



BUSINESS INTELLIGENCE



MEDATA BUSINESS INTELLIGENCE

Medata Business Intelligence (BI) is a complete, technology-driven software and service solution for analyzing data and presenting actionable information to help end users make informed business decisions.

Medata BI is designed to help users to

- get quick and easy access to historical and current data via dynamic and interactive dashboards,
- identify trends and patterns within data,
- filter and drill down data to expose the information most relevant to a user,
- export and share results in various formats with other users,
- alert users on changes of Key Performance Indicators (KPI) values.

Medata BI system advantages include

- powerful data model that was specifically designed and optimized to provide large yet focused data specific to the workers' compensation and auto liability industries,
- integration into Medata's main web-based application, Toolbox, that enables users to perform different functions on a single platform,
- library of out-of-the-box industry-specific metrics, calculations, and reports,
- self-service capabilities that allows users to independently create content,
- security measures that control data access permissions and user functionality on different levels.

MEDATA BI DATA MODEL

Medata BI dimensional data model provides easy access to data elements for standard summary reports along with granular complex analysis. Medata compiles and stores the following data:
























Comprehensive Client Data - a single repository allowing access to all data - current and historical bill review, PPO, UR, Pharmacy, and other claim-related data. Data aggregation is done on a nightly basis. Based upon business needs, aggregation can be performed on other frequencies to ensure large datasets are available for faster data analytics and reporting. Operational data is also available to allow management access to current inventory and employee productivity.

Comparison Data - a trusted data set that is used in Medata's proprietary products to measure and evaluate business performance against over 1 BILLION medical procedures from over 500 million bills. Through years of investment and research, Medata has developed and refined a reasonableness database which compiles and sorts billing information from actual provider charges that includes the patient's diagnoses, the provider's Tax ID, name, type, address, charges, allowances, and reductions including date of service, procedure code and modifier.

Master Data - a data set of codes, descriptions, and definitions from the current universal coding and classification systems that is used for medical billing of diagnoses, procedures, services, equipment, drugs, and providers. This data includes CPT / HCPCS / Revenue Codes, ICD-9 / ICD-10 Diagnosis Codes, NDC.

ACCESSING MEDATA BI

Medata BI is accessed through Toolbox, Medata web-based application. Business users are granted one of the levels of access: interactive or designer. The difference between the two levels is described below:

		Interactive Seat	Designer Seat
	View Modules: Access provided in Toolbox to the available set of dashboards		
	Interactive Data Visualization: Interaction with a widget dynamically modifies content of other in-dashboard widgets		
	Drilldown: Interaction with a widget provides access to increasing more granular data displays		
	Export Data: Export data to .pdf, .csv and .xlsx formats		
	Filter: Modify data elements applied at the dashboard or widget level from the available options		
	Add Filter: Modify data elements available at the dashboard or widget level		
	Rearranging : Move widgets within a dashboard to best meet needs for information consumption		
	Modify Display Format: Display data in a comparison, relational, distributive and compositional formats		
	Create Content : Using the available dataset, create new widgets that support the functions as mentioned above		

MEDATA BI MODULES AND DASHBOARDS

Medata BI comes with a package of pre-built dashboards that deliver valuable data and analysis via various KPIs, dimensions, risk factors, trend reports, and metrics. Users with designer level of access can easily modify these dashboards by adding, removing or editing the widgets to better suite their needs. Designer users can then save the dashboards in their private folders or share with other team members.

Since the same information can be analyzed from different perspectives such as Financial, Operational, Executive, Compliance, etc., we packaged our dashboards into seven modules that provide users all tools they need for analyzing the performance of their organizational domain.



Provider Compliance

Capture provider billing and treatment patterns to identify outliers or irregularities.

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| 1.1 Level of Service Billing | Investigate provider billing patterns for Evaluation and Management Services. Identify providers that are repeatedly billing a higher-level service and the frequency of the level of service edits. |
| 1.2 DME Billing | Study payment and savings trends for Durable Medical Equipment items. Identify provider billing patterns for E1399 <i>Durable Medical Equipment, Miscellaneous</i> , and further investigate providers that are frequently selecting E1399 among other DME codes. |
| 1.3 Medical-Legal Billing | Study payment and savings trends for Medical-Legal Evaluations. Identify provider billing patterns for ML104 <i>Comprehensive Medical-legal Evaluation</i> and further investigate providers that are repeatedly billing ML104 code. |
| 1.4 Physical Medicine Billing | Study payment and savings trends for Physical Medicine (PM) / Rehabilitation Services. Identify provider billing patterns for 97799 <i>Unlisted Medicine/Rehabilitation Service or Procedure</i> . Further investigate providers that are consistently billing 97799. |
| 1.5 Patient Volume | Investigate volume of patients treated by a provider per day / month and identify outliers. |
| 1.6 Opiate Provider Compliance | Investigate provider opioid prescribing and dispensing patterns. Identify claimants that may be at risk of opioid misuse or abuse by measuring number of fills, dosage amounts, fill dates and other indicators. |
| 1.7 Provider Profile Composite Data | Provides summary of a provider's billing history based on Composite Data with an ability to drill down the details and drill through time. |



Operations Productivity

Study the current bill inventory and user productivity and identify trends in Turn Around Time (TAT) and areas of improvement.

