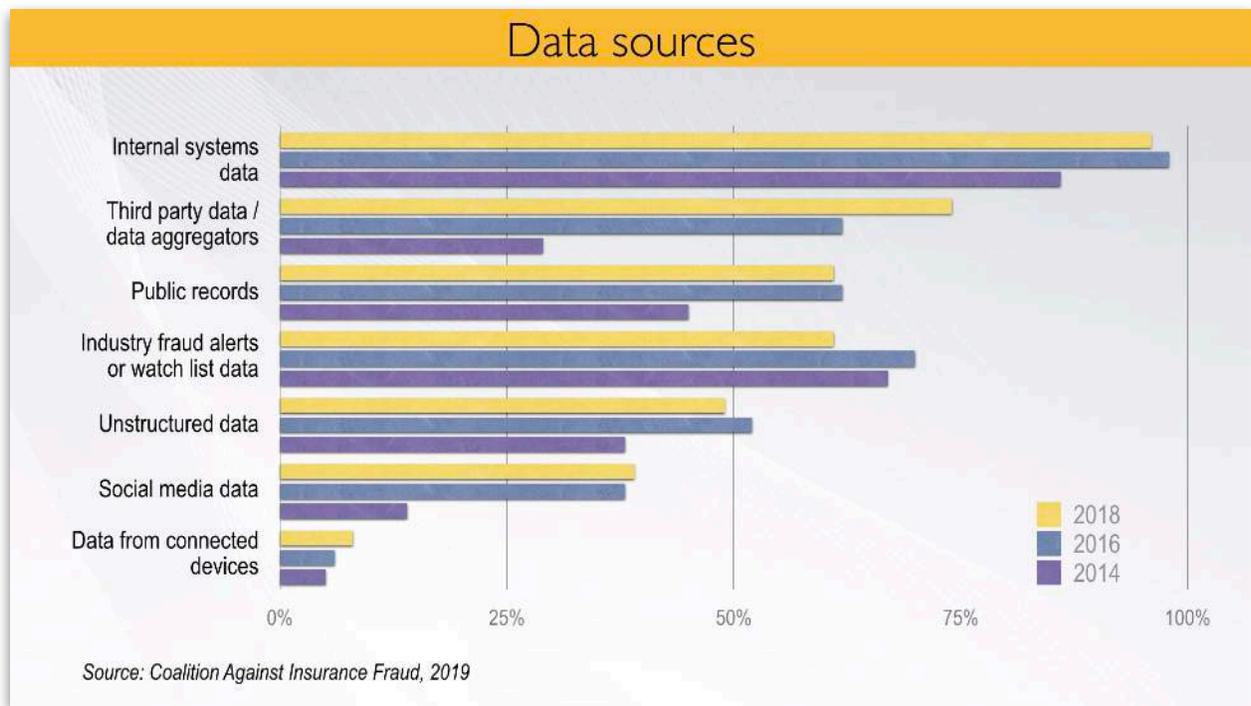
This area had little change from 2016. For the most part, sources of data remain constant between 2016 and 2018. One noticeable change was that use of industry fraud alerts and watch-list data fell to their lowest percentage (61 percent) since 2014. Use of social media data also has plateaued. This suggests that many insurers remain skittish about tapping into this area, possibly concerned about privacy and liability issues. There also may have been few new offerings in public data in the last two years, although they've increased greatly over the last six years.

Other findings:

- Property/casualty insurers are most likely to use third-party data (80 percent).

- Small insurers are mostly likely to employ social-media data, public records and unstructured data.

- Only 10 percent of non-pc insurers use unstructured data in their systems.

Percentage of referrals from tech

Less than 10% — 35%
10 to 19% — 20%
20 to 29% — 25%
30 to 39% — 8%
40 to 60% — 10%
More than 60% — 2%

Source: Coalition Against Insurance Fraud, 2019
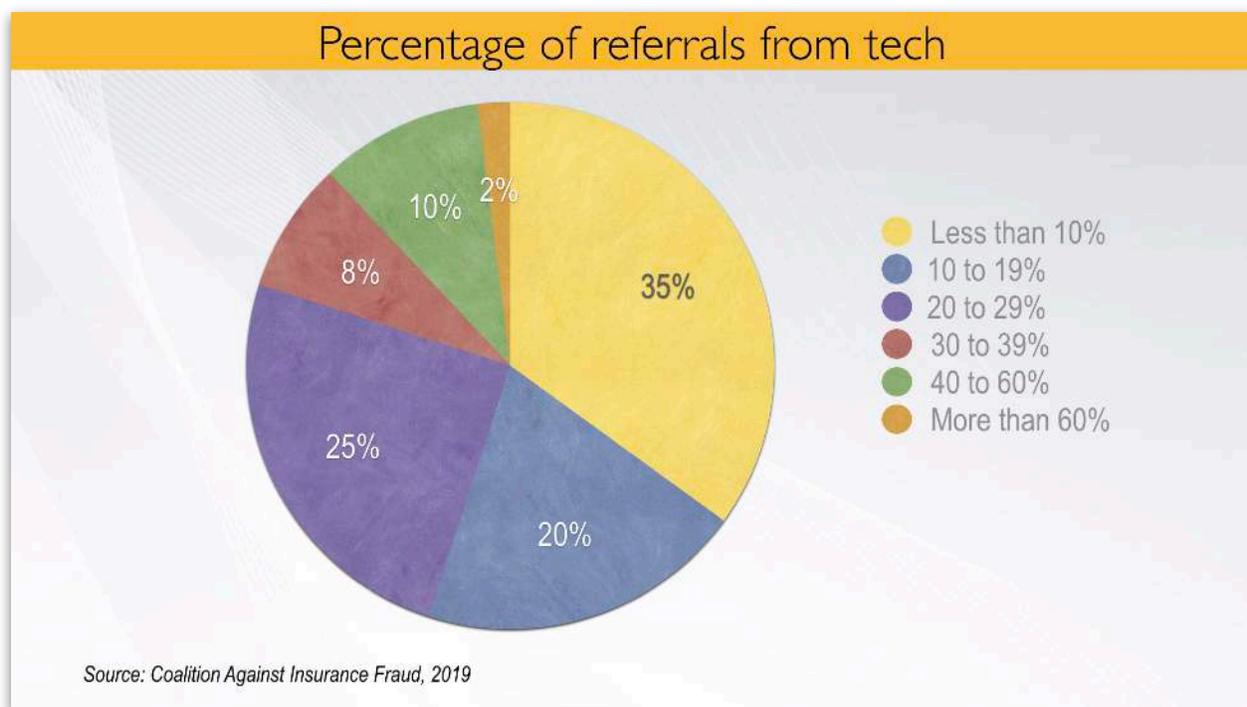
Perhaps the biggest surprise is that the percentage of referrals from anti-fraud systems has changed little. With the growing use of anti-fraud technologies and the wide variety of increasingly sophisticated tools, the percent of referrals sent to SIU should be climbing. Yet insurers reporting they receive 30 percent or more referrals from their systems remained steady at approximately 20 percent.

The number of insurers that received less than 10 percent actually increased. The larger number of non-pc carriers that took part in the study from 2016 to 2017 likely influenced that change. Another possible reason for the lack of growth with inhouse tech referrals is that insurers have tweaked their systems to generate better-quality referrals at the cost of generating more referrals that, in some cases, their SIUs cannot handle due to the large volume.

Other findings:

• Half of non-pc companies reported receiving less than 10 percent of referrals from their tech systems.

• 29 percent of large companies received 30 percent or more of referrals from their systems, while only 13 percent of small companies did.

Benefits

Higher quality referrals
More referrals
Increased mitigation of losses
Improved Investigator efficiency
Uncovering complex or organized fraud activity
More consistent investigations
Better understanding of referrals
Enhanced reporting
Other

