



# Analytics and Innovation


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## Mission:

To provide AIG's Internal Audit Group with the most complete, continuous, and advanced data analytics through utilization of the latest tools while developing groundbreaking automated auditing solutions.



### Michael Farlow - Head of Analytics and Innovation

Mike has extensive experience in designing and successfully implementing complex system solutions and processes that create sustainable business value and meet regulatory requirements. Expert in data quality and controls, specializing in bridging the technological needs of operations, finance and risk functions by transforming and re-engineering system architectures, data warehouses and workflows.



### Priya Gopinath - Director, Business Process Transformation

Lean Six Sigma Master Black Belt with over 18 years experience in leading organization-wide strategic planning, business transformation & process improvement initiatives. Experienced in accelerating traditional improvement lever benefits (Lean, Six Sigma) by combining them with smart workflow automation strategies in a transactional environment (i.e. embedding emerging technologies -NLP, RPA (robotic process automation) etc.)



### Jacek Rawicki - Senior Data Analytics Manager

Jacek joined AIG in April 2015 with 10 years of experience in providing data analytics and data visualization solutions for various business processes (such as procure to pay, purchase to pay, journal entry, and many others). In his current role Jacek supports the US General Insurance team.



### Russell Loi - CISA, OCA, Senior Manager, Analytics and Innovation

Russell joined AIG Japan in Feb 2015 with over 10 years' experience in data analytics. Prior to AIG, he led the data analytics practice of Suncorp Group's Internal Audit department in Australia, having joined their IT audit team in 2011. Russell began his career with Boeing Australia as a MIS analyst, and held other data-centric roles including as a Monbusho research scholar at Kyushu University. Russell holds degrees in Economics and IT alongside ISACA and Oracle certifications. He has business-level fluency in Japanese.



### Atsushi Yagi - Data Analytics Manager

Joined AIG Japan in Jan 2017 with 10 years of experience in data analytics and data modeling. He has held various roles in many different industries including IT, supply chain, and consulting firms. Atsushi holds a Ph.D. in Physics.



### Srinath Velpur - Data Analytics Manager

Over 14 year experience in IT Industry and 6 years in realm of data warehousing, data analysis and business intelligence. He joined AIG in Sept, 2018 and supports AIG Internal audit teams by providing data infrastructure services (such as data modelling, extraction automation, data driven advice and insights etc.). Before joining AIG, Srinath worked with NTT Data, (American Homes Direct, MetLife, Chubb as a vendor from) Cognizant as a data management and analytics professional.



### Nidal Nasr - Director, Data Analytics

A 20 year veteran of AIG, Nidal has had various roles within the organization both in the New York home office as well as overseas in Madrid, Spain. His fields of specialty are operations and analytics, with a strong focus on reporting automation and advanced data visualization. Prior to his role in Internal Audit, he was Head of Claims Analytics for EMEA.



### John D'Adamo - Analytics Senior Manager II

John has over 15 years experience as a Data Analytics professional. He has been with IAG Data Analytics for the previous 4+ years. His current responsibilities include supporting the IT and L&R Audit teams and providing the department with tools and training to enable the use of data analytics.



### Nikhil Saxena - Senior Data Analytics Manager

Nikhil has over 13 years of experience in the realm of data warehousing, data analysis and business intelligence. He joined AIG in Feb, 2015 and is supporting GI, L&R, Finance audit teams by providing data analytics services (such as data visualization, full population testing, data driven advice and insights etc.). Before joining AIG, he has worked with McKinsey & Company, Capgemini and other consulting firms as a data analytics professional.



### Pueyen Lee - ACA, CIA, Audit Transformation Manager

Pueyen joined AIG Japan in September 2015, with 10 years' experience in the audit industry. In addition to 7 years leading and managing audits, Pueyen held multiple roles expanding her skillsets including audit transformation, development of data driven Management Information (MI) tools, data visualization & reporting of audit MI. Currently, Pueyen applies her risk-focused and data-driven approach to innovate better ways to audit that help transform towards the vision of continuous automated auditing. Pueyen began her career at KPMG UK following the completion of her degree in Accounting and Law.



### Shobhit Dixit - Data Analytics Manager

IAG EMEA analytics lead with over 6 years of experience in AIG's data and systems. Certified Scrum Master with extensive project delivery experience of IT Systems audit, MI Reporting, Data quality/validation, Systems implementation, Business Analytics, Data Mapping and Requirements gathering. Knowledge of data science languages R, SAS, SQL and hands-on experience of tools like Qlikview, Cognos, Tableau, SSIS,SSAS & SSRS, SharePoint 2010. Certified in MCP in SQL Server 2008 BI, SAS Base Programmer, IBM Cognos 8 BI Developer.



### Nirmala Pol - Data Analytics Manager

Bringing experience in data visualization/data story telling evangelism with front end analysis as part of R&D and Innovation department. A seasoned conference, events, webinar, analytics focus group, sales pitch, product training and SME speaker. Built best in class visualizations aligning to business needs and industry direction. Ran analytics podcast and written blogs to elevate use of self service. Involved heavily in Competitive Intelligence research with a go-to-market strategy to deliver best in class dashboard.



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## Analytics Library:

Below are links to both the [“One Pagers”](#) which provide visual samples of actual analytics performed on audits (sanitized so as to be appropriate for sharing) as well as the [“Digital Magazines”](#) which group these One Pagers into logical decks. For a full listing of previously generated analytics, refer to our [A&I Operational Dashboard](#).

## Digital Magazines:


[Analytics Magazine](#)

[Continuous Auditing Magazine](#)

[Full Population Testing Magazine](#)

[Sample Selection Magazine](#)

[General Insurance Magazine](#)

[IT Magazine](#)

[APAC Magazine](#)

[Analysis \(Insights\) Magazine](#)

[Automation Magazine](#)

[EMEA Magazine](#)

[Audit Scoping Magazine](#)

[Data Quality Magazine](#)

[Predictive Analytics Magazine](#)

[Life And Retirement Magazine](#)

[Data Visualization Magazine](#)

[Add Your Own Magazine](#)

## One-Pagers:



### Reinsurance - Ceded vs Gross

**Analytics Services:** Full Population Testing, Analysis, Data Visualization

**Description:** To determine if policies are coded correctly by comparing ceded premium amounts to gross written premium amounts at the policy level and identify Policies where Ceded premium is more than the gross written premium and quantify this as a policy coding error.