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|---|--|
| 2.1 Bill Inventory | Investigate current Open, Reconsideration, Posted Bills Inventory and trends and identify the areas that may require immediate action. |
| 2.2 Bill Review Analyst Productivity | Investigate bill review analysts' productivity against different measurements including average TAT and number of completed and open bills per a defined period of time. |



Savings

Demonstrate and evaluate savings and payments over various Key Performance Indicators (KPIs).

- 3.1 Total Savings** Investigate medical savings for a preferred period of time and compare the performance against any past time interval.
- 3.2 PPO Savings** Investigate PPO networks savings trends and KPIs to help identify the best PPO structure to allow for optimal additional savings.
- 3.3 Pharmacy Savings** Review and measure Pharmacy savings and payments with further focus on Opioid spent specifics and trends.



Claim Analysis

Comprehensive claims analysis and alerts solution that uses statistical methods in recognizing high-risk claims, providers with improper billing practices, opioid prescription activity that can impact costs and treatment outcomes.

- 4.1 Claims Diagnosis Analysis** Investigate claims Duration of Care (DOC), i.e. the number of days between the first and the last dates of service, and compare it against the claims from Medata composite research data set that includes around 300K claims.
- 4.2 Diagnosis Lookup** Investigate frequency, charges, geographical distribution, providers billing patterns, services associated with any selected diagnosis code.



Executive Panel

Executive level information via major KPI's and metrics.

- 5.1 Executive Panel** Review major KPI's and metrics related to financial performance, bill volume, claims status, PPO performance, and provider profiles.
- 5.2 Top 10 Report** Provide an easy view of top 10 claims by charges, requested service categories / subcategories / procedures, and providers by bill volume.



Designer User Portal

Helpful resources for designer users including metrics and formulas library.

6.1 Metrics & Formulas Library List of main metrics and formulas for designer users.



Utilization Review

Study the current Request for Authorization inventory and user productivity and identify trends in Turn Around Time (TAT) and areas of improvement.

UR Stewardship reports:

- 7.1 UR Summary Activity Report** Provide summary of determinations and TAT on initial requests and appeals.
- 7.2 UR Activity Detail Report** Detailed report on requests for authorization received during a period of time.
- 7.3 UR Report by Daily Volume** Provide the requests volume trend in a graphical format with the details on daily received requests count.
- 7.4 UR Report by Service Category** Summary of the highest requested service categories with the details on prospective vs retrospective requests count.

UR Trends and Analysis reports:

- 8.1 UR General Panel** Summary of UR activity with total numbers on requests volume, decisions, requested services, and distribution between initial requests vs appeals.
- 8.2 UR Procedures Panel** Measure, track, and take appropriate action for Utilization Review operations optimum performance based on requested procedures.
- 8.3 UR Provider Panel** Study providers with high appeal rates and consistent denial of Requests for Treatment to identify outliers.

MEDATA BI GRAPHICAL TOOLS

Each dashboard can contain any number of widgets, a graphical and / or numerical representation of data elements pulled from a unified data model. There are various options for visual presentation of widgets including bar and pie charts, area and scatter maps, graphs, pivot tables, and many others.

MEDATA BI ALERT SYSTEM

Any user with designer permissions can schedule 'Pulse' to alert if a certain metric exceeded a defined threshold value or if any data anomaly is detected. Reports can be scheduled to run daily, weekly, or monthly. Results can be sent as emails or SMS messages.