0% 17.5% 35% 52.5% 70%

2018
2016

Source: Coalition Against Insurance Fraud, 2019
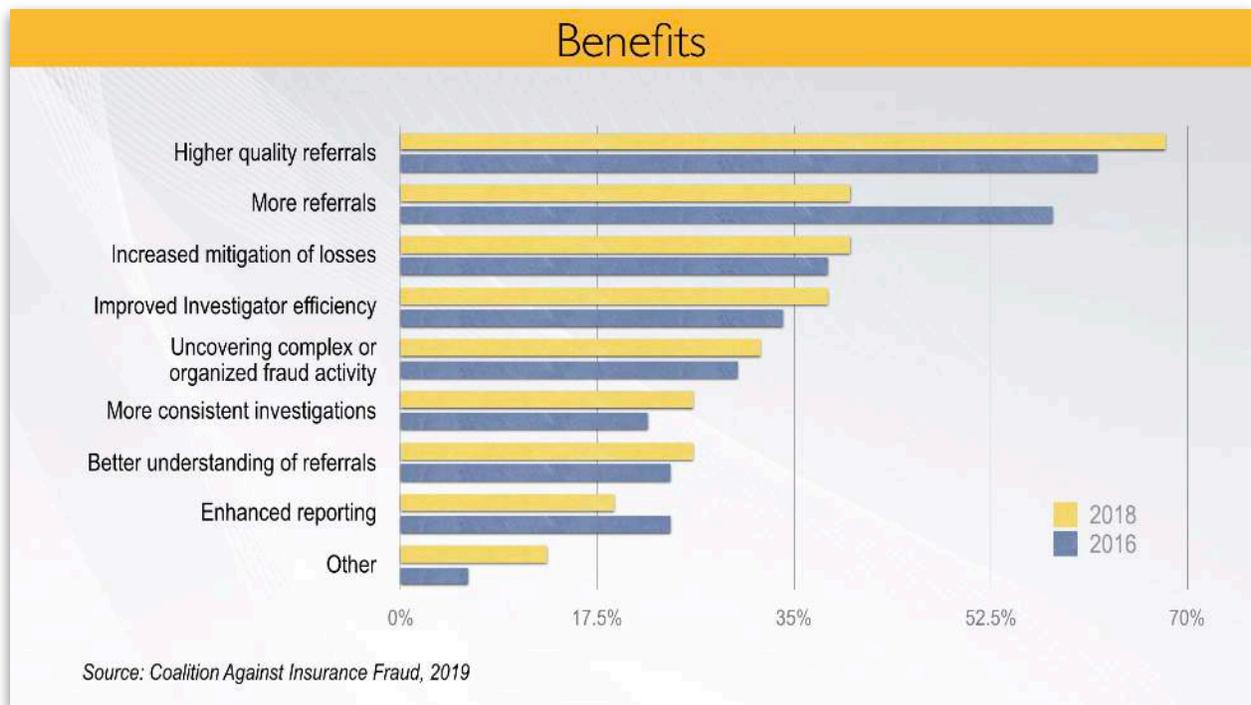
The shift in favoring quality over quantity is evident when insurers are asked about the benefits they receivee from anti-fraud technology. The lowest percentage in all studies since 2012 cited the number of referrals. The percentage citing quality of referrals remained high at 68 percent. This deviation is most evident with pc insurers by a margin of 40 percent vs. 70 percent.

The next two benefits cited most often are increased mitigation of losses and improved investigator efficiency.

Most benefits cited remain constant from 2016 to 2018. The uptick in the benefit that systems are uncovering complex or organized fraud activity suggest insurers are getting more comfortable using advanced analytics.

Other findings:

• 40 percent of non-pc insurers cited "enhanced reporting" as a benefit, compared to only 13 percent of pc companies.

• Only 10 percent of non-pc insurers cited "uncovering complex or organized fraud activity," compared to 35 percent of pc companies.

Challenges

Source: Coalition Against Insurance Fraud, 2019
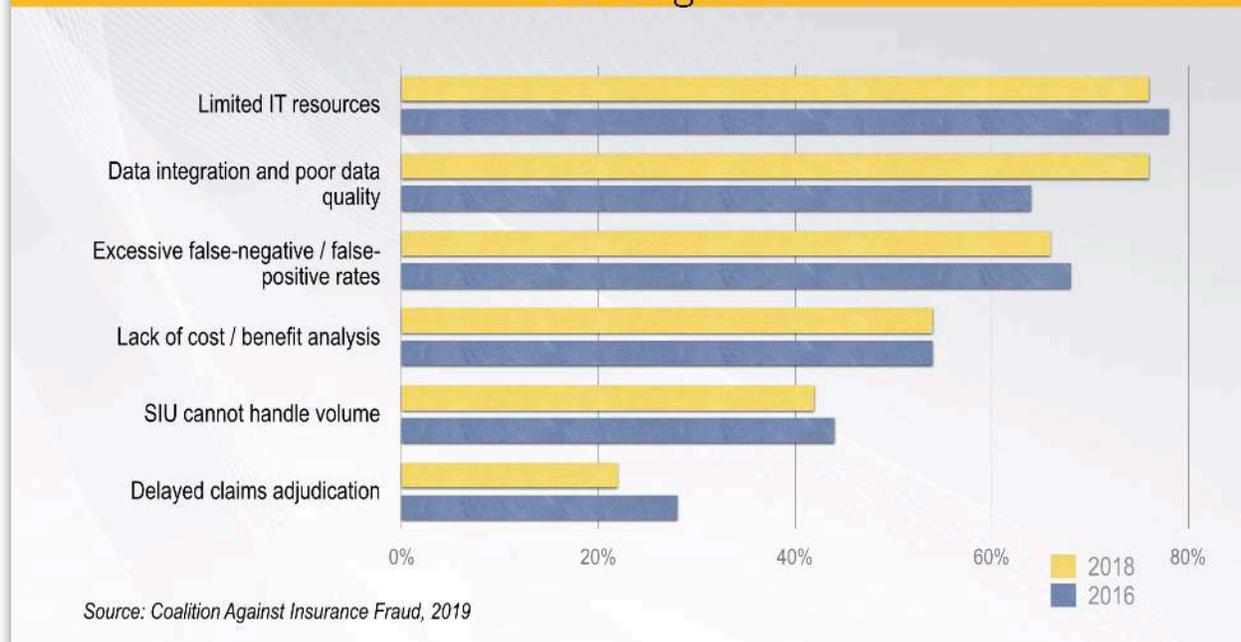
The biggest change from 2016 involved challenges with integrating data. The percentage jumped from 64 percent to 76 percent. Problems with data integration and poor-quality data likely are because data types have expanded greatly over the last few years, as has the complexity of the data insurers seek to integrate. Another potential problem is having trained, qualified staff adjusters who understand how to integrate data. Such personnel are in demand, and some companies appear to have a shortage and high turnover rate.

Limited IT resources also continue to be an issue for three-quarters of insurers, as do excessive false-positive and false-negative rates. On the latter, the increasingly complex mix of technologies, along with new types of analytics that are coming online, likely speak to the difficulty of refining systems to minimize false indicators.

More than half of insurers report problems with adequate return on investment in technology, even though tech prices have fallen in many areas. The number of insurers that cited lack of ROI as a challenge is much lower than a few years ago, but has remained steady since 2016. This suggests insurers continue to focus on their bottom line. However, the growth of spending on technology also suggests insurers are comfortable with the returns they are getting on tech investments.

Other findings:

• Non-pc insurers seem to have much less problem with lack of IT resources than pc carriers (50 percent vs. 83 percent)

• However, non-pc insurers more-often cite a challenge with false-positives and false-negatives than pc insurers (80 percent vs. 53 percent).

• Small insurers were much more likely to say their SIUs could not keep up with tech-generated referrals than larger carriers (50 percent vs. 25 percent).

Areas of greatest impact

	2018	2016
Application or underwriting fraud		
Personal auto		
Medical provider fraud		
PIP/No fault fraud		
Property claims		
Organized/professional fraud		
Commercial claims		
Agency fraud		
Soft or opportunistic fraud		
Internal fraud		

Source: Coalition Against Insurance Fraud, 2019
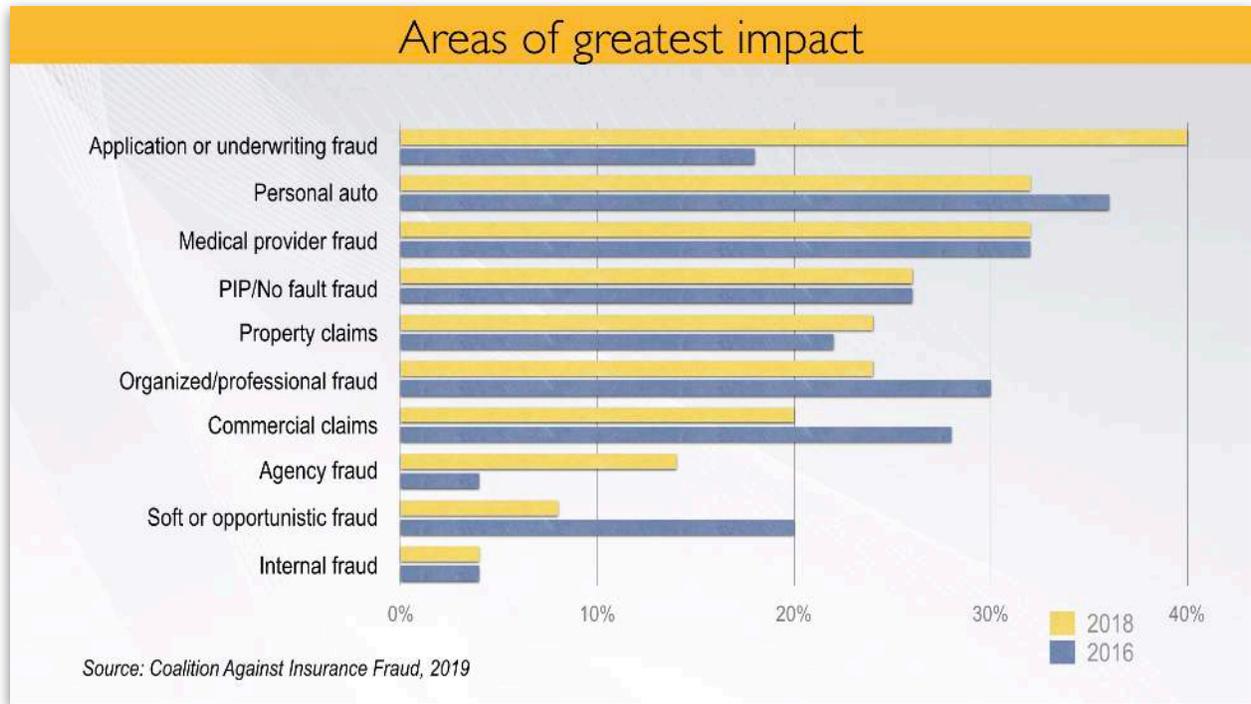
There is little change in the areas where insurers deem technology has the most impact. The largest change is using technology to detect underwriting or application fraud. While this metric has increased over the years, the higher level in 2018 may be more-influenced by the increased number of non-pc insurers that participated in the study. Life insurers especially use technology much more in underwriting than in claims. Still, 35 percent of pc insurers listed underwriting fraud as an area where technology plays an important role. That's a significant increase from just a few years ago.

