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Ensure Claims and Provider Data Quality for Analytics

Agenda

- Applying the Scientific Method to Data Quality

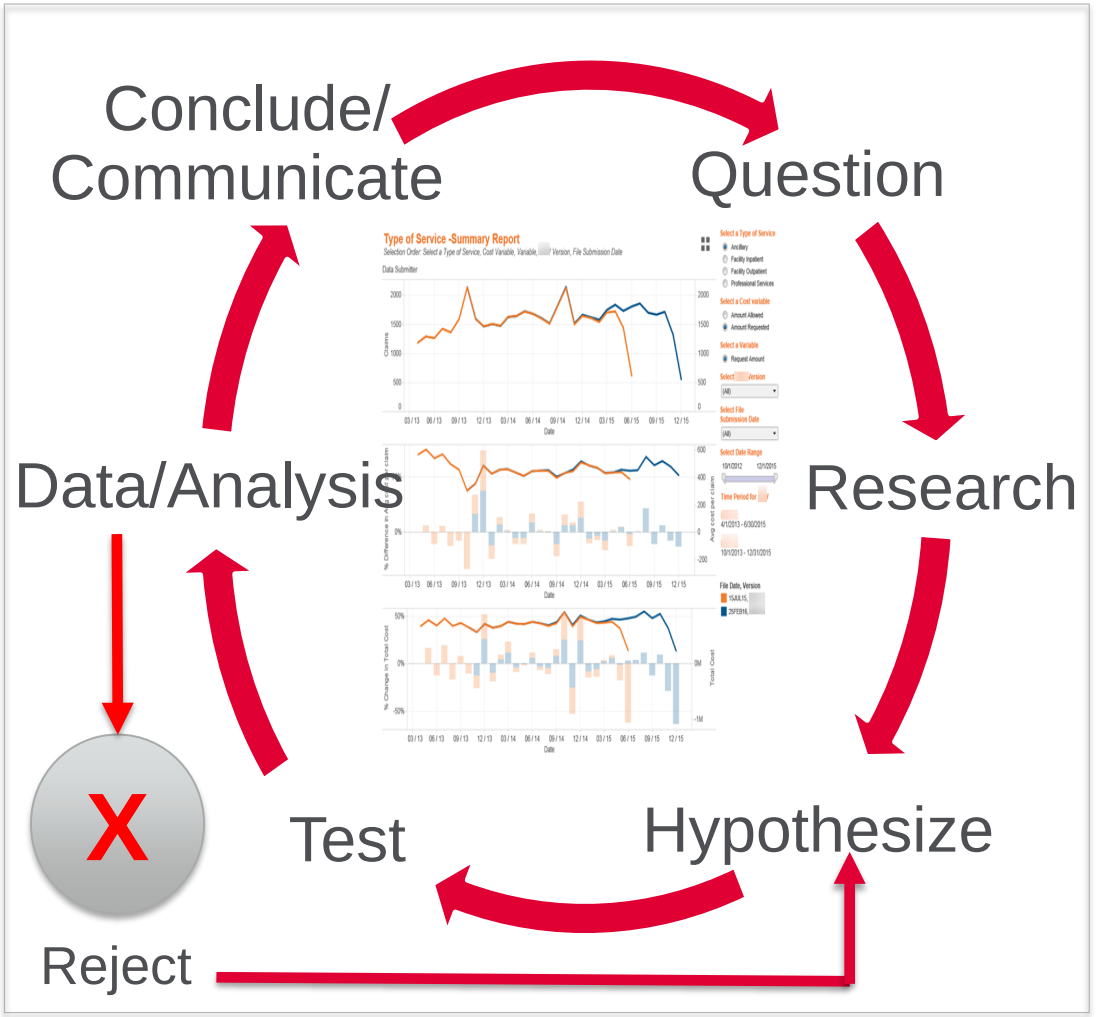
- A Five Step Approach to Testing Data Quality
  - Structural & Layout Compliance
  - Key Field Completeness and Uniqueness
  - Code and Value Validity
  - Data Reasonableness and Appropriateness
  - Referential Integrity

