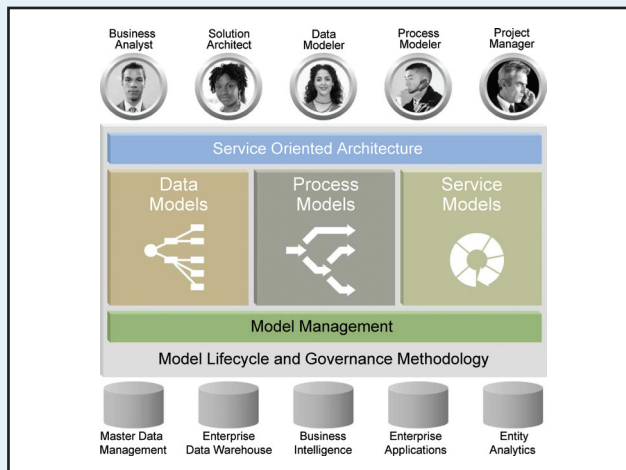


Executive summary

While change is a constant in virtually every industry today, few industries are changing as rapidly as the health care industry. As the transformation to a consumer-centric business model continues to gain momentum, the health care industry could see more change in the next three years than it has seen in the last thirty.

The consequences of this transformation are far-reaching. Added to the ever-present challenges of cutting costs, improving the quality of care and keeping pace with regulations, there are greater demands on health plans to stay ahead of the competition—by offering new products and services, anticipating customer needs and providing superior service. This in turn depends on a deep knowledge and understanding of members, providers, brokers and partners, and finding new ways to deepen existing relationships.



IBM Industry Models speak the language of business.

But for many health plans, the information that is critical to understanding customers and operations is not easily accessible. While there's no shortage of data, it's often spread across numerous information silos and in multiple formats, making it nearly impossible to turn this information into the type of actionable insight that can drive competitive differentiation.

The Health Plan Data Models from IBM provides a blueprint for a comprehensive data warehouse and the business intelligence applications that run on it, as well

as the foundation for an operational model based on data architecture best practice principles. This executive brief discusses how the Health Plan Data Models can help you establish a platform to gain a more complete understanding of your members, providers, partners and thereby help you choose the best strategies for:

- *Aligning IT with business goals.*
- *Offering differentiated products and services.*
- *Streamlining administrative operations.*
- *Facilitating compliance measures.*
- *Promoting effective decision making.*
- *Encouraging environmental evolution.*

Industry models for health care

Achieve greater insight for greater profitability

Faced with so many challenges, health plans have responded in a number of ways to try to lower costs—from consolidation through mergers and acquisitions, to reducing benefits levels. At the same time, they've sought to gain critical customer insights by implementing one or more data warehouses or data marts to gather information.

But these efforts are no longer enough. Many health plans have simply outgrown the functionality and effectiveness of their current data models, and cannot achieve the level of data analytics capabilities necessary to fully understand the broad range of activities conducted by its consumers and operations. And as we move into an age of consumerism, particularly in an industry where there are multiple consumers—member, employer, provider and broker—the need for data is critical.

What is needed to meet these demands are innovative solutions that can provide the foundation for a broad range of query-based and real-time business intelligence activities that can effectively integrate and analyze information from a wide range of data sources. The foundation needs to be robust enough to support current needs and extensible and scalable enough to support future requirements that may still be unknown. The bottom line is that health plans today need the business intelligence capabilities that will enable them to respond and get in front of anticipated and unanticipated changes that are expected to occur in this dramatically dynamic market.