Auto insurance and medical-provider fraud continue to be the mainstays where technology is used. There seems to be little growth in the number of insurers that primarily use tech for commercial lines.

Other findings:

• Non-pc insurers mainly use anti-fraud technology for underwriting, agent and internal fraud.

• Only 10 percent of pc insurers say anti-fraud technology has a major impact on "soft" or "opportunistic" fraud.

Metrics for measuring success

Metric	2018
Fraud detection rate	~63%
Number of referrals	~55%
Referral acceptance rate	~55%
Average days to detect fraud	~20%
Loss ratio	~15%
Other	~6%

Source: Coalition Against Insurance Fraud, 2019
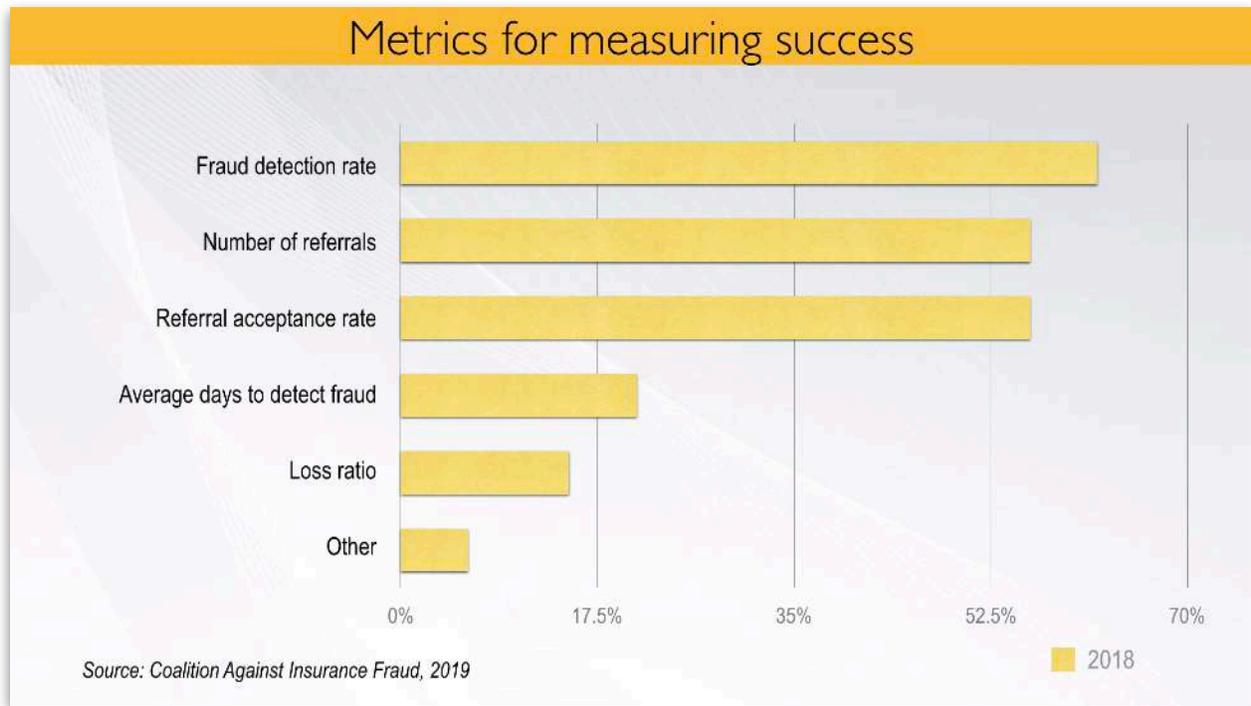
With increased use of anti-fraud technology, more insurers are measuring their effectiveness. The focus on speed to close claims likely is driving the increase use of metrics. The most-common metrics used to measure the success of anti-fraud technology solutions continue to be (1) fraud detection rate, (2) number of referrals, and (3) referral acceptance rate.

Other findings:

• Small insurers (69 percent) focus much more than large insurers (31 percent) on the number of referrals as a measure of success.

• 65 percent of pc insurers use a fraud-detection rate, compared to only 10 percent of non-pc insurers.

Amount of fraud

- Increased — 65%
- Remained the same — 25%
- Decreased — 10%
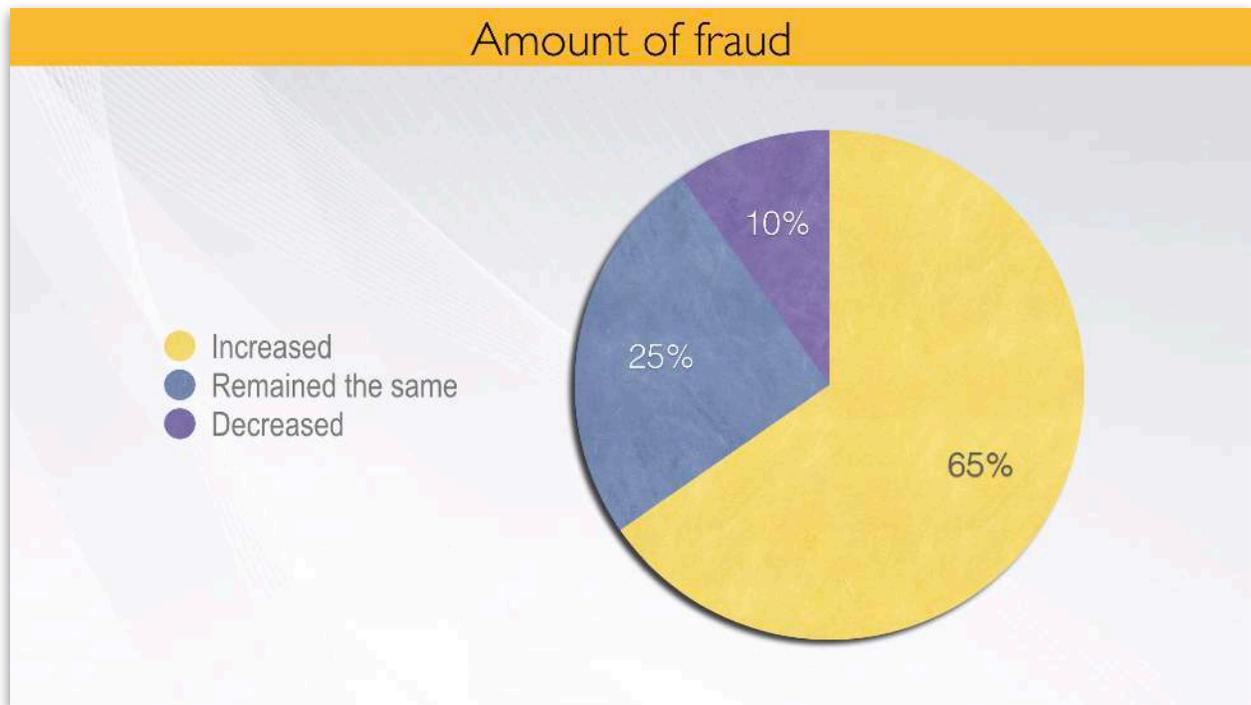
The detection rate of fraud was first measured in 2014. A slight majority of insurers (51 percent) at that time said they saw increased rates of suspected fraud over the previous three years. That metric jumped a full 10 points to 61 percent in 2016, and it increased to 66 percent in 2018.

The question these increases pose is whether more fraud is occurring or whether insurers are just getting better — using technology — detecting it. Most likely a combination of the two, but which is the greater cause? That question is beyond the scope of this study. But suffice it to say, fraud continues to be a major drain on insurers and consumers who pay higher premiums to cover the costs of fraud.

Other findings:

- No insurer in the last six years has reported that fraud has "decreased significantly."

- PC insurers were most likely to report that suspected fraud "increased significantly" in the last three years.

