

# Response to RFI - Vermont Health Care Uniform Reporting and Evaluation System

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## Vendor Information

Milliman was founded in 1947, and was officially incorporated on July 5, 1957. Milliman offers consulting services and products in four key markets: 1) healthcare insurance and management, 2) employee benefits, 3) life insurance and financial services, and 4) property and casualty insurance. Our team is comprised of actuaries, information technology consultants, employee benefit consultants, management consultants, analytic experts and clinicians.

Milliman employs more than 3,000 people worldwide, including a professional staff of more than 1,600 qualified actuaries and consultants. Milliman is an employee-owned firm, wholly owned and managed by approximately 434 principals, who have been elected in recognition of their technical, professional, and business achievements. Our sole business is providing independent consulting services. We aren't affiliated with any public accounting or brokerage firms. The consultants of the firm are not permitted to own stock in any insurance or reinsurance company, nor are our consultants allowed to own stock in client organizations. Due to these policies, Milliman provides analyses and opinions that are totally independent and objective. Milliman is a corporation, with its chief executive officer, chief operating officer, chief financial officer, and most corporate staff located in Seattle. Milliman's board of directors includes the chairman, CEO, practice directors from the four primary service areas, and five at-large members who are also principals of the firm.

Milliman has a successful and proven track record at developing, implementing, and operating data collection and analytic functions for state APCD projects. In the last five years, Milliman was awarded a contract with the Oregon Health Authority (OHA), the New Hampshire Comprehensive Health Information System (CHIS) and the Virginia Health Information (VHI) for the development and implementation of their All Payer All Claims Reporting Program. Each of these projects utilizes the MedInsight reporting platform and analytic solution to support efforts for producing analytic reports and queries along with analytic data sets and extracts.

For the OHA initiative, Milliman receives and aggregates data from 40 data suppliers, including Medicare and Medicaid fee for service claims. Milliman worked collaboratively with OHA and its data suppliers to develop formatting and coding for data submission, as well as developed a protocol for the secure transmission of data. OHA uses the MedInsight decision support solution to support OHA's efforts to improve the quality and affordability of health care and health care coverage, compare cost and effectiveness of various treatment settings and approaches, and evaluate the effectiveness of intervention programs in improving health outcomes.

## Cost Estimates

Milliman's estimates for costs and related tasks are based off our experience with four other State APCD projects along with the APCD cost study that was released by the APD Council in 2015. Our cost estimates are provided in ranges as cost may vary depending on final project requirements, number of data sources and the type of analytics/reporting that are desired by Vermont.

Service Description	Estimated Cost
Data collection, cleansing, consolidation, and distribution	\$300,000 - \$500,000
Master Patient Index	\$50,000 - \$100,000
Master Provider Index	\$50,000 - \$100,000
Data Warehouse, analytics enclave	\$200,000 - \$400,000
Public Use and/or Analytic Files	\$100,000 - \$200,000

## Business and Technical Requirements

### 5.1 Data collection, cleansing, consolidation, and distribution

VHCURES 3.0 should be able to process the claims data in a similar manner as VHCURES 1.0 (the current implementation). The current data submission guide is available from Onpoint Health Data System's website at [http://www.onpointhealthdata.org/clients/vhcures/docs/onpoint\\_vhcures\\_dsg\\_v21.pdf](http://www.onpointhealthdata.org/clients/vhcures/docs/onpoint_vhcures_dsg_v21.pdf).

Personally-identifiable information and personal health information (PII/PHI) should be de-identified during receipt and only used for purposes of person or provider matching. Claims data may be submitted on a monthly, quarterly, or yearly basis. Claim feeds may originate from commercial insurance payers, Vermont state Medicaid, or Medicare.

Additional data sources may be identified including surveys, discharge datasets, and public data.

There will be monthly processing and reporting activities. Claims runout reports including variance and triangle reports will be produced.

The Milliman team is highly skilled in the area of data aggregation, both from efficiency and effectiveness perspectives. While we recognize the importance of having world-class analytics and compelling functionality – which MedInsight possesses – we understand the critical nature of data aggregation in ensuring maximum value from your investment. Our staff has many years of experience in managing, integrating and loading different and complex data sets. Further, our turnaround time for data aggregation and loads are measured in days, not weeks or months.

Milliman writes a custom Extract, Transform & Load (ETL) for each data set for each client. We have worked with data feeds from most every major claims system and from most PBM's. We also have a number of clients that extract and send us data from their existing enterprise data warehouse. This variation mandates a custom ETL for each client. In general, Milliman can accept data feeds from data suppliers in any format that they choose to send the data, however our preferred file format is a pipe delimited text file that is partitioned into calendar years based on paid date and/or enrolled month. Our goal is to obtain source data in as efficient a manner possible from all data sources. This facilitates both timely delivery and less opportunity for data corruption. In addition, Milliman's MedInsight database has an integrated data model that facilitates data standardization and data normalization.

