

Primed Platform: Supports More Complex Analytics and Speed to Market

Expectations of health care analytics platforms have evolved considerably over the past several years. While this is true for well-established organizations, startups also need to come to the table with a matured analytic capability out of the gate to compete in today's fast moving and ever-changing business environment.

Why is this the case?

In the past, health care business analytics was primarily about reviewing data, comparing it to previous time periods, reporting on performance trends, and identifying areas of opportunity based on retrospective analysis. Today, there is a requirement for more sophisticated and interactive questions of the data. New analytic capabilities are now expected to invite data exploration aimed at uncovering previously unobserved relationships for the purpose of solving a specific set of business problems and discovering new opportunities proactively through predictive analytics.

Emergence of Predictive Analytics

Health care organizations are increasingly generating large amounts of data to better understand their business, their customers, and their markets. Abundance of data alone, however, will not position these same organizations to capture and leverage emerging trends and opportunities. The challenge is finding effective and efficient ways to consolidate and transform disparate data sources to generate meaningful insights that can anticipate market developments in advance of competitors.

Consolidated data platforms must be primed and ready to support more sophisticated analytic demands. These new analytics seek ways to illustrate how various cuts of the data are related to each other and what the consequences of those relationships are. They are predictive (forward looking), usually relying on the ability to combine data from multiple sources and make that data available across the enterprise.

Types of Analytics Supported

- Describe, summarize and contextualize across disparate data sources
- Combine data to create new variables/metrics
- Identify relationships between and among new variables

Business Needs Addressed

- Discover unfulfilled customer demand
- Seek cost reduction opportunities
- Forecast outcomes
- Drive game-changing innovation and performance improvement

Fail Fast, Fail Early, Fail Often

There is also a growing need to accelerate the speed at which data is ready and available for analytics. Fast moving, competitive markets call for the ability to launch new initiatives quickly - iterating and learning/adjusting as close to real time as possible.

Creating the type of data platform to support more complex analytics can be a large investment for companies. As described in our previous article on [Primed Analytics Platform™](#), very often these analytic environments are transient (on-demand) yet require most of the data management overhead of full production environments. They tend to lie dormant for periods of time until the next business case activity is initiated, making it hard to justify ongoing costs to maintain.

How does DataWELL's Primed Analytics Platform™ Support More Complex Analytics and Speed to Market?

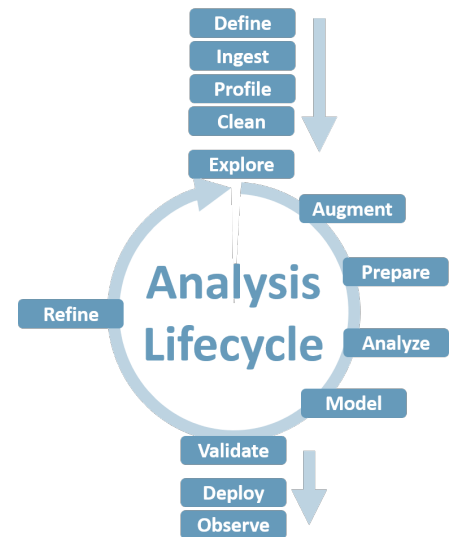
DataWELL's Primed Analytics Platform™ integrates the multitude of data sources within a business into an enterprise-wide analytics system. The raw data is ingested, structured, and transformed to be ready for reporting, analytics, and visualizations - all at scale - helping to quickly draw out relevant insights that inform better decisions. How well and how quickly your business can put data to work is dependent on the capabilities of your analytics platform and how well it is set up to support advanced analytics.

In this article, we continue to outline the key tenets of DataWELL's Primed Analytics Platform™ and illustrate further how we can help you design a solution that is easy to use, accelerates time to insights, and optimizes your IT spend. The emphasis here is on providing additional insights relative to the work involved in augmenting and preparing data for advanced analytics.

DataWELL's Primed Analytics Platform™ Defined

DataWELL's Primed Analytics Platform™ is comprised of contextualized data from one or more sources. It encompasses the overall structure, architecture, and data management to quick start analytics, as well as the processes around data enrichment and governance required to make it fully operational. Its primary benefit is its ability to empower analysts to get directly into the data to derive insights.