Future investments (areas)

Source: Coalition Against Insurance Fraud, 2019
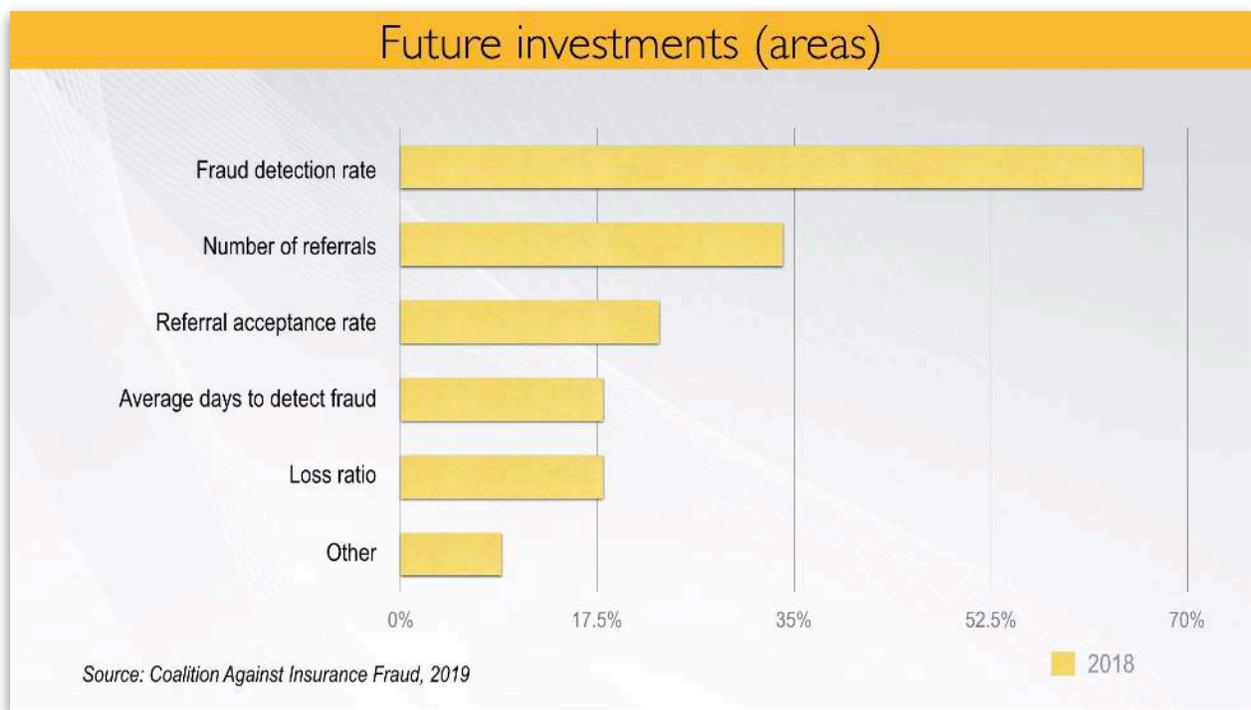
Nearly two-thirds of insurers (66 percent) said they planned to acquire new technology in the next year for enhanced detection of claims fraud. Approximately a third (34 percent) also said they would add technology to address underwriting fraud. Nearly a quarter said they planned to enhance their ability to deal with cyberfraud issues.

Other findings:

• Non-pc insurers were most likely to list internal fraud, money-laundering and cyberfraud as areas of future expansion.

• Small insurers were most likely to list claims fraud detection (69 percent) as an area for expansion, and least likely to expand into underwriting fraud (25 percent).

Future investments (types)

Source: Coalition Against Insurance Fraud, 2019
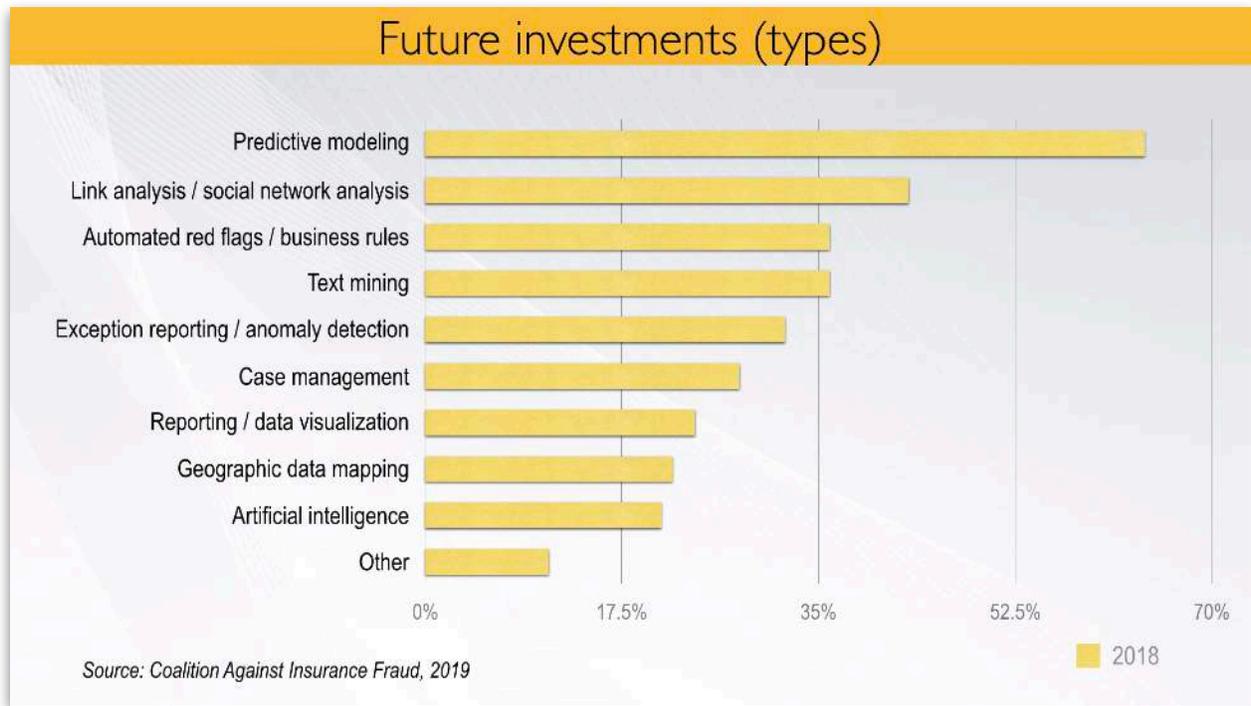
The two largest areas insurers are looking to expand into during the next two years are predictive modeling (64 percent) and link analysis/social network analysis (43 percent). Other significant areas of expansion include text mining (36 percent) and exception reporting/anomaly detection (32 percent). More than one-third of insurers (36 percent) also look to invest in automated business rules/red flags.

Other findings:

• Small and medium-size insurers are much more likely to invest in automated business rules/ red flags.

• Non-pc insurers most frequently listed predictive modeling as an area for expansion in the next two years.

• 21 percent of insurers, including half of non-pc insurers, said they plan to invest in artificial intelligence in the next 24 months.

2019 tech budget

Increased
Remained the same
Decreased

2% · 41% · 57%
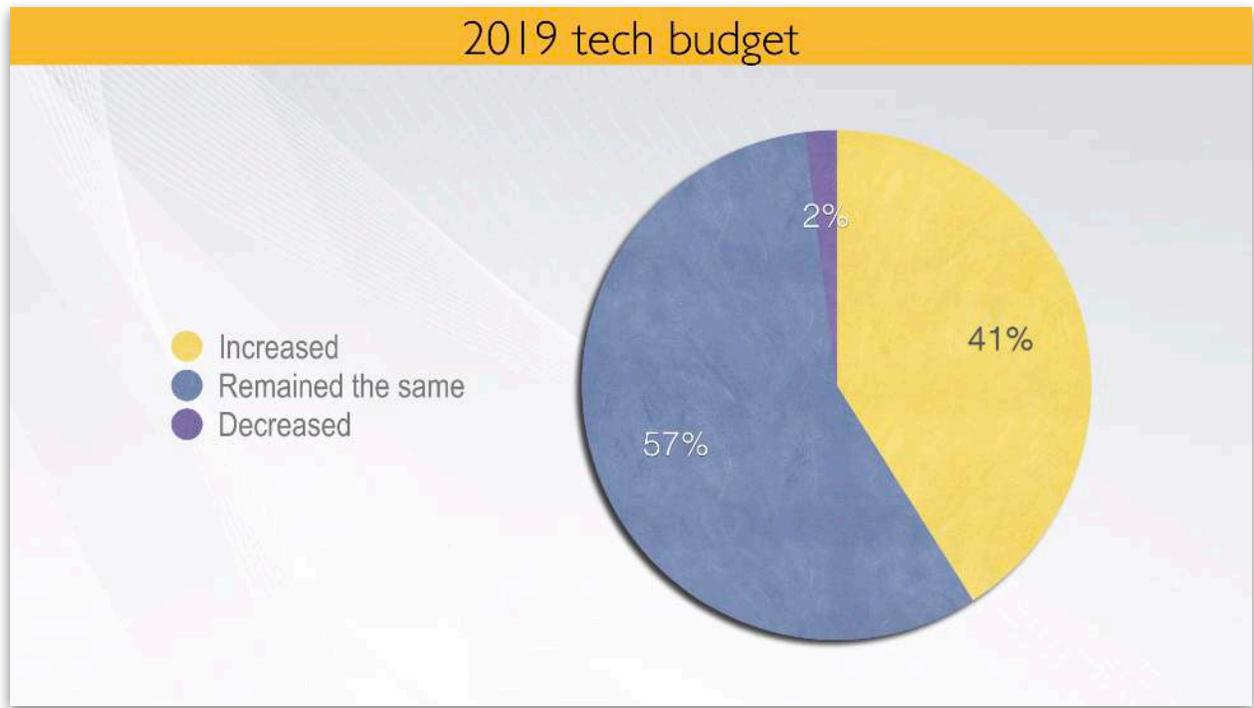
More than 40 percent of insurers will have added funds to spend for anti-fraud technology in 2019. That's the highest percentage since these studies have been conducted. Only 2 percent reported they will have a smaller tech budget in 2019 — the smallest percentage ever reported.