Applying the Scientific Method to Data Quality Analysis

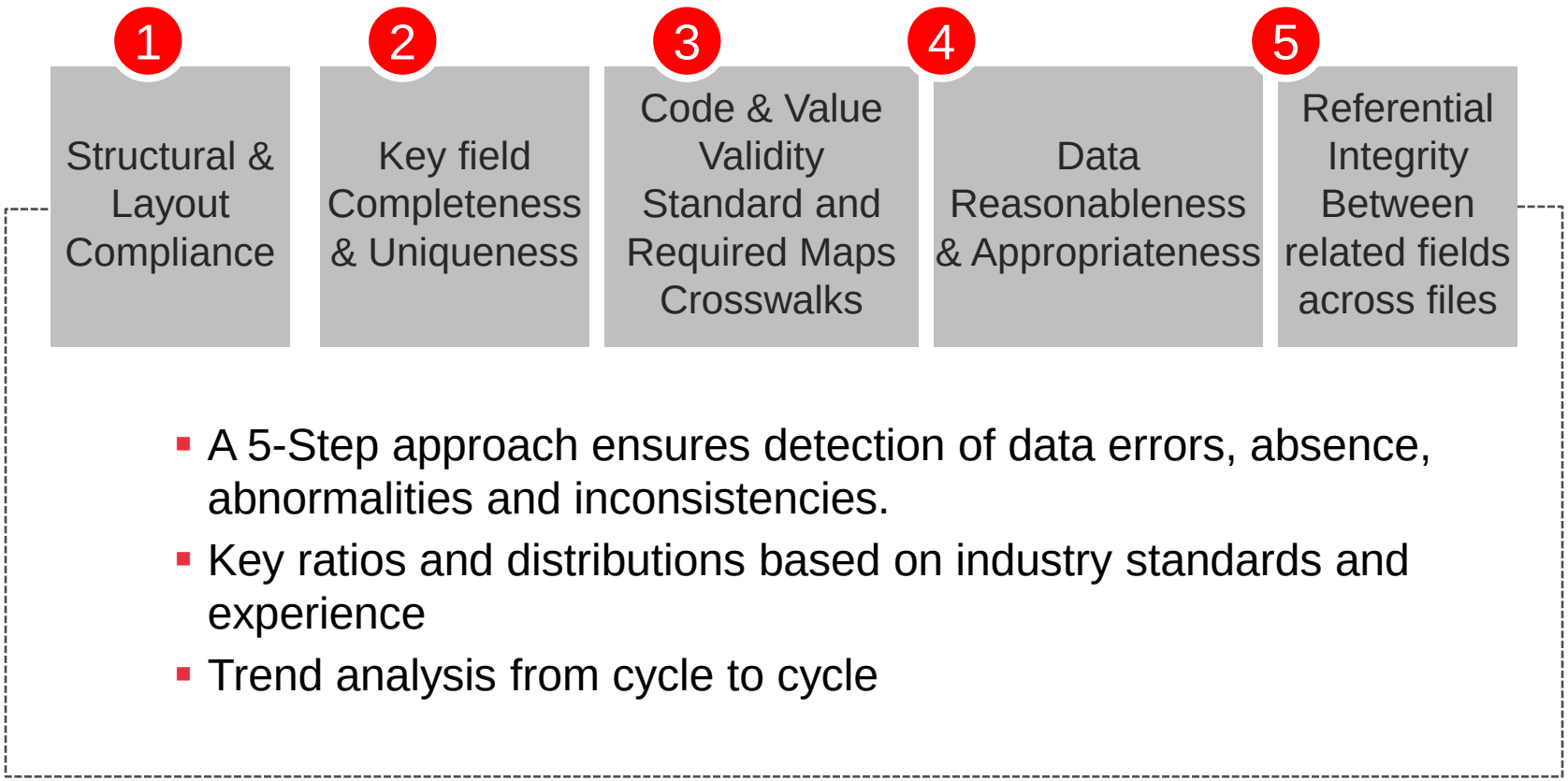
The Scientific Method can be applied to a data quality assurance process.

The process should be:

- Thorough
- Repeatable
- Timely
- Intuitive
- Responsive (feedback loop)



Data Quality Assurance (QA)



- A 5-Step approach ensures detection of data errors, absence, abnormalities and inconsistencies.
- Key ratios and distributions based on industry standards and experience
- Trend analysis from cycle to cycle