### Life Product Analysis

**Analytics Services:** Full Population Testing, Analysis (Insights), Visualizations

**Description:** As part of the audit IAG completed some data analytics using policy data from 1 January 2017 – 31 May 2018. Below sets out the results of some of our analytics and how this information could be used to help evaluate intermediaries and the book of business. The analytics was performed using Qlikview and can be made available on request.



### Peer Review- UW Review Control

**Analytics Services:** *Sample Selection, Analysis (Insights), Visualizations*

**Description:** Peer Reviews are not being performed to comply with the 3 reviews per underwriter per quarter requirement across the product towers and regions to support an effective control environment. Analytics team worked with Audit team to develop this dashboard and is being used in multiple personal insurance UW audits.



### Claims Automated Testing

**Analytics Services:** *Full Population Testing, Automation, Data Visualization, Self Service, Continuous Auditing, Data Quality*

**Description:** Multiple full population tests, which run on a continuous, automated basis, conducted on global claims population throughout the claims lifecycle.



### First Notice of Loss - Timeliness

**Analytics Services:** *Analysis, Sample Selection*

**Description:** The entire population of claims for the scope of the audit was reviewed to determine if the First Notice of Loss for each claims was entered into the system within the 2 day threshold established by the business. The preliminary results indicated that the majority of claims exceeded this threshold. Samples were taken to substantiate the results. Although there were some false positives, this test resulted in a moderate finding for the business.



### Global Rater Quote Discount/Loading Analysis

**Analytics Services:** *Full Population Testing, Visualization, Analysis (Insight)*

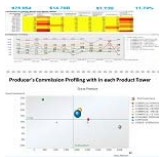
**Description:** IAD conducted own analysis of the 2017 quote data, as captured within the Global Rater Sharepoint and provided to us by Global PA Actuarial Management. Across the GPA and BTA products, the charts show the levels of discounting and loading, both in terms of the frequency of discounting or loading, and the average levels applied.



### CRS Reinsurance Review

**Analytics Services:** *Full Population Testing, Analysis, Data Visualization, Audit Scoping*

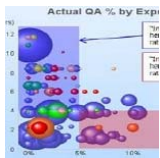
**Description:** Analyze all policies for all product tower from 2017 UW year from CRS data source to develop insights on potential reinsurance issues. Dashboard allows the user to explore various scenarios to develop insights and allows for drill-down details to support follow up conversations with the client.



### CRS Commission Review

**Analytics Services:** *Full Population Testing, Analysis, Data Visualization, Audit Scoping*

**Description:** Analyze all policies for all product tower from 2017 UW year from CRS data source to develop insights on commissions. Dashboard allows the user to explore various scenarios to develop insights and allows for drill-down details to support follow up conversations with the client.



### Group Retirement – Quality Review of Non-Financial Processing

**Analytics Services:** *Full Population Testing, Analysis (Insight), Visualization*

**Description:** Analyze the correlation of processor fail rates (Quality Review fails divided by total work items processed) against years of experience.



### Claims Profiling Workbook

**Analytics Services:** *Audit Scoping, Sample Selection*

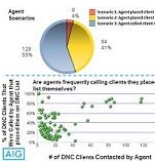
**Description:** Provides summary information of volume and performance across the claims lifecycle.



### Reinsurance Premium Coding

**Analytics Services:** Full Population Testing, Analysis (Insights)

**Description:** Review all of the Casualty Excess policies which have treaties associated with them; identify all policies where the actual ceded premiums are not consistent with the expected ceded premiums.



### Compliance Testing - Do Not Call List

**Analytics Services:** Full Population Testing, Analysis (Insight), Visualization

**Description:** Analyze outbound calls manually dialed by sales agents to customers identified as 'Do Not Call', within the client manager application to develop insights on potential regulatory issues. Dashboard allows the user to explore various scenarios to develop insights and allows for drill-down details to support follow up conversations with the client.



### The Virtual IT Auditor - VITA

**Analytics Services:** Full Population Testing, Continuous Auditing, Automation, Data Quality Assessment

**Description:** VITA is a pilot automation project that aspires to replace traditional, sample based audit practices with continuous full population testing and automation of documentation. The first use case for VITA is the testing of controls and the assessment of data quality related to terminated employees' user access.



### Implementation Predictive Model

**Analytics Services:** Predictive Analytics, Automation

**Description:** Historical defects closure rates were used to predict whether Saisentan UAT defects could be closed by the agreed Go-no-go deadline.



### FNOL Country Analysis

**Analytics Services:** Full Population Testing

**Description:** Review entire population of claims for Property and Special Risks to determine if any claims are exceeding the SLA of 30 days for the FNOL.



### Peer Review Dashboard

**Analytics Services:** Full Population Test, Sample Selection, Analysis (Insights), Visualizations

**Description:** Dashboard designed to analyze the complete population of Peer Reviews to aid in risk based sample selection and provide assurance around the control that requires that reviews be performed periodically.



### Overtime Monitoring Dashboard

**Analytics Services:** Continuous Auditing, Full Population Testing, Automation

**Description:** Automatically reviews timesheet data for all Japan employees to assess whether they are in compliance with regulatory guidelines related to overtime.



### Field Office KRI Monitoring Dashboard

**Analytics Services:** Continuous Auditing, Sample Selection, Analysis (Insights), Visualization, Automation

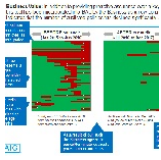
**Description:** Enable auditors to continuously assess the risk levels at each Field Office and select offices for inspection where necessary using a structured, objective approach



### IT CAP Dashboard

**Analytics Services:** Audit Scoping, Analysis (Insights)

**Description:** The dashboard enables a consolidated timely view of Technology audit coverage and issues, reducing the need for manual analysis and enabling improved identification of IT issue themes and control trends.



## Duplicate Policy Detector

**Analytics Services:** *Full Population Testing, Automation, Data Visualization*

**Description:** Identifies duplicate personal property policies sold to the same customer against the same insured address month-by-month. Analyzes multiple policy date records (including cancellation and endorsement dates) to accurately determine the months in which the policy was in force.



## Commercial Insurance Dashboard

**Analytics Services:** *Self Service Data, Analysis (Insights)*

**Description:** The dashboard was developed to provide access to data across multiple domains presented in a consistent manner.