Depending on implementation requirements, de-identification can be performed in different ways. If there were a requirement to encrypt data in a way that the de-identified persons can later be re-identified, the approach would be different than de-identification, never to be re-identified. As noted in our response to Section 5.2 below, Milliman is adept at creating a Master Person Index, which greatly enhances our ability to assure PII/PHI is securely de-identified.

The MedInsight system is flexible and we can customize the system to accept novel new sources of data. The star schema database design facilitates the integration of new data into the larger integrated database. The flexibility of our ETL process allows MedInsight to accept flat file data from virtually any data source or system. The MedInsight data model includes approximately 600 data elements in the base tables. The data model is flexible and includes a number of client-defined fields for the inclusion of additional data that may be unique to your members' data needs. Also included in the MedInsight data model are a number of client-defined dimensions to further group the data into the business groupings necessary to meet yours and your members' reporting needs.

MedInsight supports a wide array of reports and reporting options, inclusive of runout reports such as variance and triangle reports.

### 5.2 Master Person Index

A Master Person Index (MPI) is necessary to identify individuals across multiple payers and over time. VHCURES 3.0 may provide a robust implementation of an MPI.

Milliman has developed a robust process to crosswalk member data from multiple payer sources to create a Master Person Index. Milliman unifies the patient history to determine the most current information, including unifying persons with name changes, where possible. Patient cross-walking is achieved across all payers using the patient last name and first name and birth date from the member identifiers. Social Security Numbers (if available) and other fields are

used to provide tie-breaking assistance. Key elements like last name and date of birth may be altered due to marital status or data entry errors. For the crosswalk to work, the history of that person's name must be cross-checked with other data sources where the member may have been known under another name. Milliman also applies specific scrubbing techniques to individuals' first and last names in the matching preparation process. This is done to lessen the likelihood that a mismatch will occur due to formatting, spaces, punctuation, or simple name translation. Once an individual is identified through this process, a unique numeric identifier is assigned to populate the Master Person Index. Using the unique identifier, the individual is then associated with their claims and provider data.

We estimate that the crosswalk methodology is between 97% and 99.5% effective for typical clients. Particularly problematic data may result in < 97% effectiveness and particularly consistent data may reach 100% effectiveness. Milliman understands that all VHCURES directly identifiable data elements currently submitted are in a hashed form created at the data source through a common algorithm. This is also the case with a current Milliman state APCD client (NH). Although the fields are uniformly hashed and are consistent across payers, we have found that the accuracy of the Master Person Index has suffered (more duplicates) because the data is not in its "raw" form. We recommend that the GMCB consider collecting non-hashed member data and create the identifier to populate the Master Person Index post submission through an ultra-secure, firewalled process.

MedInsight stores the data at a detailed patient level. Provider attribution methods are also included in the system that enables patients and episodes to be attributed to a PCP or a responsible specialist. Primary care attribution methods include attributing the patient to the last (or first) PCP that saw the patient in the reporting period or attributing the patient to the PCP who had the most RVUs with the patient. Milliman can also implement custom attribution methodologies at the request of the GMCB, if so desired.

### **5.3 Master Provider Index**

Like the Master Person Index, the Master Provider Index is used to identify providers across payers and may include mappings to practice locations.

The MedInsight Provider Crosswalk methodology is intended to provide a more complete picture of the health care delivered by a facility or practitioner through the development of meaningful provider identifier data.

The need for a provider crosswalk typically arises from the presence of multiple and disparate source systems, which do not contain a single, unique provider, ID. In Milliman's experience, providers often possess more than one identifier. Often these identifiers are not linked in any way and no automated system exists to make that connection. Because a provider's entire experience of claim data will typically span multiple health plans, some effort must be made to unify the identifiers for a given provider. This lack of a single provider ID has created inefficiencies and challenges when conducting analysis and evaluating data for decision-making purposes. The creation of the National Plan & Provider Enumeration System (NPPES), with the requirement for health care providers to obtain a National Provider Identifier (NPI), has helped immensely to identify providers across plans. However, the failure of health plans to fully integrate the NPI into their data warehouses, the assignment of multiple, unrelated NPIs to one facility provider in NPPES, the categorical ambiguity of some facilities in the NPPES tables, and the continuing identity ambiguity between nurse practitioners/physician assistants and their overseeing physician means that a robust crosswalk methodology is still necessary.