Other findings:

• 50 percent of non-pc insurers reported increased budgets for 2019, compare to 40 percent for pc insurers.

• No large or medium-size insurer reported projected decreases in budget for 2019.

Primary business of companies surveyed

- Auto
- Commercial
- Disability
- Life
- Accident & Health
- Homeowners
- Workers comp

14%
8%
4%
10%
48%
6%
10%

Size of companies surveyed

- Large
- Medium
- Small

33%
29%
39%
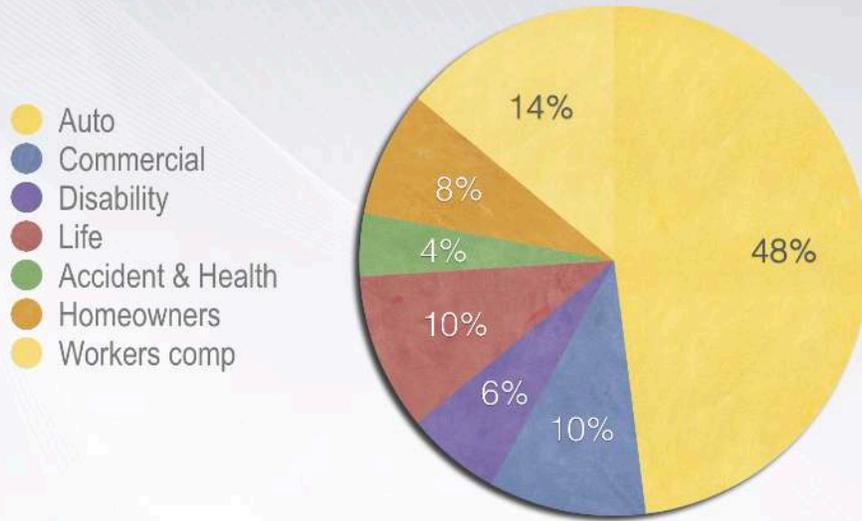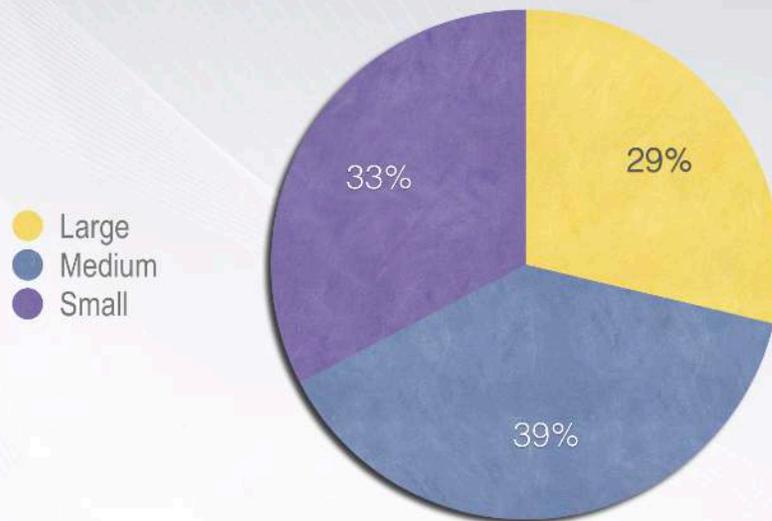
About this research

The State of Insurance Fraud Technology was undertaken by the Coalition Against Insurance Fraud to better understand how, and to what extent, insurance companies use anti-fraud technology. This is a followup to similar studies conducted in 2012, 2014 and 2016. The study also addresses anti-fraud technologies insurers now use, and are considering using. Technical assistance was provided by SAS Institute, an international company focusing on technology solutions for businesses and governments.

Technical review and oversight of the methodology, survey instrument and this report were provided by the Coalition's Research Committee:

- David Rioux, Erie Insurance
- Tim Hopper, Sentry Insurance
- Steve Friedman, Liberty Mutual
- Jack Dever, American Family
- Joseph Theobald, Citizens Property Insurance Corporation
- Steve Jarrett, Westfield Insurance

The research for this report drew on two main initiatives:

• Online survey in which 84 mostly property/casualty insurers provided data in November and December 2018; and interviews with subject-matter experts and senior insurance executives.

The Coalition Against Insurance Fraud thanks all who cooperated on this research for their time and insight.

The State of
Insurance Fraud Technology

Survey instrument

1. In which areas does your company currently employ anti-fraud technologies? (check all that apply)

Detection of claims fraud

Underwriting, or point-of-sale fraud / rate evasion

Internal fraud

Anti-money laundering

Cyber fraud

Other (please specify)_____

None ------> go to question #14

2. Concerning fraud detection, does your system incorporate? (check all that apply)

Automated red flags / business rules

Predictive modeling

Exception reporting / anomaly detection

Text mining

Link analysis / social network analysis

Geographic data mapping

Reporting capability / data visualization

Case management

Other (specify)_____

3. Is your fraud detection system?

Built/maintained in house

Built by a vendor/maintained in house

Hosted by a third party (e.g. vendor or cloud)

4. What data sources are used by your anti-fraud technology? (check all that apply)

Internal systems data (claims, policy, underwriting, application etc.)

Unstructured data (adjuster notes, emails, etc.)

Public records (criminal, civil, Motor Vehicle, etc)

Industry fraud alerts or watch list data (NICB, etc.)

Third party data / data aggregators (Lexis Nexis, ISO etc.)

Social media data

Data from connected devices (telematics, smartphones etc.)

Other (specify)_____

5. What percent of referrals come from your automated fraud detection solution?
Less than 10%
10 to 19%
20 to 29%
30 to 39%
40 to 60%
More than 60%

6. What are the top three benefits you receive from a fraud detection system?
More referrals
Higher quality referrals
Increased mitigation of losses determined to be fraudulent after investigation
More consistent claims investigations
Better understanding of referrals
Improved Investigator efficiency
Enhanced reporting
Uncovering complex or organized fraud activity
Other (specify)_____

7. What were the biggest challenges in deploying fraud detection technology? Please rank the top three with "1" as the biggest challenge, "2" as the second biggest challenge and "3" as the third biggest challenge.
Lack of cost / benefit analysis (ROI)
Limited IT resources
Delayed claims adjudication
Data integration and poor data quality
SIU cannot handle volume of potentially fraudulent claims
Excessive false-negative / false-positive rates

8. In what areas does anti-fraud technology have the greatest impact in your company? (please check up to three)
Personal auto – comprehensive, collision
PIP/No fault fraud
Medical provider fraud
Organized/professional fraud (staged accidents, complex claims, Rings)
Soft or opportunistic fraud (low impact soft tissue)
Application or underwriting fraud (premium fraud, misrepresentation)
Property claims (homeowners, commercial property)
Commercial claims (workers comp, liability)
Agency fraud
Internal fraud

9. How frequently do you review and refresh your business rules and analytical fraud models
Monthly
Quarterly
Semi-annually

Annually
More than annual
Never
Don't know

10. How do you measure success of your anti-fraud technology solutions? (Check all that apply.)
Number of referrals
Referral acceptance rate
Fraud detection rate
Average days to detect fraud
Loss ratio
Other

11. During the last three years, has the amount of suspected fraud against your company:
Increased significantly
Increased slightly
Remained the same
Decreased slightly
Decreased significantly

12. Which areas of technology is your company considering investing in in the next 12 to 24 months? (check all that apply)
Detection of claims fraud
Underwriting, or point-of-sale fraud / rate evasion
Internal fraud
Anti-money laundering
Cyber fraud
Other (please specify)_____

13. Which of the following anti-fraud technologies are you considering investing in within next 12 to 24 months? (Check all that apply)
Automated red flags / business rules
Predictive modeling
Exception reporting / anomaly detection
Text mining
Link analysis / social network analysis
Geographic data mapping
Case management
Reporting / data visualization
Artificial intelligence
  If yes, please explain the type of AI you are considering?_____
Other (specify)_____
None

14. Which of the following describes the overall anti-fraud technology budget during the next 12 months?
Decreased budget
Flat / no major changes in funding
Additional funding approved or anticipated

15. What is your company's primary business?
Accident & Health – go to 17b)
Auto – go to 17a)
Commercial – go to 17a)
Disability – go to 17b)
Homeowners – go to 17a)
Life – go to 17b)
Workers compensation – go to 17a)