Data Quality Assurance Tools and Techniques

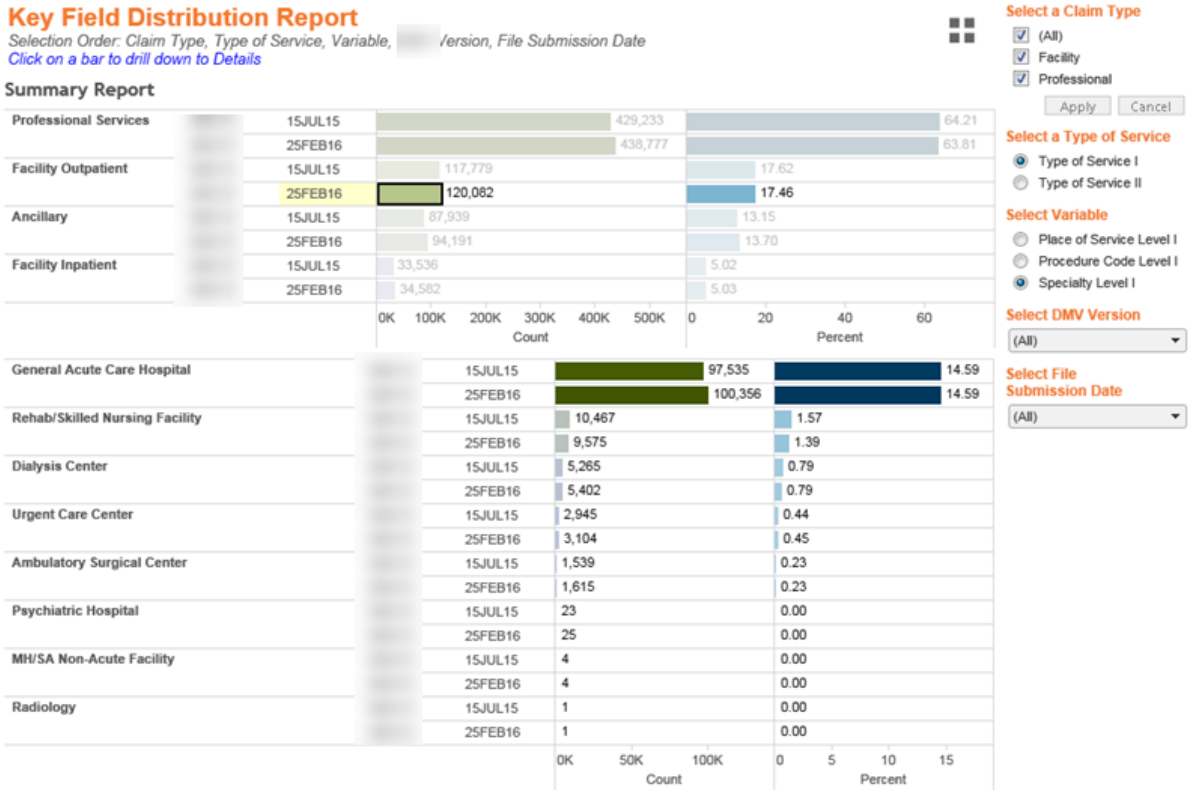
Select the right mix of data tools for efficient processing, analysis and communication

- Data Analysis: SAS, Python, SQL …
- Statistical packages: SAS, R, SPSS …
- Data Visualization: Tableau, Domo, Power BI …

Key Field Completeness And Uniqueness

Select key fields to measure completeness and consistency

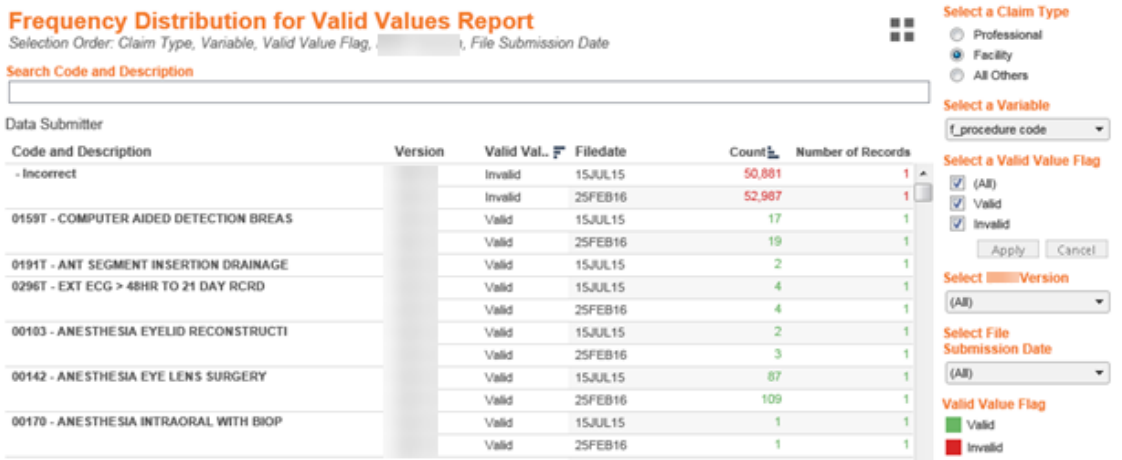
Drill down to second level attributes to identify outliers and investigate unexpected volume shifts



Code and Value Validity

Check data elements and values against industry standard references.

This will also require payer-specific references for state-specific and MCO-specific values.