A well-designed provider crosswalk has the functionality to assess provider identifiers in all of the data sources and resolve discrepancies from those sources with the goal of creating a single common identifier for each provider. Once this is achieved to an acceptable level of accuracy, the claim records for a provider can be "mapped" or "cross-walked" to a common, system-wide identifier for that provider. It is important to note that the success of the process is dependent on the quality and consistency of the source data.

The MedInsight methodology can successfully crosswalk providers with widely varying quality of provider identifiers. It is designed to maximize the benefit of any and all available identifying elements to arrive at "likely" matches. However, as with any automated matching method, anything but an exact 1 to 1 match is less than 100% precise. With this understanding, the Medinsight methodology automatically generates all "high likelihood" matches, from highest

precision to lowest. As part of the precision ranking, a specific cutoff has been established, below which a match is not considered to be likely, or too ambiguous to be considered a legitimate match.

In order to precisely rank providers, Milliman employs a multi-faceted matching process that uses points and pre-defined match thresholds to determine if provider identifiers from different source systems are in fact associated with the same provider. The methodology can use any data elements available, including name, NPI, address, zip code, TIN, state license #, and other custom identifiers.

Providers are defined as facility or individual practitioner providers. In general, the methodology applied is essentially the same for both facilities and practitioners. However, there are some differences. Because they are not applicable, the first name and middle initial elements are not used in the facility matching process. Milliman stores facility and DBA names, when provided, in the Provider Last Name field.

In addition, Milliman strongly recommends that a facility provider master list be created with client input that includes a unique name for each facility, which is commonly derived from state license lists or names most commonly identified by the public. Milliman then associates the identified facilities with all corresponding listings in the NPPES facility tables (many to one relationships). The facility provider master list contains the names, NPIs, and address fields from the NPPES tables. The master list is incorporated into the points-based matching process. A provider master list is not built for practitioners because they usually have unique (one to one), not multiple, identifiers associated with an individual.

### **5.4 Data warehouse, analytic enclave**

There are many terms such as an “analytic enclave” to describe a secure data repository that enables controlled access for analysis and reports. In VHCURES 3.0 this is termed a data warehouse.

The data warehouse must have the following characteristics:

#### **5.4.1 Secure Container**

The secure container is subject to the most stringent requirements of the data that it contains. This includes Medicare, Medicaid, commercial claims, and other data sources. All applicable controls such as required by the State Data Use Agreements with CMS and Vermont Medicaid will be enforced.

The Milliman MedInsight platform was designed with the security needs of the healthcare industry in mind. The system offers state-of-the-art encryption and security technologies and protocols to ensure that patient data remains uncompromised yet is accessible to authorized users. Milliman stores sensitive data in an encrypted state (AES 256) and only authorized users have the ability to decrypt this data for viewing. Milliman MedInsight consultants consistently review the latest industry standards to ensure our data security methodologies are at or beyond the highest industry standards. Milliman receives weekly updates from the SANS (SysAdmin, Audit, Network, Security) Institute, the authoritative body on network security. Milliman also receives alerts and advisories from our software / hardware vendors that provide mal-ware, AV and Security detection.

Several Milliman MedInsight clients have achieved Certified Qualified Entity status. As part of the certification process, MedInsight security practices, policies and procedures have been reviewed according to CMS Qualified Entity Certification Program for Medicare Data (QECF) requirements.

Each of the contracted MedInsight data centers have successfully completed both an SSAE 16 Type II/SOC 1 audit and a SOC 2–Type II audit. These audits are conducted annually on a schedule determined by the data centers. Further, Milliman is currently undertaking a SOC 2 initial audit of its processes, applications and software. It is anticipated that the initial audit will be completed in late 2017.

#### **5.4.2 Controlled Access**

All organizations and individuals will be subject to access control performed at the appropriate level of granularity such as dataset, data tables/views/procedures, data elements, and row data constraints.

Granting or revoking of access must be performed under the direction of the State. Periodic reviews of access will be performed. Auditing of all access must be present and continuously active. If Single-Sign-On (SSO) is available, it may

be implemented. Rules may be updated over the lifetime of the project and the new rules will be applied to current access.

Result sets (reports, aggregate tables, etc.) must also be audited before release to the requestor. Some level of automated constraint checking such as no cell counts  $\leq 10$  would be desirable but not necessarily sufficient.

Certain use cases such as database auditing will require an actual extract of the VHCURES data to be made available outside of the data warehouse. These will be handled on a case-by-case basis.

The MedInsight portal interface uses roles-based security. Each user's unique ID is assigned a particular role and privileges to ensure that access is limited to system areas for which the user is authorized. Milliman uses a roles-based protocol to standardize rights management. Authorized VHCURES users and other authorized system users can access only those systems, databases, reports and functions that are authorized by the access rights assigned to their user ID, including access to PHI and/or individual claims. Milliman can also configure MedInsight to generate reports that have the individually identifiable information de-identified or redacted access based on the user's assigned role.