16a. What is your company's direct written premium?
Less than $250 million
$250 million to $999 million
$1 billion to $2.4 billion
$2.5 billion to $5 billion
Greater than $5 billion

16b. What is your company's size of business?
Fewer than 250,000 lives covered
250,000 to 500,000 lives covered
More than 500,000 lives covered

18. Which of the following best describes your job function?
Senior management
SIU director/manager
Claims director / manager
IT director / manager
Other (specify)_____

The State of Insurance Fraud Technology

Statistics

	2014	2016	2018	2018 - large	2018 - medium	2018 - small	Non-PC	PC
In which areas does your company currently employ anti-fraud technologies? *(check all that apply)*								
Detection of claims fraud	71%	76%	90%	64%	100%	100%	50%	100%
Underwriting, or point-of-sale fraud / rate evasion	33%	39%	55%	71%	63%	25%	40%	58%
Internal fraud	29%	29%	43%	41%	47%	38%	20%	48%
Anti-money laundering	24%	9%	29%	50%	21%	19%	60%	20%
Cyber fraud	14%	18%	43%	57%	47%	25%	40%	43%
Other (please specify)	12%	3%	8%	0%	5%	6%	20%	5%
Concerning fraud detection, does your system incorporate? *(check all that apply)*								
Automated red flags / business rules	81%	90%	84%	71%	89%	94%	70%	88%
Link analysis / social network analysis	50%	66%	60%	57%	68%	50%	30%	68%
Predictive modeling	43%	54%	55%	50%	63%	50%	50%	58%
Exception reporting / anomaly detection	45%	46%	55%	79%	53%	38%	70%	50%
Case management	31%	39%	49%	71%	42%	31%	70%	43%
Reporting capability / data visualization	40%	32%	41%	36%	63%	19%	10%	48%
Geographic data mapping	33%	26%	35%	43%	42%	19%	30%	35%
Text mining	43%	40%	33%	29%	53%	13%	0%	40%
Artificial intelligence *(please specify type)*	* * *	n/a	6%	0%	5%	0%	10%	5%
Other *(specify)*	* * *	3%	4%	0%	5%	0%	0%	3%
Is your fraud detection system? *(check only one)*								
Built/maintained in house	* * *	64%	47%	29%	68%	38%	20%	55%
Built by a vendor/ maintained in house	* * *	36%	27%	43%	0%	44%	40%	23%
Built by a vendor and hosted by a third-party	* * *	* * *	27%	29%	32%	18%	40%	23%

	2014	2016	2018	2018 - large	2018 - medium	2018 - small	Non-PC	PC
What data sources are used by your anti-fraud technology? *(check all that apply)*								
Internal systems data	86%	98%	96%	81%	100%	94%	90%	98%
Third party data / data aggregators *(Lexis Nexis, ISO etc.)*	29%	62%	74%	56%	84%	69%	50%	80%
Public records *(criminal, civil, Motor Vehicle, etc)*	45%	62%	61%	56%	53%	69%	60%	63%
Industry fraud alerts or watch list data *(NICB, etc.)*	67%	70%	61%	50%	74%	50%	40%	68%
Unstructured data *(adjuster notes, emails, etc.)*	38%	52%	49%	19%	58%	63%	10%	60%
Social media data	14%	38%	39%	13%	42%	56%	30%	43%
Data from connected devices *(telematics, smartphones etc.)*	5%	6%	8%	6%	11%	13%	0%	13%
What percent of referrals come from your automated fraud detection solution? *(check only one)*								
Less than 10%	* * *	30%	35%	29%	37%	31%	50%	30%
10 to 19%	* * *	28%	20%	14%	21%	25%	0%	25%
20 to 29%	* * *	20%	25%	29%	26%	25%	20%	25%
30 to 39%	* * *	10%	8%	0%	5%	13%	10%	8%
40 to 60%	* * *	6%	10%	21%	11%	0%	10%	10%
More than 60%	* * *	6%	2%	7%	0%	0%	0%	3%
What are the top three benefits you receive from a fraud detection system? *(check only three)*								
Higher quality referrals	69%	62%	68%	63%	74%	56%	50%	70%
More referrals	59%	58%	40%	44%	16%	56%	30%	40%
Increased mitigation of losses	33%	38%	40%	25%	53%	38%	20%	45%
Improved Investigator efficiency	41%	34%	38%	31%	42%	31%	50%	35%
Uncovering complex or organized fraud activity	51%	30%	32%	31%	37%	13%	10%	35%
More consistent claims investigations	26%	22%	26%	19%	16%	38%	30%	23%
Better understanding of referrals	26%	24%	26%	13%	26%	31%	10%	28%

	2014	2016	2018	2018 - large	2018 - medium	2018 - small	Non-PC	PC
Enhanced reporting	18%	24%	19%	31%	16%	6%	40%	13%
Other *(specify)*	0%	6%	13%	7%	11%	25%	0%	15%

What were the biggest challenges in deploying fraud detection technology? *(check only three)*

	2014	2016	2018	2018 - large	2018 - medium	2018 - small	Non-PC	PC
Data integration and poor data quality	14%	64%	76%	69%	74%	81%	70%	78%
Limited IT resources	53%	78%	76%	56%	95%	69%	50%	83%
Excessive false-negative / false-positive rates	17%	68%	66%	75%	53%	69%	80%	53%
Lack of cost / benefit analysis (ROI)	27%	54%	54%	50%	42%	69%	80%	48%
SIU cannot handle volume of potentially fraudulent claims	3%	44%	42%	25%	47%	50%	40%	63%
Delayed claims adjudication	8%	28%	22%	6%	16%	44%	10%	25%

In what areas does anti-fraud technology have the greatest impact in your company? *(please check up to three)*

	2014	2016	2018	2018 - large	2018 - medium	2018 - small	Non-PC	PC
Application or underwriting fraud	* * *	18%	40%	57%	21%	44%	60%	35%
Personal auto – comprehensive, collision	* * *	36%	32%	21%	37%	25%	10%	38%
Medical provider fraud	* * *	32%	32%	36%	42%	13%	10%	33%
PIP/No fault fraud	* * *	26%	26%	29%	26%	19%	0%	33%
Organized/professional fraud	* * *	30%	24%	21%	32%	6%	0%	30%
Property claims *(homeowners, commercial property)*	* * *	22%	24%	14%	26%	25%	10%	28%
Commercial claims *(workers comp, liability)*	* * *	28%	20%	7%	21%	31%	10%	20%
Agency fraud	* * *	4%	14%	29%	5%	6%	40%	8%
Soft or opportunistic fraud *(low-impact soft tissue)*	* * *	20%	8%	0%	5%	19%	0%	10%
Internal fraud	* * *	4%	4%	14%	0%	0%	20%	0%

	2014	2016	2018	2018 - large	2018 - medium	2018 - small	Non-PC	PC
How frequently do you review and refresh your business rules and analytical fraud models? *(check only one)*								
Weekly	* * *	* * *	2%	0%	5%	0%	0%	3%
Monthly	* * *	14%	10%	7%	16%	6%	0%	13%
Quarterly	* * *	16%	17%	21%	11%	19%	10%	18%
Semi-annually	* * *	2%	10%	7%	16%	6%	10%	10%
Annually	* * *	34%	23%	29%	16%	25%	40%	15%
More than annual	* * *	18%	19%	7%	21%	19%	10%	20%
Never	* * *	4%	6%	7%	5%	13%	10%	8%
Don't know	* * *	12%	13%	21%	11%	13%	20%	15%
How do you measure success of your anti-fraud technology solutions? *(Check all that apply.)*								
Fraud detection rate	* * *	50%	62%	63%	74%	38%	60%	63%
Number of referrals	* * *	16%	56%	31%	63%	69%	40%	60%
Referral acceptance rate	* * *	* * *	56%	38%	74%	44%	10%	65%
Average days to detect fraud	* * *	2%	21%	25%	26%	6%	10%	23%
Loss ratio	* * *	4%	15%	19%	16%	6%	30%	10%
Other	* * *	8%	6%	7%	11%	0%	10%	5%
During the last three years, has the amount of suspected fraud against your company: *(check only one)*								
Increased significantly	7%	12%	29%	29%	32%	13%	20%	30%
Increased slightly	44%	49%	37%	43%	26%	50%	50%	35%
Remained the same	46%	33%	25%	21%	26%	25%	20%	25%
Decreased slightly	2%	6%	10%	7%	16%	6%	10%	10%
Decreased significantly	0%	0%	0%	0%	0%	0%	0%	0%
Which areas of technology is your company considering investing in in the next 12 to 24 months? *(check all that apply)*								
Detection of claims fraud	* * *	* * *	66%	56%	63%	69%	50%	70%
Underwriting, or point-of-sale fraud / rate evasion	* * *	* * *	34%	38%	32%	25%	20%	38%
Cyber fraud	* * *	* * *	23%	31%	16%	13%	40%	15%
Internal fraud	* * *	* * *	18%	25%	5%	19%	30%	13%

	2014	2016	2018	2018 - large	2018 - medium	2018 - small	Non-PC	PC
Other	* * *	* * *	18%	21%	21%	6%	20%	15%
Anti-money laundering	* * *	* * *	9%	19%	0%	6%	30%	3%