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## Automation:

The following controls are part of our self-service automation approach, in which light parameters are passed to various scripting and automation tools which auto-generate audit output. (Click the thumbnails for the One-Pagers)

### Claims Audit Automation



Multiple full population tests, which run on a continuous, automated basis, conducted on global claims population throughout the claims lifecycle.

*Note: Access to Qlikview Dashboard explicitly required.*

[Launch](#)

### Life Product Analysis



Analysis of Life Product metrics reviewing commissions, cancellations, mid-term adjustments, and well as a submission and cancellation forecasting analysis.

*Note: Access to Qlikview Dashboard explicitly required.*

[Launch](#)

### Reinsurance Premium Coding



Review all policies which have treaties associated with them; identify all policies where the actual ceded premiums are not consistent with the expected ceded premiums.

*Note: Access to ACL Desktop software required.*

[Launch](#)

### PI Peer Review - Underwriter Quarterly Review



Currently used in multiple PI UW audits to test compliance with the 3 reviews per underwriter per quarter requirement across product towers and regions.

*Note: Access to Qlikview Dashboard explicitly required.*

[Launch](#)

### Reinsurance - Ceded vs Gross



Compares ceded premium amounts to gross written premium amounts at policy level and identify where Ceded is greater than Gross Written Premium, quantifying as a policy coding error.

*Note: Access to Qlikview Dashboard explicitly required.*

[Launch](#)



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## Analytics Operations:

Our **IAG Analytics Operational Dashboard** is designed to provide key metrics and tracking of **Analytics Services** and **Value Adds** related to Audit projects and initiatives, with a focus on audits selected for analytics.

[Launch](#)

### Header Bar:



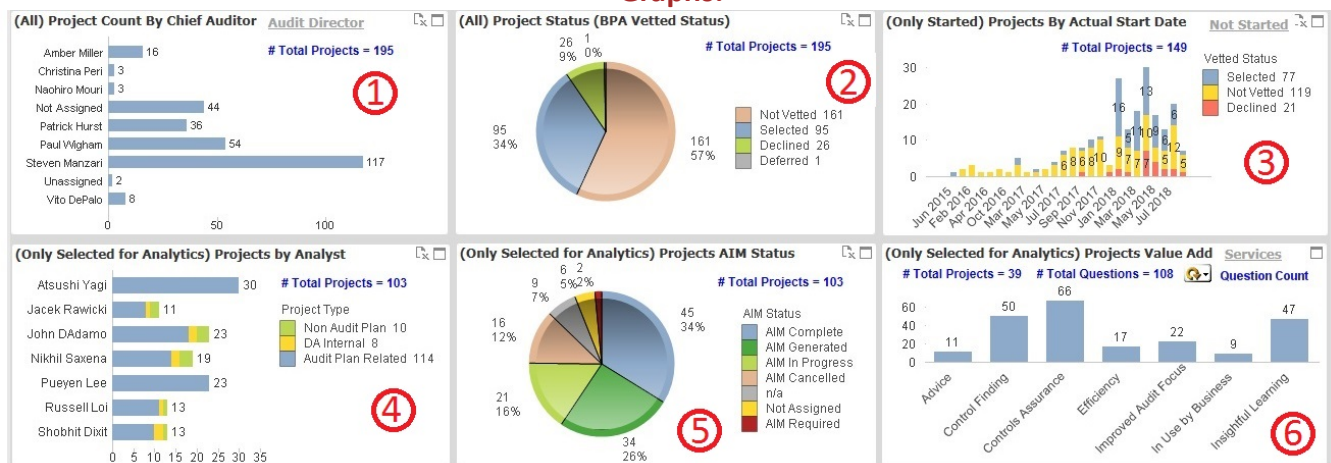
1. Search Bar -- can be used to filter for any data element present in the data, including but not limited to Audit Director, AIM Status, Question, Data Analyst, etc.
2. Bookmarks -- bookmarks represent a group of filters, and can be saved and reused at any future date.
3. Current Selections -- shows all filters currently applied to the dashboard. They can be cleared individually from this box using the white "eraser" icons or modified individually using the black triangle.
4. Clear -- clears all filters currently applied to the dashboard.
5. Last Updated Date -- shows when the last update was made from BPA/AFI data. Typically, the dashboard refreshed every morning at 7 AM US Eastern Time.

### Filter Bar:



The filter bar contains several of the most commonly used filters, including Vetted Status, Audit Year, Business Segment, and Audit Type. It allows for easy multi-selection where required. Note that any data element in the dashboard can be used as a filter, and will appear in the "Current Selection" box when you click on it from any of the graphs or tables.

### Graphs:



1. Project Count By Chief Auditor -- can also be toggled to show project count by Audit Director by clicking on the "Audit Director" text
2. Project Status -- A summary of BPS status regarding which audits have been selected for analytics, which have been declined, and which require follow-up to insure vetting takes place.
3. Started Projects by Actual Start Date/Not Started Audits by Estimated Start Date -- useful for reviewing which audits require attention from the Analytics team, ideally as early in the process as possible.
4. Selected Projects by Analyst -- used to monitor workload and work assignment within the analytics team.
5. Selected Projects' AIM Status -- used to insure active projects have been selected and analytics are progressing as planned, and that no projects get to completion without finalized and logged analytics.
6. Analytics Value Add and Services -- counts the total number of projects and total questions for the selected population, and quantifies questions and services by category. Can be toggled between question count and project count.