User access is set up and managed by Milliman staff. Once the initial users are identified and set up during the implementation process, new users are added, removed, or modified by sending an email to the MedInsight SaaS team. Typically, a client will designate one or two staff persons who have the authorization to request a new user account be established.

### 5.4.3 Improved Processing Capabilities

The data warehouse will have modern data-processing resources including sufficient hardware to process the large datasets and complex analytics that are currently standard. These will include modern database technologies, business intelligence tools, machine-learning, predictive analytics, and other capabilities.

The State has recently started using a purely row-level storage RDBMS to a column-store and experienced dramatic improvements in processing speed. We would like to be able to continue to look at alternate storage methodologies.

Data visualization should be possible using state-of-the-art interactive tools, web browsers, report generation tools and be sufficiently flexible to allow for new methodologies to be included.

Open source tools as well as licensed and proprietary software will be accommodated as permitted by the State.

MedInsight was designed to be highly flexible and scalable. Our wide range of client sizes provides us with experience determining system specifications and capacity planning.

- Servers are sized with enough capacity to handle large datasets and with enough capacity to handle the anticipated number of concurrent users.
- Servers are sized with enough processing power to easily manage the complex analytics that are standard with the MedInsight platform and our software has the scalability to handle large data structures.
- The MedInsight system serves more than 4,000 users and over 300 clients.
- MedInsight databases contain over 9 billion healthcare records for 80 million members annually.
- Our current client base includes clients ranging in size from 10,000 to over 30 million members.
- Nearly all of our clients maintain at least three years of data, and we have several clients who have 10 years of data in their MedInsight data warehouse - and one client with 19 years' of data.

Milliman's virtual-cloud environment allows us to expand resources quickly and easily as capacity needs change. Each client's system environment consists of at least two separate servers dedicated to that client. Each group of client servers is in its own VLAN. A test server is used for load processing and testing enhancements. Data or enhancements are not transferred to the production server until they are fully peer reviewed. This also results in nearly no downtime on the production server.

MedInsight is built on the SQL Server 2016 platform, which provides significant performance and storage benefits over earlier versions. Most database processing will be performed on SQL 2016. Milliman also currently utilizes the Microsoft Analytic Platform System, which allows for rapid generation of detailed queries against the MedInsight database.

The MedInsight web portal leverages many groupers and analytic methodologies that the user can interact with visually via drag and drop technology. MedInsight integrates all data into a single analytic environment and applies top-down benchmarking analysis and detailed OLAP drill-down capabilities. The OLAP cubes allow the user to generate reports from the aggregate level to the detailed member level.

MedInsight's Query Express allows a user to directly access the underlying database and to create a variety of datasets, each with their own multiple variables. These datasets can then be joined with other datasets to model simple and complex interactions of the multiple variables. Response times are generally measured in seconds, which allow the user to efficiently model multiple scenarios.

The next generation of MedInsight Dashboards will be the interface around which we build our new MedInsight Portal. The Dashboard functionality uses the analytic power of the Ad-Hoc Tools (Cube Browser and Query Express) to tell complex stories around the different business problems our clients face. The Dashboards will include both a) recommended dashboards designed by our MedInsight consultants using their complex knowledge of the healthcare industry, and b) intuitive front-end functionality that allows users to create their custom Dashboards to support their organizations' unique business needs.

Finally, the MedInsight Data Confidence Model is a proven process that ensures the health care data collected for VHCURES is accurate, reliable and understood. The Data Confidence Model is a combination of process-oriented data intake, robust quality audits, data certification, and rigorous peer review; it ensures that the analytics that clients produce from the MedInsight analytic software are derived from the most complete and accurate data possible. It is intended to be participative and to be used as a communication tool among data submitters, builders of decision support systems, and analytic end users.

#### 5.4.4 Data Management

The data warehouse solution must include staffing and resources to perform the functions associated with processing data access requests from state and non-state entities. It is expected that much of the processing flow could be automated such as using workflow management tools. The use of online document management and e-signatures is highly desirable.

A secure but non-data warehouse web portal for use by authorized data users and the State would be beneficial. Note that the Data Management functions are not located within, or subject to the restrictions of the data warehouse. All data held within the Data Management area will not contain PII/PHI.