Which of the following anti-fraud technologies are you considering investing in within next 12 to 24 months? *(Check all that apply)*

	2014	2016	2018	2018 - large	2018 - medium	2018 - small	Non-PC	PC
Predictive modeling	* * *	19%	64%	63%	58%	56%	70%	58%
Link analysis / social network analysis	* * *	16%	43%	31%	53%	25%	30%	43%
Automated red flags / business rules	* * *	12%	36%	13%	47%	31%	30%	35%
Text mining	* * *	13%	36%	25%	42%	25%	30%	35%
Exception reporting / anomaly detection	* * *	7%	32%	38%	37%	13%	50%	25%
Case management	* * *	10%	28%	19%	21%	31%	30%	25%
Reporting / data visualization	* * *	10%	24%	19%	42%	31%	30%	33%
Geographic data mapping	* * *	7%	22%	31%	21%	6%	30%	18%
Artificial intelligence (please specify type)	* * *	* * *	21%	31%	16%	13%	50%	13%
Other *(specify)*	* * *	1%	11%	7%	11%	19%	0%	15%
None	* * *	5%						

Which of the following describes the overall anti-fraud technology budget during the next 12 months? *(check only one)*

	2014	2016	2018	2018 - large	2018 - medium	2018 - small	Non-PC	PC
Decreased budget	13%	15%	2%	0%	0%	6%	0%	3%
Flat / no major changes in funding	63%	52%	57%	57%	53%	56%	50%	57%
Additional funding approved or anticipated	25%	33%	41%	43%	47%	38%	50%	40%

What is your company's primary business?

	2014	2016	2018	2018 - large	2018 - medium	2018 - small	Non-PC	PC
Auto	* * *	* * *	48%	47%	53%	44%	0%	60%
Commercial	* * *	* * *	10%	0%	16%	13%	0%	13%
Disability	* * *	* * *	6%	7%	0%	13%	20%	0%
Life	* * *	* * *	10%	36%	0%	0%	60%	0%
Accident & Health	* * *	* * *	4%	14%	0%	0%	20%	0%
Homeowners	* * *	* * *	8%	0%	11%	13%	0%	10%

	2014	2016	2018	2018 - large	2018 - medium	2018 - small	Non-PC	PC
Workers comp	* * *	* * *	14%	0%	21%	19%	0%	18%

What is your company size *(direct written premium or lives covered)*

Large	* * *	* * *	29%
Medium	* * *	* * *	39%
Small	* * *	* * *	33%

The State of Insurance Fraud Technology

Survey instrument

1. In which areas does your company currently employ anti-fraud technologies? (check all that apply)

Detection of claims fraud

Underwriting, or point-of-sale fraud / rate evasion

Internal fraud

Anti-money laundering

Cyber fraud

Other (please specify)_____

None ------> go to question #14

2. Concerning fraud detection, does your system incorporate? (check all that apply)

Automated red flags / business rules

Predictive modeling

Exception reporting / anomaly detection

Text mining

Link analysis / social network analysis

Geographic data mapping

Reporting capability / data visualization

Case management

Other (specify)_____

3. Is your fraud detection system?

Built/maintained in house

Built by a vendor/maintained in house

Hosted by a third party (e.g. vendor or cloud)

4. What data sources are used by your anti-fraud technology? (check all that apply)

Internal systems data (claims, policy, underwriting, application etc.)

Unstructured data (adjuster notes, emails, etc.)

Public records (criminal, civil, Motor Vehicle, etc)

Industry fraud alerts or watch list data (NICB, etc.)

Third party data / data aggregators (Lexis Nexis, ISO etc.)

Social media data

Data from connected devices (telematics, smartphones etc.)

Other (specify)_____

5. What percent of referrals come from your automated fraud detection solution?
Less than 10%
10 to 19%
20 to 29%
30 to 39%
40 to 60%
More than 60%

6. What are the top three benefits you receive from a fraud detection system?
More referrals
Higher quality referrals
Increased mitigation of losses determined to be fraudulent after investigation
More consistent claims investigations
Better understanding of referrals
Improved Investigator efficiency
Enhanced reporting
Uncovering complex or organized fraud activity
Other (specify)_____

7. What were the biggest challenges in deploying fraud detection technology? Please rank the top three with "1" as the biggest challenge, "2" as the second biggest challenge and "3" as the third biggest challenge.
Lack of cost / benefit analysis (ROI)
Limited IT resources
Delayed claims adjudication
Data integration and poor data quality
SIU cannot handle volume of potentially fraudulent claims
Excessive false-negative / false-positive rates

8. In what areas does anti-fraud technology have the greatest impact in your company? (please check up to three)
Personal auto – comprehensive, collision
PIP/No fault fraud
Medical provider fraud
Organized/professional fraud (staged accidents, complex claims, Rings)
Soft or opportunistic fraud (low impact soft tissue)
Application or underwriting fraud (premium fraud, misrepresentation)
Property claims (homeowners, commercial property)
Commercial claims (workers comp, liability)
Agency fraud
Internal fraud

9. How frequently do you review and refresh your business rules and analytical fraud models
Monthly
Quarterly
Semi-annually

Annually
More than annual
Never
Don't know

10. How do you measure success of your anti-fraud technology solutions? (Check all that apply.)
Number of referrals
Referral acceptance rate
Fraud detection rate
Average days to detect fraud
Loss ratio
Other

11. During the last three years, has the amount of suspected fraud against your company:
Increased significantly
Increased slightly
Remained the same
Decreased slightly
Decreased significantly

12. Which areas of technology is your company considering investing in in the next 12 to 24 months? (check all that apply)
Detection of claims fraud
Underwriting, or point-of-sale fraud / rate evasion
Internal fraud
Anti-money laundering
Cyber fraud
Other (please specify)_____

13. Which of the following anti-fraud technologies are you considering investing in within next 12 to 24 months? (Check all that apply)
Automated red flags / business rules
Predictive modeling
Exception reporting / anomaly detection
Text mining
Link analysis / social network analysis
Geographic data mapping
Case management
Reporting / data visualization
Artificial intelligence
  If yes, please explain the type of AI you are considering?_____
Other (specify)_____
None

14. Which of the following describes the overall anti-fraud technology budget during the next 12 months?
Decreased budget
Flat / no major changes in funding
Additional funding approved or anticipated

15. What is your company's primary business?
Accident & Health – go to 17b)
Auto – go to 17a)
Commercial – go to 17a)
Disability – go to 17b)
Homeowners – go to 17a)
Life – go to 17b)
Workers compensation – go to 17a)

16a. What is your company's direct written premium?
Less than $250 million
$250 million to $999 million
$1 billion to $2.4 billion
$2.5 billion to $5 billion
Greater than $5 billion

16b. What is your company's size of business?
Fewer than 250,000 lives covered
250,000 to 500,000 lives covered
More than 500,000 lives covered

18. Which of the following best describes your job function?
Senior management
SIU director/manager
Claims director / manager
IT director / manager
Other (specify)_____

The State of
Insurance Fraud Technology

Statistics

	2014	2016	2018	2018 - large	2018 - medium	2018 - small	Non-PC	PC
In which areas does your company currently employ anti-fraud technologies? *(check all that apply)*								
Detection of claims fraud	71%	76%	90%	64%	100%	100%	50%	100%
Underwriting, or point-of-sale fraud / rate evasion	33%	39%	55%	71%	63%	25%	40%	58%
Internal fraud	29%	29%	43%	41%	47%	38%	20%	48%
Anti-money laundering	24%	9%	29%	50%	21%	19%	60%	20%
Cyber fraud	14%	18%	43%	57%	47%	25%	40%	43%
Other (please specify)	12%	3%	8%	0%	5%	6%	20%	5%
Concerning fraud detection, does your system incorporate? *(check all that apply)*								
Automated red flags / business rules	81%	90%	84%	71%	89%	94%	70%	88%
Link analysis / social network analysis	50%	66%	60%	57%	68%	50%	30%	68%
Predictive modeling	43%	54%	55%	50%	63%	50%	50%	58%
Exception reporting / anomaly detection	45%	46%	55%	79%	53%	38%	70%	50%
Case management	31%	39%	49%	71%	42%	31%	70%	43%
Reporting capability / data visualization	40%	32%	41%	36%	63%	19%	10%	48%
Geographic data mapping	33%	26%	35%	43%	42%	19%	30%	35%
Text mining	43%	40%	33%	29%	53%	13%	0%	40%
Artificial intelligence *(please specify type)*	* * *	n/a	6%	0%	5%	0%	10%	5%
Other *(specify)*	* * *	3%	4%	0%	5%	0%	0%	3%
Is your fraud detection system? *(check only one)*								
Built/maintained in house	* * *	64%	47%	29%	68%	38%	20%	55%
Built by a vendor/ maintained in house	* * *	36%	27%	43%	0%	44%	40%	23%
Built by a vendor and hosted by a third-party	* * *	* * *	27%	29%	32%	18%	40%	23%