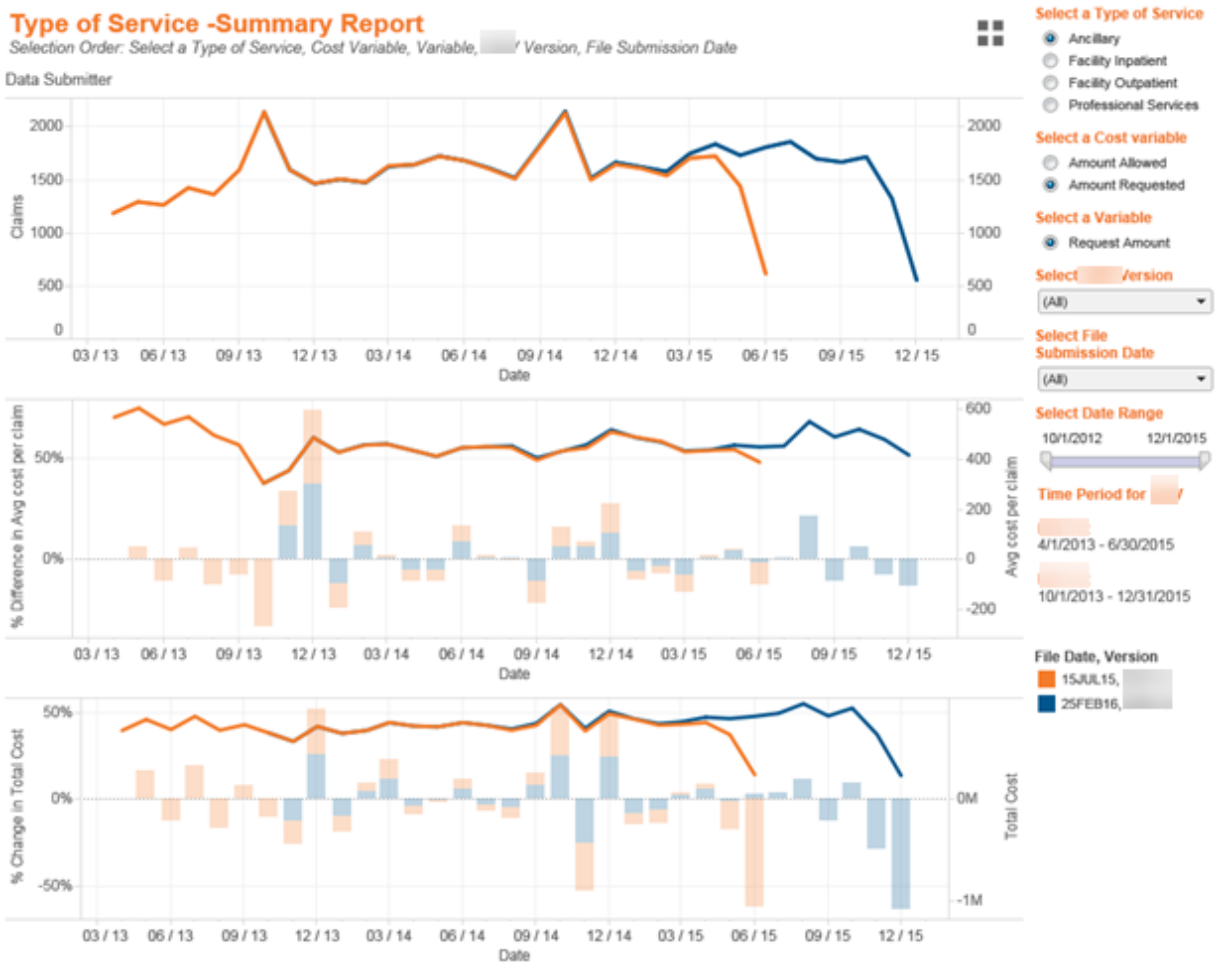


Data Reasonability and Appropriateness

Control Total Run Chart:
- # of Claims

Run Chart:
- % Difference in average cost per claim

Run Chart:
- % Difference in total cost per claim



Referential Integrity Between Datasets, Tables and Fields

Test the integrity between multiple data sets.
(e.g. Provider/ Member/Claims)

Integrity Check Report

The integrity table report provides various counts from Table 1 and Table2 with given condition that holds true and joined on specific fields as shown.
Selection Order: Version and File Submission date

Select Version: (All)

Select File Submission Date: (All)

Data Submitter

When values in Table 1 as below ...	are compared to values in Table 2 as below ...	and the condition in Table 1 is ...	and the condition in Table 2 is ...	and the two tables are joined on this field; then ...	Version	File Date	Tname2	Unique count in Table 1	Unique Count in Table 2
Medical Claims	Membership	none	none	Member		15JUL15	_elig	8,281	9,226
						25FEB16	_elig	8,549	9,457
	Provider	none	none	serv_prv_npi=linkage_id		25FEB16	_prv	1,543	342,840
				serv_prv=linkage_id		15JUL15	_prv	1,556	1,965
Membership	Medical Claims	covclass='MED'	covclass='MED'	Member		15JUL15	_med	5,707	4,850
						25FEB16	_med	5,883	5,072
		covclass='SUP'	covclass='SUP'	Member		15JUL15	_med	3,550	3,460

Q&A

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