The data management functions may include:

- Receiving requests for data release including actual VHCURES limited data sets, reports, ad-hoc analyses, informational queries about VHCURES.
- Handling the interaction with requestors and any necessary State actions.
- Managing data Applications (formal requests for data)
- Gathering required supplemental material for the Application (contracts, IRB documents, non-State authorizations)
- Constructing Data Use Agreements for execution by the State and other required entities
- Obtaining personal Affidavits for individual users
- Cataloging all data queries and supplying them for review before execution
- Providing first-level review of query results (reports, products) and passing to the State for approval
- Performing periodic status checks on Agreements, Affidavits, Certificates of Disposition

For other state APCD clients, Milliman has provided the following data management services:

- Receive data request from outside parties
- Post updated versions of public use provider files to the project website on a quarterly basis
- Maintain a list of all interested parties, including those who have received the data in the past, and notify those parties by e-mail each quarter when a new data file is available or if a replacement of a previous data set is produced
- Post a list of all recipients on a publicly accessible website



- Upon notification in writing by the state APCD client, supply custom data file extracts to approved outside parties for research purposes
- Provide sufficient file documentation for use by the recipient, including customized file naming standard, format, file record layouts (including data element name, element description and type) as well as inclusion of the complete file documentation as supplied to the state APCD client
- Provide support to the recipient/researcher as needed with technical questions related to the extracts and data elements
- Post a list of all recipients on a publicly accessible website including a summary of the intended research.
- Create a written quality assurance process to verify that the data extracted conforms to the extract specifications, with updates as problems are discovered
- Notification of all data recipients of any extract, created for either public use or research purposes that was later identified to have issues, due to processing or submission error, that significantly affects its usefulness and/or completeness, with a description of the issues and their potential impact and an offer to send replacement data
- Maintain a tracking system for researchers receiving data on an ongoing basis to insure those researchers receive timely notification and provision of new periods of data that are available or replacements of prior periods
- With the usage of the MedInsight Analytic Reporting Platform, to prevent the abuse of the data, monitor an individual's usage patterns to identify any variations from the approved data use agreement
- Provide to the state APCD client with any additional information, data, or technical assistance as may be needed in order to improve the future resources involved in efforts to provide access to the data

#### **5.5 Public use data and/or analytic files**

As part of the goal of increased transparency and to provide additional benefits to researchers, publicly available datasets should be produced. There is currently a separate effort by the State to construct these but the capability should be maintained during the lifetime of the VHCURES APCD.

Datasets may include aggregated analytic files and/or de-identified sampled data that can be used for research and analytics. Synthetic datasets may be considered to assist in development of software and algorithms outside of a secure environment.

Milliman has healthcare technology consultants and business analysts that regularly assist our clients with the creation of standard and custom reports and dataset generation (including public use files). In addition, Milliman has established automated data extracts for a number of our clients. This automated system makes available a full or incremental database for use within the client's environment. Pre-defined extracts are typically set up to automatically generate at the time of data refresh.

In addition to the standard reports and custom report requests, an additional function that GMCB could offer would be to allow authorized internal or external users to have direct access to the MedInsight Analytic Reporting Platform reports, dashboards, and cube query functions as described below. MedInsight client, Virginia Health Information, has implemented this approach through a formal subscription process. The data tables and system functions made available to potential users would be controlled through a role based security process determined by GMCB. In taking this approach, it would offer the potential users the ability to create hundreds of reports themselves rather than having a fixed number available. As part of the access function, Milliman would need to provide training sessions for the users.

If this approach is used, concerns regarding the indirect identification of individuals can be addressed by adding language to a Data Subscriber Agreement, which states that a data subscriber is prohibited from using other data sources, including knowledge retained by the individual subscriber, to indirectly identify an individual, or if the data are presented too granularly to the general public. GMCB would need to review and approve any public facing reports or websites utilizing the VHCURES data through this function. As an added safeguard to prevent the abuse of the data, Milliman also has the capability to monitor an individual's usage of the MedInsight Analytic Reporting Platform.

The MedInsight Analytic Reporting Platform, which is an established, integrated data warehousing, decision support system and reporting tool, was specifically developed for the healthcare market. This comprehensive healthcare data repository and performance system is used today by some of the nation's leading healthcare organizations. Milliman's