	2014	2016	2018	2018 - large	2018 - medium	2018 - small	Non-PC	PC
What data sources are used by your anti-fraud technology? *(check all that apply)*								
Internal systems data	86%	98%	96%	81%	100%	94%	90%	98%
Third party data / data aggregators *(Lexis Nexis, ISO etc.)*	29%	62%	74%	56%	84%	69%	50%	80%
Public records *(criminal, civil, Motor Vehicle, etc)*	45%	62%	61%	56%	53%	69%	60%	63%
Industry fraud alerts or watch list data *(NICB, etc.)*	67%	70%	61%	50%	74%	50%	40%	68%
Unstructured data *(adjuster notes, emails, etc.)*	38%	52%	49%	19%	58%	63%	10%	60%
Social media data	14%	38%	39%	13%	42%	56%	30%	43%
Data from connected devices *(telematics, smartphones etc.)*	5%	6%	8%	6%	11%	13%	0%	13%
What percent of referrals come from your automated fraud detection solution? *(check only one)*								
Less than 10%	* * *	30%	35%	29%	37%	31%	50%	30%
10 to 19%	* * *	28%	20%	14%	21%	25%	0%	25%
20 to 29%	* * *	20%	25%	29%	26%	25%	20%	25%
30 to 39%	* * *	10%	8%	0%	5%	13%	10%	8%
40 to 60%	* * *	6%	10%	21%	11%	0%	10%	10%
More than 60%	* * *	6%	2%	7%	0%	0%	0%	3%
What are the top three benefits you receive from a fraud detection system? *(check only three)*								
Higher quality referrals	69%	62%	68%	63%	74%	56%	50%	70%
More referrals	59%	58%	40%	44%	16%	56%	30%	40%
Increased mitigation of losses	33%	38%	40%	25%	53%	38%	20%	45%
Improved Investigator efficiency	41%	34%	38%	31%	42%	31%	50%	35%
Uncovering complex or organized fraud activity	51%	30%	32%	31%	37%	13%	10%	35%
More consistent claims investigations	26%	22%	26%	19%	16%	38%	30%	23%
Better understanding of referrals	26%	24%	26%	13%	26%	31%	10%	28%

	2014	2016	2018	2018 - large	2018 - medium	2018 - small	Non-PC	PC
Enhanced reporting	18%	24%	19%	31%	16%	6%	40%	13%
Other *(specify)*	0%	6%	13%	7%	11%	25%	0%	15%

What were the biggest challenges in deploying fraud detection technology? *(check only three)*

	2014	2016	2018	2018 - large	2018 - medium	2018 - small	Non-PC	PC
Data integration and poor data quality	14%	64%	76%	69%	74%	81%	70%	78%
Limited IT resources	53%	78%	76%	56%	95%	69%	50%	83%
Excessive false-negative / false-positive rates	17%	68%	66%	75%	53%	69%	80%	53%
Lack of cost / benefit analysis (ROI)	27%	54%	54%	50%	42%	69%	80%	48%
SIU cannot handle volume of potentially fraudulent claims	3%	44%	42%	25%	47%	50%	40%	63%
Delayed claims adjudication	8%	28%	22%	6%	16%	44%	10%	25%

In what areas does anti-fraud technology have the greatest impact in your company? *(please check up to three)*

	2014	2016	2018	2018 - large	2018 - medium	2018 - small	Non-PC	PC
Application or underwriting fraud	* * *	18%	40%	57%	21%	44%	60%	35%
Personal auto – comprehensive, collision	* * *	36%	32%	21%	37%	25%	10%	38%
Medical provider fraud	* * *	32%	32%	36%	42%	13%	10%	33%
PIP/No fault fraud	* * *	26%	26%	29%	26%	19%	0%	33%
Organized/professional fraud	* * *	30%	24%	21%	32%	6%	0%	30%
Property claims *(homeowners, commercial property)*	* * *	22%	24%	14%	26%	25%	10%	28%
Commercial claims *(workers comp, liability)*	* * *	28%	20%	7%	21%	31%	10%	20%
Agency fraud	* * *	4%	14%	29%	5%	6%	40%	8%
Soft or opportunistic fraud *(low-impact soft tissue)*	* * *	20%	8%	0%	5%	19%	0%	10%
Internal fraud	* * *	4%	4%	14%	0%	0%	20%	0%

	2014	2016	2018	2018 - large	2018 - medium	2018 - small	Non-PC	PC
How frequently do you review and refresh your business rules and analytical fraud models? *(check only one)*								
Weekly	* * *	* * *	2%	0%	5%	0%	0%	3%
Monthly	* * *	14%	10%	7%	16%	6%	0%	13%
Quarterly	* * *	16%	17%	21%	11%	19%	10%	18%
Semi-annually	* * *	2%	10%	7%	16%	6%	10%	10%
Annually	* * *	34%	23%	29%	16%	25%	40%	15%
More than annual	* * *	18%	19%	7%	21%	19%	10%	20%
Never	* * *	4%	6%	7%	5%	13%	10%	8%
Don't know	* * *	12%	13%	21%	11%	13%	20%	15%
How do you measure success of your anti-fraud technology solutions? *(Check all that apply.)*								
Fraud detection rate	* * *	50%	62%	63%	74%	38%	60%	63%
Number of referrals	* * *	16%	56%	31%	63%	69%	40%	60%
Referral acceptance rate	* * *	* * *	56%	38%	74%	44%	10%	65%
Average days to detect fraud	* * *	2%	21%	25%	26%	6%	10%	23%
Loss ratio	* * *	4%	15%	19%	16%	6%	30%	10%
Other	* * *	8%	6%	7%	11%	0%	10%	5%
During the last three years, has the amount of suspected fraud against your company: *(check only one)*								
Increased significantly	7%	12%	29%	29%	32%	13%	20%	30%
Increased slightly	44%	49%	37%	43%	26%	50%	50%	35%
Remained the same	46%	33%	25%	21%	26%	25%	20%	25%
Decreased slightly	2%	6%	10%	7%	16%	6%	10%	10%
Decreased significantly	0%	0%	0%	0%	0%	0%	0%	0%
Which areas of technology is your company considering investing in in the next 12 to 24 months? *(check all that apply)*								
Detection of claims fraud	* * *	* * *	66%	56%	<u>63%</u>	69%	50%	70%
Underwriting, or point-of-sale fraud / rate evasion	* * *	* * *	34%	38%	32%	25%	20%	38%
Cyber fraud	* * *	* * *	23%	31%	16%	13%	40%	15%
Internal fraud	* * *	* * *	18%	25%	5%	19%	30%	13%

	2014	2016	2018	2018 - large	2018 - medium	2018 - small	Non-PC	PC
Other	* * *	* * *	18%	21%	21%	6%	20%	15%
Anti-money laundering	* * *	* * *	9%	19%	0%	6%	30%	3%

Which of the following anti-fraud technologies are you considering investing in within next 12 to 24 months? *(Check all that apply)*

	2014	2016	2018	2018 - large	2018 - medium	2018 - small	Non-PC	PC
Predictive modeling	* * *	19%	64%	63%	58%	56%	70%	58%
Link analysis / social network analysis	* * *	16%	43%	31%	53%	25%	30%	43%
Automated red flags / business rules	* * *	12%	36%	13%	47%	31%	30%	35%
Text mining	* * *	13%	36%	25%	42%	25%	30%	35%
Exception reporting / anomaly detection	* * *	7%	32%	38%	37%	13%	50%	25%
Case management	* * *	10%	28%	19%	21%	31%	30%	25%
Reporting / data visualization	* * *	10%	24%	19%	42%	31%	30%	33%
Geographic data mapping	* * *	7%	22%	31%	21%	6%	30%	18%
Artificial intelligence (please specify type)	* * *	* * *	21%	31%	16%	13%	50%	13%
Other *(specify)*	* * *	1%	11%	7%	11%	19%	0%	15%
None	* * *	5%						

Which of the following describes the overall anti-fraud technology budget during the next 12 months? *(check only one)*

	2014	2016	2018	2018 - large	2018 - medium	2018 - small	Non-PC	PC
Decreased budget	13%	15%	2%	0%	0%	6%	0%	3%
Flat / no major changes in funding	63%	52%	57%	57%	53%	56%	50%	57%
Additional funding approved or anticipated	25%	33%	41%	43%	47%	38%	50%	40%

What is your company's primary business?

	2014	2016	2018	2018 - large	2018 - medium	2018 - small	Non-PC	PC
Auto	* * *	* * *	48%	47%	53%	44%	0%	60%
Commercial	* * *	* * *	10%	0%	16%	13%	0%	13%
Disability	* * *	* * *	6%	7%	0%	13%	20%	0%
Life	* * *	* * *	10%	36%	0%	0%	60%	0%
Accident & Health	* * *	* * *	4%	14%	0%	0%	20%	0%
Homeowners	* * *	* * *	8%	0%	11%	13%	0%	10%

	2014	2016	2018	2018 - large	2018 - medium	2018 - small	Non-PC	PC
Workers comp	* * *	* * *	14%	0%	21%	19%	0%	18%

What is your company size *(direct written premium or lives covered)*

Large	* * *	* * *	29%
Medium	* * *	* * *	39%
Small	* * *	* * *	33%