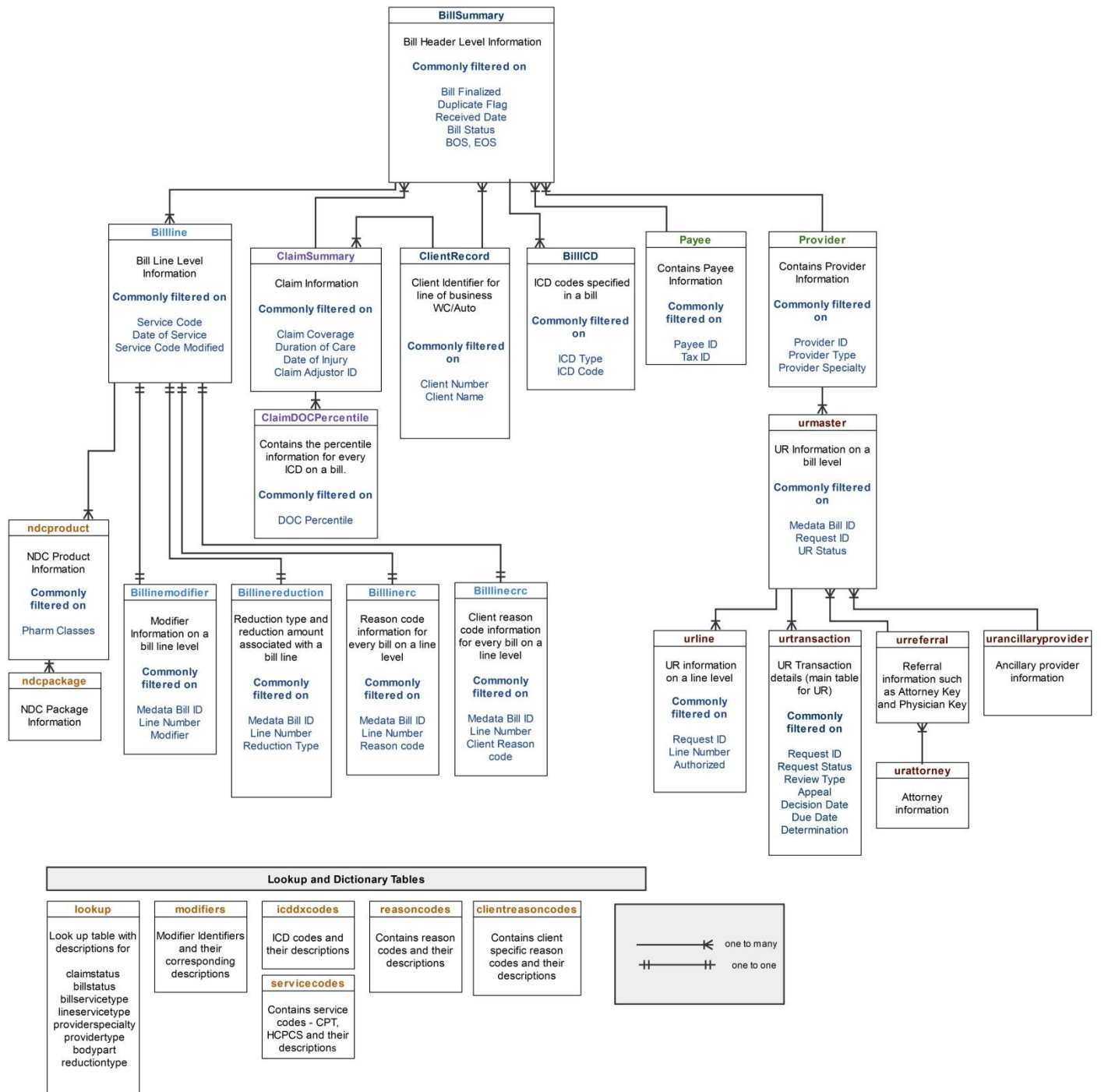
MEDATA BI CUSTOMER SUPPORT

Medata's BI team goal is to ensure each client's journey from on-boarding to customized dashboards is seamless.

- Creation and customization dashboards
- Analysis of results
- Assistance to perform ad hoc queries
- IT Support

Should a user request a new dashboard or a modification of an existing dashboard or widget, Account Manager can help to gather details and initiate ticket creation. This ticket is assigned to appropriate party for development which could be Medata BI Data Engineer, or other BI tool expert, depending on the complexity. Further Triage and Level of Effort (LOE) analysis will be conducted, and priority determined. Estimated completion timeframes communicated to Account Manager by development team are then communicated to users to properly set expectations.

MEDATA BI DATA MODEL



BILL DATA TABLES

BillSummary

'BillSummary' table serves as a **master table**. It contains information about a bill on a header level such as received date, total charge, reduction, allowance, review state, etc. There are three important columns in 'billSummary' table:

- 'Bill Finalized': value '1' corresponds to the latest **posted** iteration of the bill.
- 'Last Iteration': value '1' corresponds to the latest iteration of the bill regardless of the bill status.
- 'Duplicate flag': value '0' indicates that is not a full duplicate bill entry.