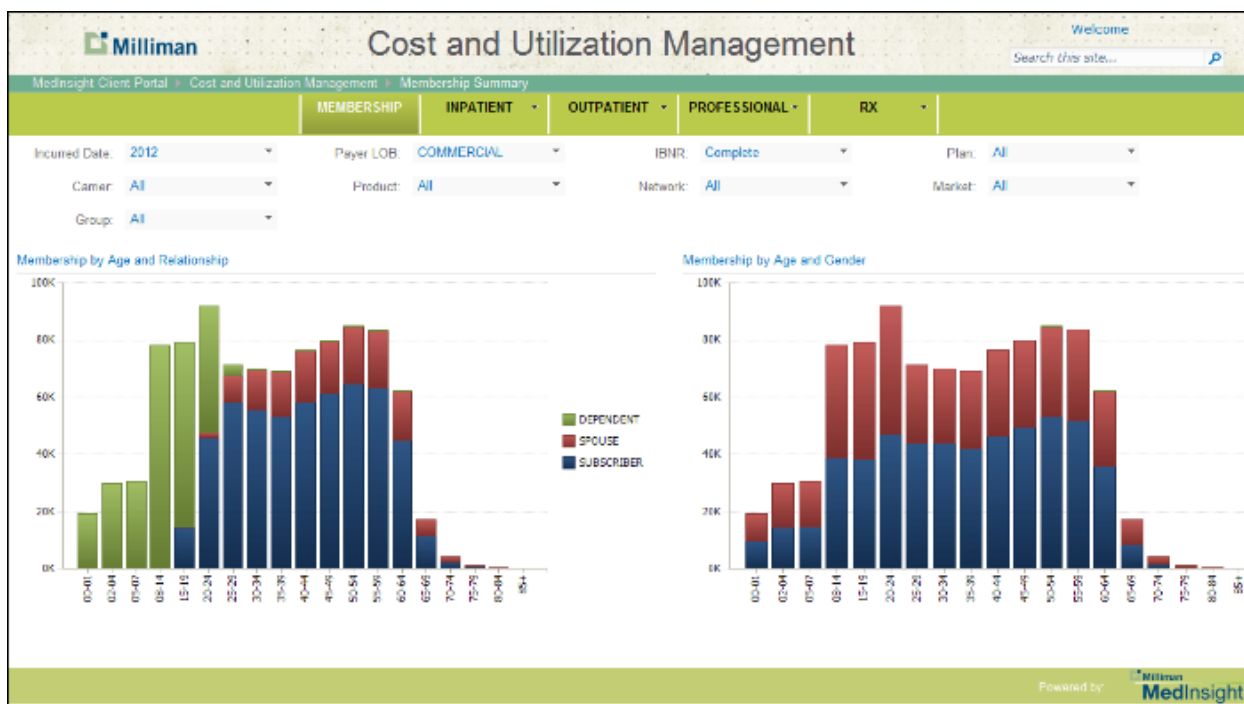
MedInsight product group has been implementing and supporting the use of its enterprise data warehouse and decision support solutions since 1997. Further, we have been implementing and supporting MedInsight for state APCD and community coalition clients since 2006.

Some of the features of the MedInsight Analytic Reporting Platform are as follows:

- Uses a SharePoint-based portal interface that contains a consistent look and feel across multiple portals
- To accommodate multiple user profiles, uses a roles-based protocol to standardize rights management
- Has the scalability to handle large data structures using a virtual cloud environment.
- Includes over 100 standard dimensions for stratification and/or filtering of the data for analysis
- Can configure the platform through client-defined dimensions in each subject area to meet the business needs of each client
- Customized training provided for clients using submitted data
- Data can be refreshed within less than 30 days of receipt of new, acceptable data from data submitters

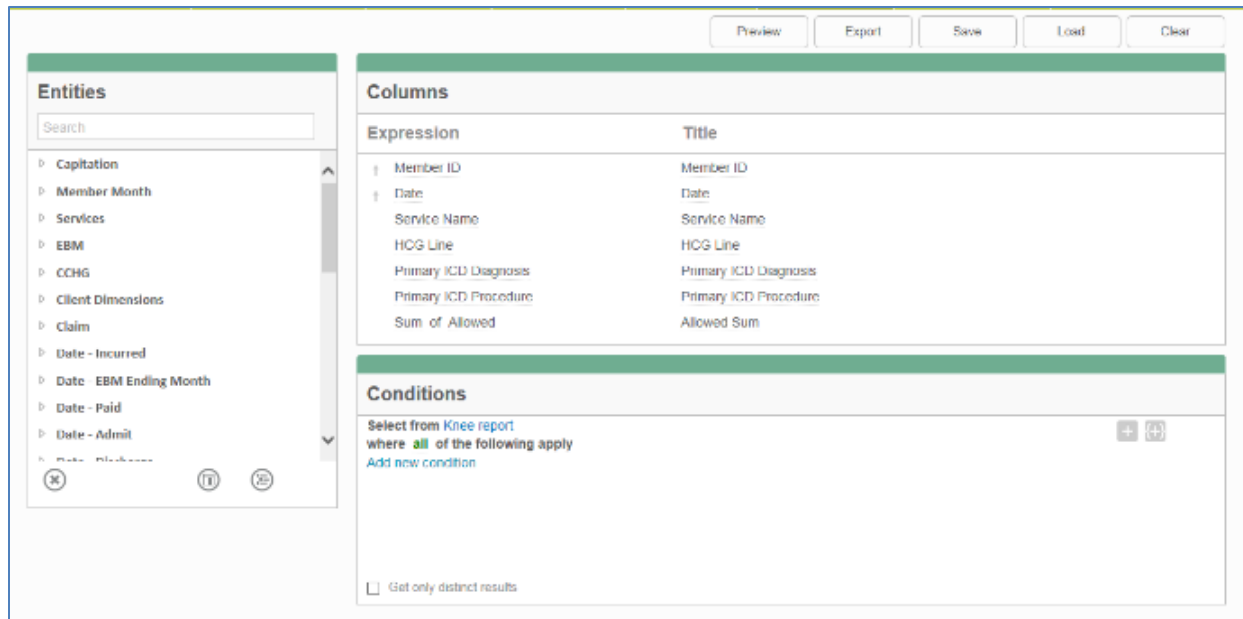
MedInsight contains a wide array of reporting and analytic tools. One tool does not fit the needs of all clients and therefore we supply several tools that fit different user groups, which include the following:

**Dashboard** - A dashboard containing high-level indicators is available. The dashboard is accessible through the MedInsight web portal, allowing the user to drill down within the dashboard metrics and images. Standard dashboard subject areas are Membership, Inpatient, Outpatient, Professional and Pharmacy, and further, dashboards may be configured to meet the GMCB reporting needs and requirements.

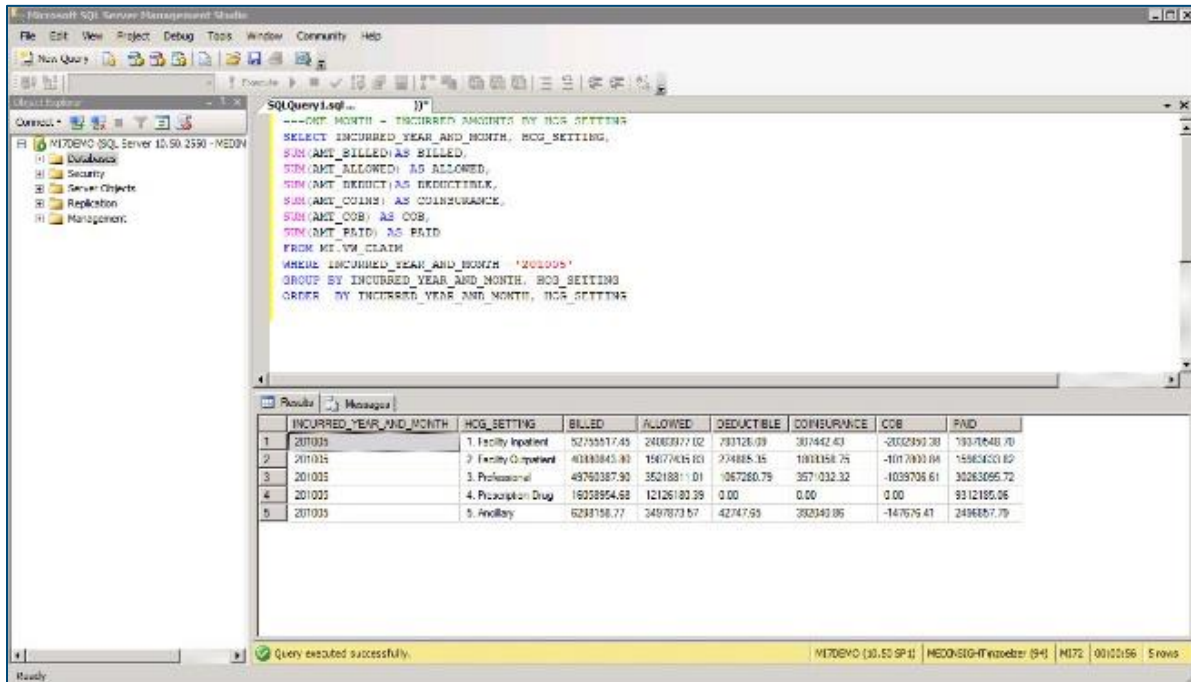


**Standard parameter driven reports** - There are a wide variety of standard pre-formatted reports that are available for secure access via the internet. The 100 plus standard reports are all parameter driven allowing the user to choose how the data is grouped and the time periods reported on. All standard reports can be viewed on line, printed to a local printer, or converted into a PDF. In addition, data or reports can be distributed in a variety of formats (i.e. Excel, PDF). Users can fill in a limited number of parameters and run a new version of the reports on demand. These reports are optimized and usually run within 15 seconds to a minute.