### Detail Tables:

Services Breakdown											Reusable Tests	
Service	# Question	% (Q) Value	# Value Advice	Control Finding	Control Assurance	Efficiency	Improved Audit Focus	In Use by Business	Insightful Learning	Q ID	Q Desc	# Projects /
Analysis	254	45%	169	9	35	56	17	14	8	30	<div>Are MLRs prepared for all claims over the threshold...</div> <div>Are the claims set up within 48 hours from FNOL?</div> <div>Do claims in aggregate exceed policy limits?</div> <div>Is premium booked aligned with the loss ratios?</div> <div>Are claims adequately paid? Was the payment a...</div> <div>Are claims adequately reserved (indemnity and ...</div>	<div>②</div>
Audit Scoping	44	61%	49	8	12	36	14	9	7	24		
Automation	10	70%	15	0	4	10	8	5	0	14		
Continuous Auditing	12	83%	17	3	5	4	4	0	7	0		
Data Quality Assessment	3	100%	6	2	2	2	0	0	6	0		
Data Visualization	15	20%	4	1	2	4	1	0	1	1		
Full Population Testing	29	76%	51	7	5	15	6	8	8	14		
Sample Selection	133	73%	137	9	31	56	17	14	8	28		
Self Service Data	37	86%	53	8	13	31	15	7	6	15		
	6	100%	12	2	2	2	0	0	6	0		
	84	0%	0	0	0	0	0	0	0	0		
Project Details												
Audit Year	Audit ID	Audit Name	Audit Type	Segment	Chief Auditor	IMD	Audit Director	Audit Start Date	Audit End Date	Expected Start Date	Expected End Date	
2018	27102	Change Management	-	Information Techn...	Vito DePalo	-	Jaime Lijeron	-	-	5/6/2019	9/27/20	<div>③</div>
2018	27955	Japan - Finance IBNR	-	Finance	Steven Manzari	-	Kumi Nishikawa	-	-	3/4/2019	5/31/20	
2018	28061	AHA Products Develop...	Audit	General Insurance	Steven Manzari	-	Kumi Nishikawa	-	-	12/3/2018	3/1/20	
2018	27827	AIGSS Philippines - Sh...	Audit	General Insurance	Steven Manzari	-	Kumi Nishikawa	-	-	12/3/2018	2/28/20	
2018	28126	General Data Protection...	Audit	General Insurance	Steven Manzari	-	Paul Pennant	-	-	10/15/2018	2/22/20	
2018	27598	CPS and Claims Audit (...)	Audit	General Insurance	Steven Manzari	-	Kumi Nishikawa	-	-	11/1/2018	1/31/20	
2018	27901	Mexico Regulatory Revi...	Audit	General Insurance	Paul Wigham	-	Steve Del Villar	-	-	12/3/2018	1/31/20	
2018	27811	APAC Travel (ATAP) In...	Audit	General Insurance	Steven Manzari	-	Kumi Nishikawa	-	-	10/1/2018	12/31/20	
2018	27813	Premium Collection, Bra...	Audit	General Insurance	Steven Manzari	-	Kumi Nishikawa	-	-	10/1/2018	12/31/20	
2018	27815	Hong Kong Personal In...	Audit	General Insurance	Steven Manzari	-	Kumi Nishikawa	-	-	10/1/2018	12/31/20	
2018	28147	Malaysia Regulatory A...	Audit	General Insurance	Steven Manzari	-	Kumi Nishikawa	-	-	10/1/2018	12/31/20	
2018	28150	Sinnapore eWay govern...	Change Review	General Insurance	-	-	-	-	-	7/2/2018	12/31/20	
Test Details												
Audit Year	Audit ID	Audit Name	Question ID	Question Text	Score	Result Folder	Analysis	Audit Scoping	Automation	Continuous Auditing	Data Quality Assessm	
2018	27043	Global Sourcing & Proc...	77	Is due diligence performed on all vendo...	0	Click here	44	10	12	3	15	<div>④</div>
2018	27043	Global Sourcing & Proc...	78	Are all professional services transactio...	0	Click here	0	0	0	0	0	
2018	27043	Global Sourcing & Proc...	79	Are vendor details correctly processed i...	0	Click here	0	0	0	0	0	
2018	27043	Global Sourcing & Proc...	80	Are the SAP EP1 rules used to identify ...	0	Click here	0	0	0	0	0	
2018	27043	Global Sourcing & Proc...	81	How many invoices are processed belo...	0	Click here	0	0	0	0	0	
2018	27043	Global Sourcing & Proc...	82	What is mgmt doing to reduce the # inv...	0	Click here	0	0	0	0	0	
2018	27043	Global Sourcing & Proc...	83	Are payment files from the ARIBA and ...	0	Click here	0	0	0	0	0	
2018	27043	Global Sourcing & Proc...	84	Does FG prevent payment/SAP payme...	0	Click here	0	0	0	0	0	
2018	27043	Global Sourcing & Proc...	85	Does FG prevent payment/SAP payme...	0	Click here	0	0	0	0	0	
2018	27043	Global Sourcing & Proc...	86	Does FG eform/SOW correspond to a P...	0	Click here	0	0	0	0	0	
2018	27090	Collateral Management	194	Did management accurately identified a...	0	Click here	1	0	0	0	1	
2018	27090	Collateral Management	195	Is the Quarterly Enterprise- Wide Collat...	0	Click here	1	0	0	0	1	

1. Services Breakdown -- a consolidation of provided services by value-add, applicable to all filters selected in the above sections.
2. Reusable Tests -- contains a summary of test questions which have been reused. Useful for monitoring success or overall reusable testing methodology.
3. Project Details -- a summary of key project details, including actual and expected start dates, segment, audit name and number, etc.
4. Test Details -- a detailed listing of questions investigated during the audits, including links to the folders in which the results and test details are stored. Very useful after clicking (thus applying a filter) on a specific audit number from the "Project Details" table.