Setting 'Bill Finalized' to '1' and 'Duplicate Flag' to '0' ensures that only posted and non-duplicate bills are included into calculation on the dashboards.

BillICD

'BillICD' table contains a list of all ICD codes along with their order on the bill.

ClientRecord

'ClientRecord' table provides details on clients or lines of business, such as WC or Auto.

InsurerCompany

'InsurerCompany' table provides details on insurer company including name, address, FEIN.

BILL LINE DATA TABLES

BillLine

'BillLine' table contains information about a bill on a line level. Using 'Metadata Bill ID' and 'Line Number' enables a user to uniquely identify the details, such as a service code, date of service, charge, reduction, allowance, etc., on a bill line.

BillLineReduction

'BillLineReduction' table contains a breakdown by type of reduction, Bill Review and/or PPO, applied on a bill line.

BillLineRC

'BillLineRC' table provides the details on bill line reason codes and associated reduction amounts.

BillLineCRC

'BillLineCRC' table provides the details on bill line client reason codes and associated reduction amounts.

CLAIM DATA TABLES

ClaimSummary

'ClaimSummary' table contains comprehensive information about a claim such as claimant data, overall charges, allowance, duration of care, number of visits, and number of bills.

ClaimDOCPercentile

'ClaimDOCPercentile' table contains percentiles of the duration of care for each ICD code associated with a claim based on statistical analysis of Medata's historical comparison data set.

ClaimSurgicalEpisode

'ClaimSurgicalEpisode' table combines all bills on a claim related to a surgery on a specific body part. This table provides an opportunity to aggregate the charges associated with the surgery by body part per claim.

PROVIDER / PAYEE DATA TABLES

Provider

'Provider' table contains information about providers including names, addresses, provider types and specialties, NPI's, Tax ID's, etc.

Payee

'Payee' table contains information about payee including names, addresses, Tax ID's, licenses, etc.

GENERAL INFORMATION TABLES

ServiceCodes

'ServiceCodes' table contains current and historical CPT, HCPCS, NDC, revenue and state-specific codes along with their descriptions and categorization.

ClientReasonCodes

'ClientReasonCodes' table provides details on existing client reason codes and their descriptions.

ReasonCodes:

'ReasonCodes' table provides details on existing Medata reason codes and their descriptions.

ICDDxCodes:

'ICDDxCodes' table serves as a lookup table for ICD diagnosis codes and their descriptions.

Modifiers:

'Modifiers' table contains the list of modifiers and their descriptions.

NDCProduct:

'NDCProduct' is a drug database that contains information about NDC's product name, substance, pharmacy class, etc. 'NDCProduct' is linked to 'BillLine' table via 'Product NDC' and 'NDC' columns correspondingly.

NDCPackage:

'NDCPackage' table contains packaging information of NDC products from 'NDCProduct' table.

LookUp:

'LookUp' table serves as a master dictionary table with descriptions for bill status, claim status, provider specialty, provider type which are referenced in the other tables for descriptions.

UTILIZATION REVIEW DATA TABLES

URTransaction

'URTransaction' is the main table for the details on UR requests. It contains the details on UR request transactions including status, review level and type, determination, received date, decision date, peer review dates, etc.

URMaster

'URMaster' table contains three key elements that join a utilization review request for authorization with other tables in the data model by Metadata Bill ID, claim key, and provider key.

URLine

'URLine' table contains information on requested services and procedures, requested and authorized units, etc.

URReferral

'URReferral' table contains three key elements including attorney key, defense attorney key and provider referrals.

URAttorney

'URAttorney' table contains attorney information.

URAncillaryProvider

'URAncillaryProvider' table contains information about ancillary providers.

URPeerProvider

'URPeerProvider' table contains information about peer providers including name, specialty, and contact details.

URPeerOrganization

'URPeerOrganization' table contains information about peer organizations including name, address, contacts.

URPeerLicense

'URPeerLicense' table provides the peer provider's state license information.

URUsers

'URUsers' table provides the information on the users of UR application.

URDocument

'URDocument' table serves as a bridge between UR tables and the other bill related tables such as 'BillSummary'. It contains information on all UR documents, their associated request ID's and Metadata Bill ID's.

STATE REPORTING DATA TABLES

SrSummary

'SrSummary' table provides the information on the state reporting process for every qualified bill including transfer date, status, acknowledgement, etc.

SrErrors

'SrErrors' table provides the information on bills' errors that appeared during the state reporting process.

SrErrorCodes

`Serrors` is a lookup table that provides the information on state reporting error codes and their descriptions categorized by error type (824, 837, ACK) and error level (bill, claim, provider, insurer, etc).