Yet health plans typically lack an integrated and conformed analytical information space that can effectively extract meaningful information from a wide range of disparate data. Instead, collecting and analyzing the data often falls on the knowledge worker, who must:

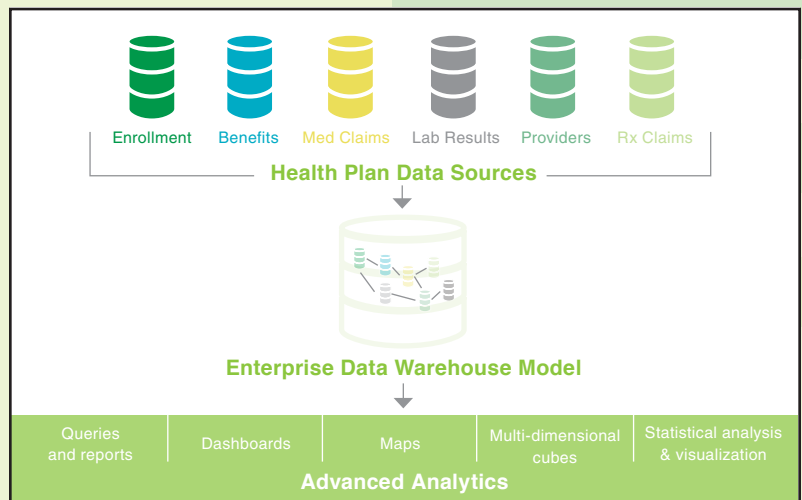
- *Access multiple applications and databases, such as multiple claim systems.*
- *Find and interpret disparate data from multiple sources of information.*
- *Perform manual calculations to find out information, such as how many additional costs are incurred for out-of-service plans or formulary medication spending.*

Business Solution Template Focus Areas	
Sales and Marketing	<ul style="list-style-type: none"> › Campaign › Brand/Product Marketing › Product Management › Retail Sales
Membership	<ul style="list-style-type: none"> › Members Service › Member Retention
Provider and Network	<ul style="list-style-type: none"> › Provider Performance and Quality
Medical Management	<ul style="list-style-type: none"> › Disease Management › Utilization Management › Pharmacy Benefits
Claims	<ul style="list-style-type: none"> › Claim Handling › Disbursements › Claims Adjudication › Co-Ordination of Benefits › Claim Recovery
Financials	<ul style="list-style-type: none"> › Underwriting › Profitability

Key performance indicators help to quickly specify reporting requirements.

Industry models for health care

A robust data model that is extensible and scalable to fit a health plan's unique environment offers significant competitive advantage through the ability to create an analytical data store that connects to all of your critical data, across disparate systems and formats, across diverse departments and other data providers. It helps you build a dynamic analytics world, where data collected internally and externally is used to determine how to arrange, align, deploy and improve services to members. It forms the foundation of a true Information On Demand infrastructure—where trusted, relevant information is available to the people who need it, when they need it, so they can make better and more timely decisions.



The models lead to an integrated view of health plan information.

In short, it provides the foundation for deeper insights, enabling you to more easily:

- **Understand members and groups**—Meeting the demands of members and sponsors requires a careful evaluation of the service and programs you deliver. By doing so, you can discover new ways to reach them—from incentive programs for behavior modification to medical advocacy and disease management programs.
- **Understand providers and networks**—With deeper insights, you can more clearly evaluate the performance and quality of contracted providers. The first step toward pay-for-performance programs, you can identify high-performance networks and achieve greater pricing transparency.

- **Improve claims handling and adjudication**—Analyzing claims processing information, benefits management partners and claims processing vendors can help you identify areas of underperformance, overpayment, and fraud and abuse. With this information in hand, you can take corrective action to minimize risks and revenue leakage and help:

- **Utilize more clinical data.**
- **Improve auto-adjudication rates.**
- **Provide point-of-service adjudication.**
- **Improve member liability calculations.**

Industry models for health care

- **Improve medical management**—The more granular the information you have, the better chance you have of understanding the ways medical care is utilized. The ICD-10 standard—created and adopted by the World Health Organization (WHO) in 1994—already offers greater detail to improve analysis. With effective analysis technologies to more effectively stratify members, you can build on this information to identify areas for targeted programs, e.g., identifying high-risk patients to support care and disease management.