# Analytics Integration Matrix (AIM) Training

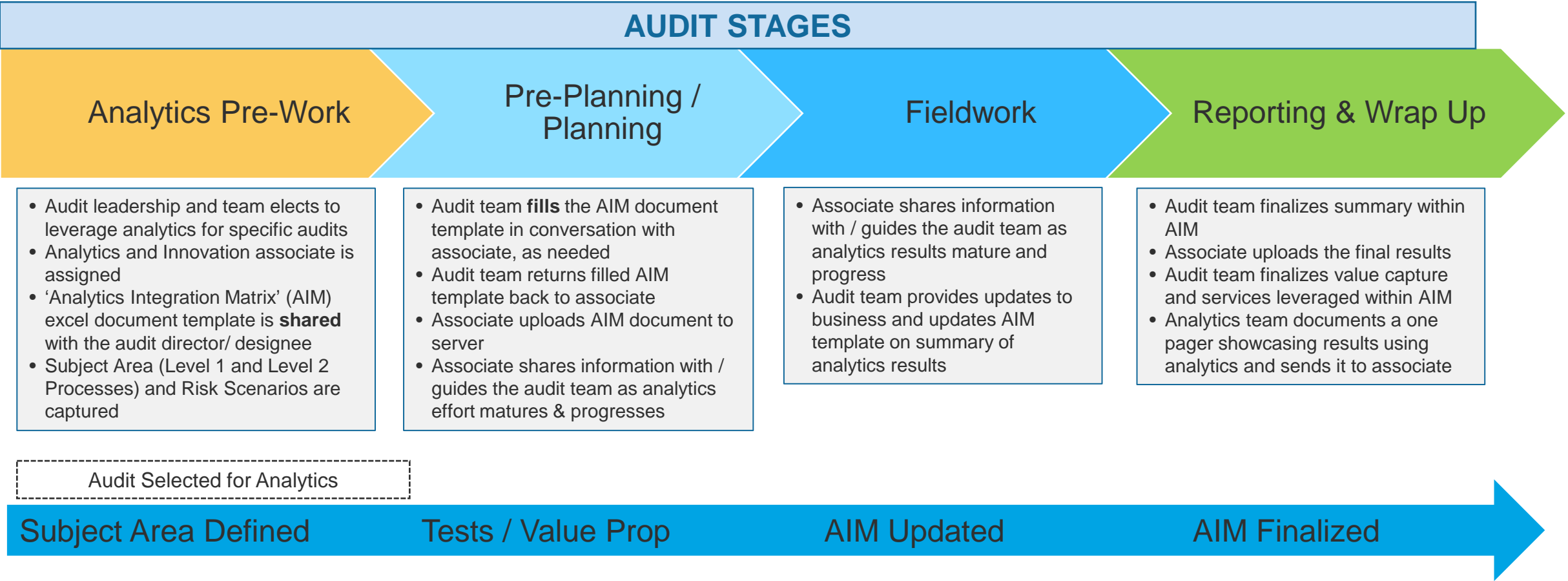
*Enhanced Audit Approach as applicable to Data Analytics*



## Topics

- *Selecting an Audit for Analytics and completing the Analytics Integration Matrix (AIM) Template*
- *Align analytics to full population testing of key control*
- *Define requirements and testing approach*
- *Facilitate re-use by storing procedures in a centralized location that may be referenced late*

The ‘**Analytics Integration Matrix**’ (AIM) excel document template is shared with the audit team by an Analytics and Innovation associate, when the audit team elects to leverage analytics within an audit during the early stages of an audit.



## AIM Training | Selecting an Audit for Analytics

Fields have been added to BPA to allow for Data Analytics to be selected. The **BLUE** fields are a quick survey to consider feasibility of analytics. The **GREEN** fields represent the decision and the justification for the use or non-use of analytics on the audit.

Selecting an Audit for Analytics will place a work item in the queue of one of the members of the Data Analytics team. They will generate an AIM and contact the Audit Team to begin the analytics process.

Audit No: 27255	Inventory Ref #: 4625					
Audit Plan Name: *	Aerospace Claims					
Audit Scope: *	Evaluate the design and operating effectiveness of controls for North America Aerospace claims, including: - Claims Handling Governance					
<b>Analytics</b>						
Identify Audit Questions that can be Addressed Via Data?	Logic/Requirements:	Data Availability:	Is there an Efficiency Opportunity?	Expertise Required:	Action:	Opportunity to run the Claims Analytics workbook and other analysis related to performance metrics and data quality.
Yes	Need input from c	IAG has direct ac	Yes	Analytics resourc	Select	

This section must be filled out by the end of 'Planning'

Specify 'Yes' if there are Audit Questions that can be addressed via data analytics.

Indicate level of understanding of business logic.

Indicate our current knowledge of the data environment.

Specify 'Yes' if there is a clear reduction of hours in play or potential for automation..

Indicate level of involvement required by Data Analytics team..

Select / Defer / Decline the Audit Activity for Analytics.

For 'Selected' projects, provide brief value proposition. For Declined and Deferred, provide an explanation

# AIM Training | Subject Area and Risk Scenarios

Populate L1 and L2 Process and applicable relevant Risk Scenarios (you can reference the [AIM History](#) tab in the AIM workbook for a searchable repository of previous analytics work)

**Analytics Integration Matrix**  
Objective: The purpose of this document is to capture the analytics scoping process, agreed delivery timeframes, statuses as the audit progresses, and results summary.

Project ID	42
Project	Aerospace Claims
Audit ID	27255
Segment	General Insurance
Link	<a href="#">WPWCCDSSPOTI&amp;Q01.r:core.r1.aig.net\AnalyticsFramework\Projects\Audit Support\Audit Plan</a>

<i>Do not edit. Question ID will be assigned for new questions at the completion of the</i>	<i>What is the audit team trying to answer - be specific, and limit to one key question per line.</i>	<i>Specify whether this is a question addressed by Data Analytics or traditional Audit techniques.</i>	<i>What are some scenarios where a risk has been realized?</i>	<i>What are examples of controls that should be in place?</i>	<i>How can this question be answered through analytics techniques?</i>	<i>What issue can IAG be expected to report if the risk scenario(s) are realized, even with a small number of exceptions (e.g. 5% exception rate)?</i>
---	---	--	--	---	--	--

Process	L1 Process	L2 Process	Question ID	Audit Question	Question Type	Risk Scenario	Expected Control	Analytics Testing Approach	Analytics Value Proposition
Operational Processes	Manage Claims and Recoveries	Establish Claim Reserves				1) Inaccurate management reporting 2) Decisions cannot be made in a timely manner (especially for large claims) 3) Actuarial projections may not be timely and/or accurate  Risk: Reserving activities are not timely and accurate, leading to incomplete financial and operational reporting.			

If the audit is related to Insurance Value Chain, please select 'Operational Processes', else if it relates to 'Corporate Support', please select 'Management and Support Processes'.  
[Click](#) on this box to see taxonomy.