**Advanced Access Capabilities** – While not required in order to take advantage of the robust reporting and querying capabilities within the MedInsight Analytic Reporting Platform, Milliman provides an optional desktop application to authorized MedInsight power users that allow for data query to be performed using Microsoft SQL. The application resides on the user's computer desktop, and allows for access directly into the underlying MedInsight database. Authorized users may save generated reports and queries.



## 6 Other Considerations

### 6.1 VHCURES Rule Changes

The current VHCURES Rule H-2008-01 has been in effect for close to a decade and many changes have happened in the landscape of APCDs. To address these changes and to prepare for future enhancements, the VHCURES Rule is undergoing revision.

If the GMCB will be revising VHCURES Rule H-2008-01, it should consider adopting the NAHDO/APCD Council Common Data Layout, which was created at a national level with input and consensus from multiple state agencies, national health care payers, and vendors.

### 6.2 Lock-Box for Master Person/Provider Indexes

The VHCURES 2.0 RFP initially considered the use of a third-party implementation of a lock-box to further protect patient/provider identities. This may still be an option worth considering but it is not a statutory requirement.

As discussed previously, Milliman has robust Master Person and Provider Crosswalk systems to create Master Person and Provider Indices. While we understand that it is of the utmost importance that an individual not be identified (directly or indirectly) from the VHCURES data, it is unclear to us what the benefits are to using another vendor to crosswalk and convert identifiable data to a unique non-identifiable number, and then provided to the payer for inclusion in the data files. It adds another level of complexity and cost to the administration of an APCD. The same outcome could be accomplished by having the data collection/processing vendor receive a member's direct identifiers, place them behind a firewall, run a crosswalk, and then create a unique, non-identifiable member number to populate a Master Person Index, which will be used as the data files are created. The identifiable member data would be kept isolated from all users (unless the GMCB has the statutory authority and need to access it).

It is unclear why the GMCB would consider using a "lock box" approach to creating a Master Provider Index when the legal protection of identifying individual providers is much more limited in scope and the process of assigning unique identifiers to facility providers is so complex. Milliman has used the services of third party vendors in the past to assist with provider identification and linking individual practitioners to group practices or hospital systems and concluded that it was more effective/accurate to use the provider information found in the claims data submissions to create a Master Provider Index.

### Index.6.3 Proprietary/Licensed versus Open-Source Software and Products

It is the expectation that most of the implementation of VHCURES 3.0 could be achieved using open source or licensed software. The goal is to be able to maintain and sustain the effort without relying on proprietary solutions. These proprietary solutions are frequently costly and run the risk of becoming obsolete when platforms are changed.

As stated previously, Milliman's MedInsight product group has been implementing and supporting the use of its enterprise data warehouse and decision support solutions since 1997. We have been implementing and supporting MedInsight products for state APCD and community coalition clients since 2006. During that time period, many thousands of man-hours were spent, and hundreds of thousands of lines of code were written to create the products. While we understand the point of view that the GMCB would rather "own" a product that it has paid for by having it be open source software, having access to the code does not necessarily result in a product that would be easily operated, maintained, and upgraded by the State of Vermont or a replacement vendor. The system Milliman has created is enormous and takes a number of individuals with specific IT skills to make it function properly and to provide specific alterations for each client on an as needed basis. Milliman has provided the detailed logic of its systems to other clients and would be happy to do so with the GMCB.

### 6.4 Collaborative Implementations

As more and more states are implementing APCDs it is becoming increasingly clear that there is room for collaborating with other states on portions of the VHCURES 3.0 implementation. The State would welcome any suggestions on opportunities to partner with states or cooperate to provide improved solutions.

## Milliman

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Milliman currently has three state APCD clients (Oregon Health Authority, New Hampshire Department of Health and Human Services, Virginia Health Information) and three community coalition clients (Midwest Health Initiative, Pacific Business Group on Health, Washington Health Alliance). It has been our practice to share information and apply best knowledge gained with one client to all clients. Milliman has also been a strong supporter and participant in NAHDO and the APCD Council.

With regard to specific opportunities for partnerships or cooperative ventures with other APCD states, we would suggest contacting the appropriate agencies to learn more about the following:

The Oregon Health Authority has spent considerable time trying to identify and collect data held by the payers that is associated with alternate payment methods and to determine how it can be integrated with the claims data currently collected to better understand the cost of health care as pay for performance diminishes in the market place.

Virginia Health Information has implemented a process that allows individuals (providers, payers, employers, and other state government entities), under strict data use agreements, to directly access their APCD data through secure portals with the ability to create a large number of analytics and reports according to their needs.