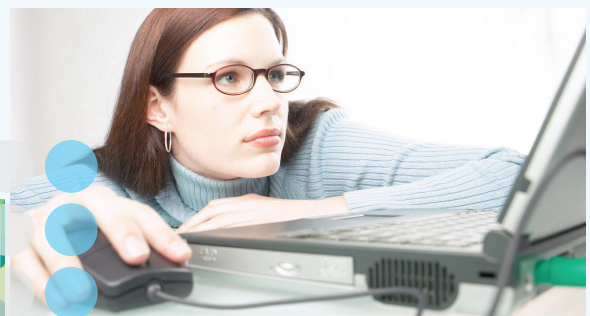
- **Offer new products and services**—Analyzing and comparing the effectiveness of customer and product promotions and sales can help you better determine how to differentiate offerings. When you understand the activities of members, you can categorize them to better understand patterns of utilization, fine tune underwriting, and craft new consumer-directed products and services to reach new market areas such as medical tourism and retail medicine, while improving member retention along the way.

- **Improve underwriting and profitability**—Analyze products, features and return on investment and risk factors to better inform decisions on underwriting a product or group. Or perform actuarial financial analysis to determine rates and premiums for products. By doing so, you can speed the transformation from a product company to a services company and position your organization for rapid margin growth.

A blueprint for success

The only thing more critical than having the right data warehouse solution is how you implement it. The more you can reduce the time and cost required upfront, the greater value you can achieve. The platform-independent Health Plan Data Models offering contains thousands of hours' worth of development effort and expertise to help business users and IT staff implement an enterprise data warehouse on time and on budget.

The Health Plan Data Models offering builds upon the market-leading IBM Insurance Application Architecture offerings for life, property and casualty insurance firms, but are designed exclusively for the health plan industry. The models provide a glossary of requirements, terms and concepts that can be clearly understood and communicated by both business and IT, thereby helping to accelerate project scoping, appropriate reporting, data quality and data requirements and identifying sources of data. Ultimately, it acts as a blueprint by defining the structures necessary to build an effective data warehouse and provides health plan managers with critical pre-built reporting templates that offer a wide and deep view of their business through key performance indicators and other measures.



Industry models for health care



With the IBM Health Plan Data Models, it becomes easier to more accurately analyze cost per insurer, evaluate cost against quality of care and measure the effectiveness of fee-for-service programs. Even seemingly overwhelmingly tasks like providing a complete audit trail of care management from delivery to outcome become simpler.

Some of the key components include:

IBM Health Plan Data Model

The IBM Health Plan Data Model is an enterprise-wide framework that defines how multiple sources of data should be consolidated into a single, extensible and scalable structure that enables the use of creative business analytics to extract useful information from a large array of data sources. The solution delivers an enterprise-wide vocabulary of more than 1,000 healthcare business terms to support requirements gathering and provide common semantic definitions.

Health Plan Data Warehouse Model

The Health Plan Data Warehouse Model is designed to deliver more than 80 percent of the data structures typically needed by a health plan for a comprehensive enterprise data warehouse. Independent of any particular account, product, organization or channel hierarchy, the physical data warehouse database definition can be automatically generated through the use of a modeling CASE tool such as ERwin or Rational Data Architect. Once generated, the model is designed to be highly extensible and adaptable to accommodate current customizations and future needs. So, as the payer environment transforms from a product-based business model to a service-based business model, the HPDW will be there to support virtually every phase. And as health plan industry requirements change, the HPDW can continually expand to accommodate them without causing disruptions to existing model customizations.

Health Plan Business Solution Templates

The Health Plan Business Solution Templates consist of numerous best practice key performance indicators that enable business managers to quickly and easily specify analytical reporting requirements that form the basis of reports and executive dashboards. The templates are grouped into focus areas and provide the framework to rapidly define and deliver high-value business intelligence applications.