Enter the L1 and L2 processes related to the audit (from AIG's interactive Enterprise Taxonomy pdf document\*) (attached)

Describe the risk scenario related to the identified processes



Provided for reference, the AIM History tab contains a record of all of the analytics tests that have been completed on audits with references on where to find the associated deliverables. This includes:

- Risks and controls addressed
- Overview of the testing approach
- Summary of Results with an indication of the value capture

Process Type  
Operational Processes

L1 Process  
Manage Claims and Recoveries

L2 Process  
First notice of loss (FNOL) and Triage

Project Name	Audit ID	Process Type	L1 Process	L2 Process	Question	Audit Question	Risk Scenario	Expected Control(s)	Analytics Testing Approach	Analytics Value Proposition
Aerospace Claims	27255	Operational Processes	Manage Claims and Recoveries	First notice of loss (FNOL) and Triage	32	Are the claims set up within 48 hours from FNOL?	1) Claim setup is delayed due to understaffing 2) High volume of new claims 3) Communication breakdown  Risk: Ineffective claims handling resulting in claims leakage, customer dissatisfaction, and inaccurate management reporting.	1) Centralized mailbox with multiple people monitoring it 2) Backup support for individual responsible for claim setup 3) Monitoring metrics of claim setup time	1) Compare the FNOL date to the claim create date to check against the SLA for full population	1) Claims are not set up time not processed timely (missing sensitive dates)
Aerospace Claims	27255	Operational Processes	Manage Claims and Recoveries	First notice of loss (FNOL) and Triage	59	Are all critical data elements properly captured in the claims set up process?	1) Key data elements that affect reserving in reporting are not properly captured  Risk: Ineffective claims handling resulting in claims leakage, customer dissatisfaction, and inaccurate management reporting.	A review process that monitors the proper capture of critical information is performed by management	Is there missing information within key data fields? Cause of loss, sub cause of loss, CAT codes	Key data elements are not properly captured which may lead to inaccurate management reporting.
Aerospace Claims	27255	Operational Processes	Manage Claims and Recoveries	First notice of loss (FNOL) and Triage	65	Are claims being processed for valid policies?	Ineffective claims handling resulting in claims leakage, customer dissatisfaction, and inaccurate management reporting.	System controls prevent set up/assignment of claims not within the policy period.	Extract claims with DOL not within the effective and expiration dates.	Claims are being adjusted as payments are made on invalid claims.

# AIM Training | Define Question and Testing Approach

Define Audit Questions and Testing Approach (you can reference the [Question Library](#) tab in the AIM workbook to reuse previously defined Audit Questions)

Analytics Integration Matrix									
Objective: The purpose of this document is to capture the analytics scoping process, agreed delivery timeframes, statuses as the audit progresses, and results summary.									
Project ID	42								
Project	Aerospace Claims								
Audit ID	27255								
Segment	General Insurance								
Link	<a href="#">WPWCCOSSPOTIAQ01.rtl-core.rtl.ig.net\AnalyticsFramework\Projects\AuditSupport\AuditPlan</a>								
			<i>Do not edit. Question ID will be assigned for new questions at the completion of the</i>	<i>What is the audit team trying to answer - be specific, and limit to one key question per line.</i>	<i>Specify whether this is a question addressed by Data Analytics or traditional Audit techniques.</i>	<i>What are some scenarios where a risk has been realized?</i>	<i>What are examples of controls that should be in place?</i>	<i>How can this question be answered through analytics techniques?</i>	<i>What issue can IAG be expected to report if the risk scenario(s) are realized, even with a small number of exceptions (e.g. 5% exception rate)?</i>
Process	L1 Process	L2 Process	Question ID	Audit Question	Question Type	Risk Scenario	Expected Control	Analytics Testing Approach	Analytics Value Proposition
Operational Processes	Manage Claims and Recoveries	Establish Claim Reserves	33	Are the reserves posted in a timely manner (in accordance with business guidelines, e.g. based on new information received)?	Analytics	1) Inaccurate management reporting 2) Decisions cannot be made in a timely manner (especially for large claims) 3) Actuarial projections may not be timely and/or accurate  Risk: Reserving activities are not timely and accurate, leading to incomplete financial and operational reporting.	1) Reserving reports reviewed by the management (e.g. stat reserves, MLR, duration of time at a reserve limit etc.)	1) Review the time between initial (stat) reserve and subsequent reserve changes 2) Stratify large reserve changes by dollar amount, time from claim create date, time before claim close date 3) Review reserve changes before quarter end and after quarter start (e.g. 7 days before, 7 days after) 4) Review reserve amounts at 270 days after claim create and 3 months before claim close to see if variances are within 10% range	1) Reserves are not being posted timely, resulting in inaccurate financial reporting 2) Poor best practices in claim handling/delays in claim handling 3) Poor customer service

If the audit is related to Insurance Value Chain, please select 'Operational Processes', else if it relates to 'Corporate Support', please [select](#) 'Management and Support Processes'. Click on the box to see taxonomy.

Enter the L1 and L2 processes related to the audit (from AIG's interactive Enterprise Taxonomy pdf document\*) (attached)

Enter a question which the audit team is trying to answer. Note: Be specific and limit an entry to 1 key question per line. (please see example above)

Select 'Analytics' from drop down menu options

Describe the risk scenario related to the audit question

List the controls which should be in place to prevent or mitigate the described risk

Describe (in conversational English) how this audit question may be answered leveraging available data (please see example above)

Describe the issue which would be reported if the risk scenario is realized, even with a small number of exceptions (adverse results should result in reporting of a Moderate issue at minimum)

# AIM Training | Select Analytics Services and Specify Assurance Provided

Description of the Analytics Services Involved and Assurance Expected

What assurance can IAG be expected to provide Management if nonnegligible exceptions are noted?

Summary of output agreed with audit team / AIC

Control Assurance if No E

Expected Analytics Output

1) Reserves are posted timely  
 2) Best practices are followed  
 3) Management reporting is operating well

1) List of claims showing the reserve change amount by predefined range, time period to facilitate focused judgmental sampling

Select analytics services which should be leveraged to answer the audit question (multi-select question; see table for detailed descriptions)

Describe the assurance which would be provided to management if the risk scenario is not realized and no/ negligible exceptions are found

Analytics Services	Description
Full Population Testing	Develop conclusion, typically on controls, based on review of full population of transactions.
Audit Scoping	Provide population statistics that guide the focus of the audit.
Sample Selection	Provide contextual analysis that informs judgmental sampling.
Automation	Replace manual audit steps with push-button processes.
Analysis	Inspect, cleanse, and transform data with the objective of highlighting meaningful information, suggesting conclusions, and supporting decisions. -- Hindsight, Predictive, Prescriptive.
Continuous Auditing	Solution that provides on-demand testing of controls or monitoring of risk indicators.
Data Visualization	Visual representation that can be used to enhance to messaging of analytics' results (e.g. chart included in the audit report).
Self Service Data	Provide data to inform decisions (user performs queries or generates reports on their own, with nominal support)
Data Quality Assessment	Evaluating data in order to determine whether it is the right type and appropriate to support the intended use.
Next Generation	Provide insights leveraging emerging and disruptive technologies e.g. Natural Language Processing, Machine Learning , AI, Cognitive and Intelligent Automation technologies

Address what will be needed as inputs and outputs for the test to be successful.

<i>Summary of output agreed with audit team / AIC</i>	<i>What data points are required to answer the audit question?</i>	<i>Summary of coding logic</i>	<i>Are there any limitations or assumptions in producing our results that the audit team should be aware of?</i>
Expected Analytics Output	Data Requirements	Processing Logic	Limitations / Assumptions
1) List of claims showing the reserve change amount by predefined range, time period to facilitate focused judgmental sampling	Claim Number Claim Create Date Claim Close Date Transaction Date Transaction Type Reserve Amount	1) Classify the reserve changes into the ranges based on: * reserve amount (\$250-500k, \$500k-\$1M, over \$1M), * time from claim close date (same day as close to 30 days, 31 to 60 days, 61 to 90 days, 91 to 180 days, 181 to 270 days, over 270 days) * time from claim create date (same day as create to 30 days, 31 to 60 days, 61 to 90 days, 91 to 180 days, 181 to 270 days, 271 to 365 days, 1 to 2 years, over 2 years)	Only transactions that result in a reserve amount change are captured in the CDW extract (e.g. we will not be able to see if an adjuster opened a claim file and put a note in, or uploaded a new document)

Describe a summary of what is expected as an analytic output (in conversational English). e.g. if you envision a graphical view, share information on the X and Y axes? (please see examples above)

List all known & guessed data fields which will be required to answer the audit question and help achieve the described analytics output

Describe (in conversational English) any known processing logic which will be required to answer the audit question and support achieving the described analytics output

Describe any known limitations or assumptions in producing results that the audit and analytics team should be aware of



The **Question Library** can be used to automatically populate the AIM with Audit Questions and associated Level1 and Level2 processes that have been addressed on previous audits.

Process Type

Operational Processes

L1 Process

Manage Claims and Recoveries

L2 Process

First notice of loss (FNOL) and Triage

1. Filter for relevant Process

3. Hit the '+' sign to add the question(s) to the AIM



Process Type	L1 Process	L2 Process	Question ID	Question Description	Add Question to AIM?
Operational Processes	Manage Claims and Recoveries	First notice of loss (FNOL) and Triage	3	Are claims set up and reserved timely upon first notice of loss?	
Operational Processes	Manage Claims and Recoveries	First notice of loss (FNOL) and Triage	4	Are claims assigned to adjusters that are actively licensed in that state?	Yes
Operational Processes	Manage Claims and Recoveries	First notice of loss (FNOL) and Triage	5	Did the claim occur (loss date) within the policy effective period?	
Operational Processes	Manage Claims and Recoveries	First notice of loss (FNOL) and Triage	30	Do actual caseload levels exceed the staffing model caseload levels?	
Operational Processes	Manage Claims and Recoveries	First notice of loss (FNOL) and Triage	32	Are the claims set up within 48 hours from FNOL?	Yes
Operational Processes	Manage Claims and Recoveries	First notice of loss (FNOL) and Triage	57	Are claims assigned to adjusters that have the requisite expertise to handle the claim?	
Operational Processes	Manage Claims and Recoveries	First notice of loss (FNOL) and Triage	59	Are all critical data elements properly captured in the claims set up process?	
Operational Processes	Manage Claims and Recoveries	First notice of loss (FNOL) and Triage	65	Are claims being processed for valid policies?	
Operational Processes	Manage Claims and Recoveries	First notice of loss (FNOL) and Triage	120	Are the data for key dates valid for all claims?	
Operational Processes	Manage Claims and Recoveries	First notice of loss (FNOL) and Triage	121	Is claim created on a timely manner after FNOL?	
Operational Processes	Manage Claims and Recoveries	First notice of loss (FNOL) and Triage	122	Are there any claims paid despite being outside effective policy dates?	

2. Specify 'Yes' for the questions you would like to select

Summary of analytics results and relevant observations	Link to detail testing spreadsheet	Summary of how the audit team has used the analytics results
<b>Results Summary</b> ▼ Provided a summary of large claims transactions (1,190 in total over \$100k) flagging each of them based on number of days from claim creation, to claim closure, and in relation to quarter end.	<b>Results Detail Link</b> ▼ <a href="#">WPWCCDSSPOTIAD01.r1-core.r1.aig.net\AnalyticsFramework\Projects\Audit Support\Audit Plan Related\Aerospace Claims (27255)\Questions\33</a>	<b>Audit Team Follow-up</b> ▼ <ul style="list-style-type: none"> <li>Through Data Analytics, there were 4 claims identified that had a reserve change greater of \$250k that occurred 30 days prior to claims close and were over 30 days since claim create. No trend was determined by either adjuster or handling office. IAG sampled 2 files and observed that reserves were established on an incorrect file and immediately closed and the payment was corrected from indemnity to expense.</li> <li>Between Q1 2017 and Q1 2018, there were 4 claims (6 features) that had a reserve increase over \$1M that occurred either 7 days prior to quarter close or 7 days after the quarter began. No trend was identified. IAG sampled all 6 files and verified that reserves were changed timely.</li> </ul>

Once the analytics have been delivered to the linked location and discussed, provide a high level summary of analytics results housed in files at the location

Describe how the audit team is using the analytics results during discussions with business and in the audit report. If the test did not produce any value, please provide some comments so we can learn from the experience.

Primary Data Source Used (Use icon above to add new data)	Select Existing Analytics Solution Used (if applicable)	Value Realized	
 Claims Data Warehouse CDW (5)		<b>Value Add</b> Controls Assurance	<b>Question Score</b> 1

Select the relevant data source for the question from the menu options. If your data source is not listed, please click on the icon to add the data source

Select the relevant analytic solution for the question from the menu options. If your solution is not listed, please click on the icon to add a new solution

Select all 'Value add' options that apply to the question from the menu

## AIM QA Overall Objectives

1. To assess if each AIM entry clearly explains how the analytics work adds value\* to the audit.
2. For each value-add AIM entry, verify if it can be re-performed to enable automation and/or in another audit with similar scope.
3. Where AIM entry does not provide value-add, are we clear on the “lessons learned” so we can improve going forward.