You can implement them in phases—choosing the capabilities that can benefit your business the most today, then build out more as your needs change. Business users can also easily work with the templates to specify their own analytic reporting requirements. The solution templates feature data mart designs for the following business areas:

- *Claims handling*
- *Claims adjudication*
- *Claims recovery*
- *Disbursements analysis*
- *Coordination of benefits*
- *Campaign*
- *Brand/Product marketing*
- *Product management*
- *Retail sales*
- *Member service*
- *Member retention*
- *Provider performance and quality*
- *Disease management*
- *Utilization management*
- *Pharmacy benefits*
- *Underwriting*
- *Profitability*

The IBM Health Plan Data Models can help reduce the risk of implementing a data warehouse while considerably reducing time and cost. Key benefits:

- Enables business users to easily scope and customize their own requirements
 - Facilitates step-by-step, business-focused development and rollout
 - Delivers regularly updated business, technical and regulatory content
 - Manages definitions and standards in complex IT environments
 - Sets the foundation for real-time analytics model
 - Data architecture based on data modeling best practices
 - Is aligned with Master Data Management and SOA strategy going forward
 - Is continually updated to reflect changes and trends in the healthcare industry
-

Get flexible

With their strong business and IT orientation, the IBM Health Plan Data Models can be customized to reflect the exact needs of every company using them, including the areas that are specific to their business and unique competitive advantages. Even more important, the models are flexible enough to evolve with the ever-changing requirements of the health plan industry. Unlike proprietary solutions, the open standards-based health plan data model solution makes it easy to build out additional features on demand and readily accommodates extensions.

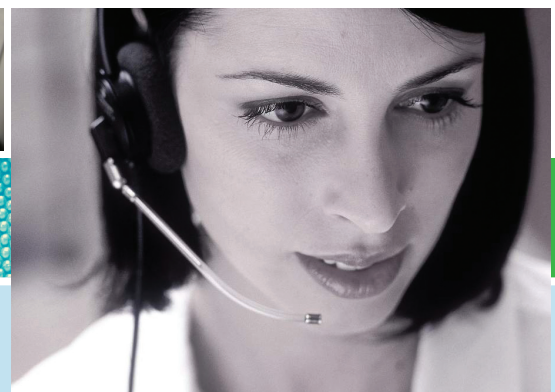
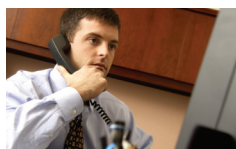
Summary

The Health Plan Data Models from IBM reaches far beyond simple data gathering. It offers a significant competitive advantage through the ability to continuously process data, from member information to medical care utilization, and transform it into information-led business initiatives. By unlocking information contained in individual applications and repositories from a variety of vendors and making it readily available to the people and processes that need it, the Health Plan Data Models from IBM get you one step closer to a true Information On Demand infrastructure.

Health Plan Data Warehouse Solution

This comprehensive solution offering exploits a range of components from across the IBM software platform as well as best-in-class Business Partner applications. These include some or all of the following:

- *IBM Information Server*—for delivery of trusted, consistent and reusable information
- *IBM DB2® Data Warehouse Edition*—integrated platform for dynamic data warehousing
- *IBM WebSphere® Customer Center*—real-time, transactional customer data integration
- *IBM Rational® Data Architect*—enterprise data modeling tool
- *Business Intelligence applications*—tools from IBM Business Partners



Why IBM?

IBM has spent decades helping businesses generate, manage and extend their enterprise data warehouses, and offers extensive health plan expertise and industry best practices, as well as leading information management solutions. Employing more than 1,500 consultants and service professionals dedicated to data warehousing and data management, IBM is ready to help you:

- *Lower your total cost of ownership by exploiting open standards architectures.*
- *Streamline operations by automating administration of your information infrastructure.*
- *Leverage the latest hardware and software technologies, as well as health plan best-practices information services.*
- *Minimize risk and improve time-to-value with proven results.*
- *Maximize results across your enterprise.*
- *IBM rated number one in business intelligence by Gartner in 2006.*

For more information

To find out how IBM can help you start unleashing the power of your enterprise information, contact your IBM representative or IBM Business Partner, or visit: ibm.com/software/data/ips/products/industrymodels/.



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