### \* Value-Add Categories:

- |                         |                        |
|-------------------------|------------------------|
| 1. Controls Assurance   | 4. Insightful Learning |
| 2. Control Finding      | 5. Advice              |
| 3. Improved Audit Focus | 6. Efficiency          |
|                         | 7. In Use by Business  |

AIM QA Phase	When	Purpose
Initial/Interim QA	Before Planning Tollgate	To evaluate if the AIM contents are clear to enable IAG to potentially generate value-add. QA specifically looks at the following: Audit Questions, Risk Scenarios, Control Assurance to be provided, and if the processing logic is achievable to achieve the Testing Approach using the Data Requirements as set out in the AIM.
Final QA	After Reporting stage	To evaluate the completeness of the AIM contents against the three QA objectives as set out on this page.

## Main AIM QA Criteria

#	Category	#	QA Criteria	QA Question	Which Field should be Adequately Filled In
1	AIM Output / Value Assessment	1.1	Accurate Value Capture	Is each “value captured” justified?	<b>Main:</b> 4.11-Results Summary 4.14-Audit Team Follow-up  <b>Secondary:</b> 4.1-Audit Question 4.2-Risk Scenario 4.3-Expected Controls 4.5-Analytics Value Proposition / Impact if Exceptions Found 4.7-Control Assurance if No Exceptions Found
		1.2	Reperformability	- If this test is considered valuable, can I re-perform it adequately with the info in the AIM record? - Is the analytics approach clear enough for me (or an experienced data analyst) to replicate? - Can I obtain the data? - If there is a need to reperform, are there any significant steps where I (or an experienced data analyst) get stuck and cannot proceed?	4.4-Analytics Testing Approach 4.6-Analytics Services 4.8-Expected Analytics Output 4.9-Data Requirements 4.10-Processing Logic 4.11-Limitations / Assumptions
		1.3	Lessons Learned	If the test did not lead to a valuable outcome, can I understand what I should do differently to arrive at a valuable outcome in future?	4.14 Audit Team Follow-up (if applicable)

**Detailed AIM QA Criteria:**  
See file embedded below



AIM QA Checklist  
v2

**Description:** The entire population of claims for the scope of the audit was reviewed to determine if the First Notice of Loss for each claims was entered into the system within the 2 day threshold established by the business. The preliminary results indicated that the majority of claims exceeded this threshold. Samples were taken to substantiate the results. Although there were some false positives, this test resulted in a moderate finding for the business.

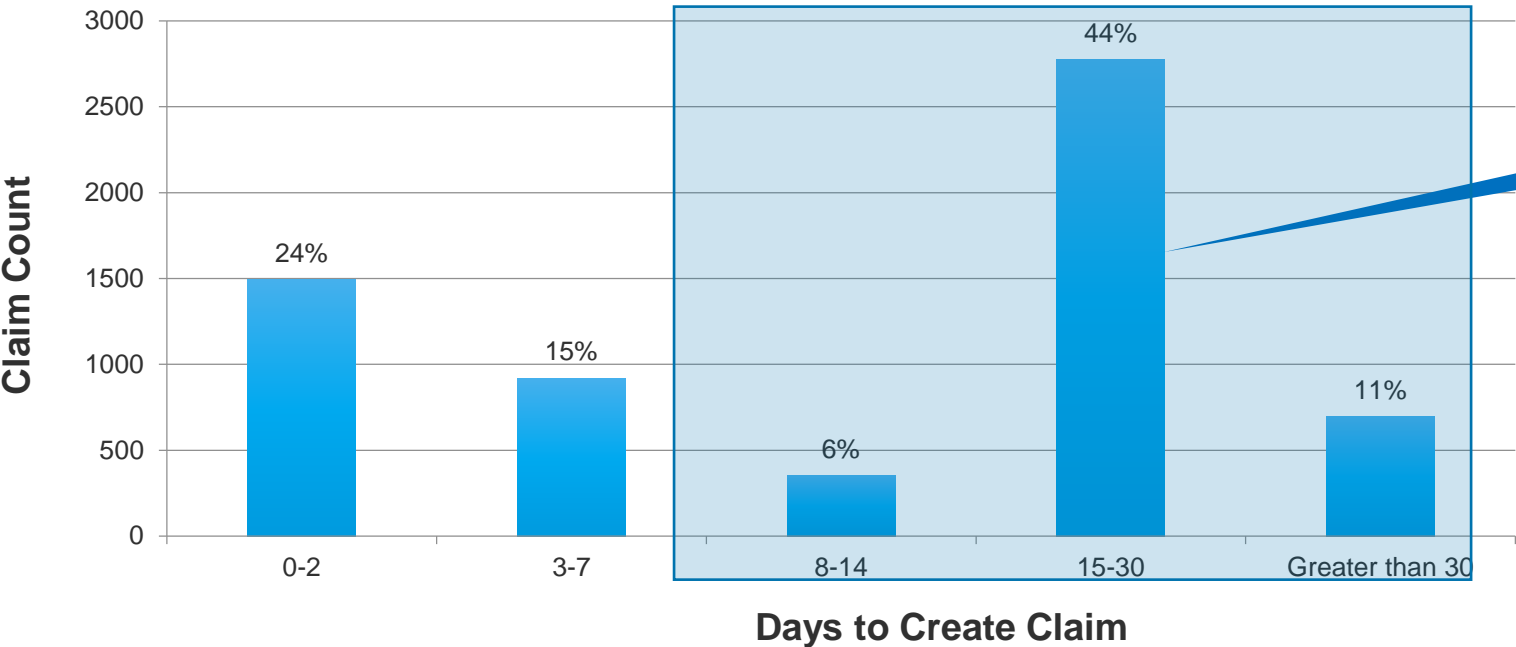
**Analytic Service(s):** Analysis, Sample Selection

**Business Value:**

- Insightful conversations with client related to the claims triage process
- Action plan related to the remediation of the issue will focus on communication of business standards and increased monitoring of the Claim Create metric

When the audit is complete, the Analytics team will prepare a one-pager that summarizes the Services and Value Capture.

FNOL to Claim Create Date



61% of claims analyzed exhibited a Claim Create Date greater than 7 days after FNOL

Benefits of Approach

- Provides visibility into full population of claims rather than the limited view provided by sampling
- Details easily shareable with the client so they can validate or refute the findings