- Reduces time spent on data preparation, while integrating data from across the enterprise in a cohesive and secure fashion. Most of the effort involved in making the data from familiar sources ready for analytics is already in place.
- Data has been evaluated for validity, reliability, and completeness with standardized formatting, inaccurate entries, and other potential inconsistencies that can arise when datasets are being combined.
- Much of the work to provide required data governance and security protocols are in place.



Data Enablement and Management Layer

The team at DataWELL recognizes that an essential condition for reliable business analytics is the accurate and efficient consolidation and preparation of data for analysis. Many health care analysts have little to no formal training in data management, often causing not only excessive time spent cleaning data but also risk that the resulting dataset will

contain inconsistencies and errors. As organizations strive for gains in efficiencies in processing and analyzing health care information, the need for a common set of terminology and data standards become vitally important. All of this standardization paves the way to repeatability for ongoing and future opportunities for efficiencies. Further, as partnering and use of other third-party data become more common, this need takes on an even broader challenge.

DataWELL's Primed Analytics Platform™ solution mitigates that risk via implementation of data enablement and management techniques developed by our experienced technical and analytic teams. This results in saving savings for our clients in time and money. This platform provides an analytics dataset best suited to provide timely and accurate insights.

Here are some of the key tenets of how we accomplish this:



Establishing a Common Data Model

Why Important – Once the sources of data have been identified and gathered, they are ingested within the analytics platform and modified to conform to the standardized data model. The standardized data model includes a common format and representations (definitions, terminology, coding schemes) that allow for collaboration and systematic analytics; analytic routines that have been written based on the common format.

Challenges – Health care data can vary greatly across disparate sources and may be stored in different formats. For example, despite the growing use of standard terminologies, the same concept e.g., disease staging, may be represented in a variety of ways from one source to another.

Benefits – DataWELL's Common Data Model is not a "one size fits all" solution. It is designed to be flexible as business needs and sources of information change. Sharing knowledge and analytics across the organization will be enhanced by maintaining as much consistency as possible for variable naming, labels, and coding standards.

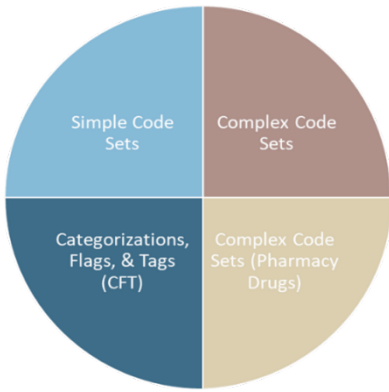
Data standardization is the process of converting data to a common format to enable users to process and analyze it. Getting there involved converting data into a uniform format, with logical and consistent definitions.

Not only will this help make your analytics and reporting easier from a security perspective, mindful cataloging forms the basis for a reliable authentication and authorization approach whereby security restrictions to specific data items and users may be established.

The Case for Master Reference Data (MRD)

Master Reference Data (MRD) is a special type of data. Much of MRD is essentially codes, for which the basic function is to turn other data into consistently meaningful business information. MRD provides an informational context for the wider world in which the business functions.

MRD provides common definitions across the business in tune with other parts of the industry and provides a common location for governance of business definitions. Some of the unique challenges addressed by MRD include complexity (complex reference data, such as hierarchical data sets often force transformations to be applied to the data before it can be efficiently used to its full potential) and versioning. Recording the history of changes can be time consuming to



design and apply appropriately. Further, data must be managed overtime as data sets from sources are updated on different frequencies.

Benefits of properly managed MRD include consistency among definitions, groupings, and categorizations of data in reports and other analyses, use of code formats (e.g., dates, leading zeroes in codes), and reference data across historical records.

DataWELL's Primed Analytics Platform™ solution alleviates pain points around MRD:

Versioning – All changes are retained for historical reporting over time. Frequency of updates is dependent on data source and can vary daily to yearly.

Collocation – All MRD datasets are collocated on the DataWELL platform alongside the data being used in analysis.

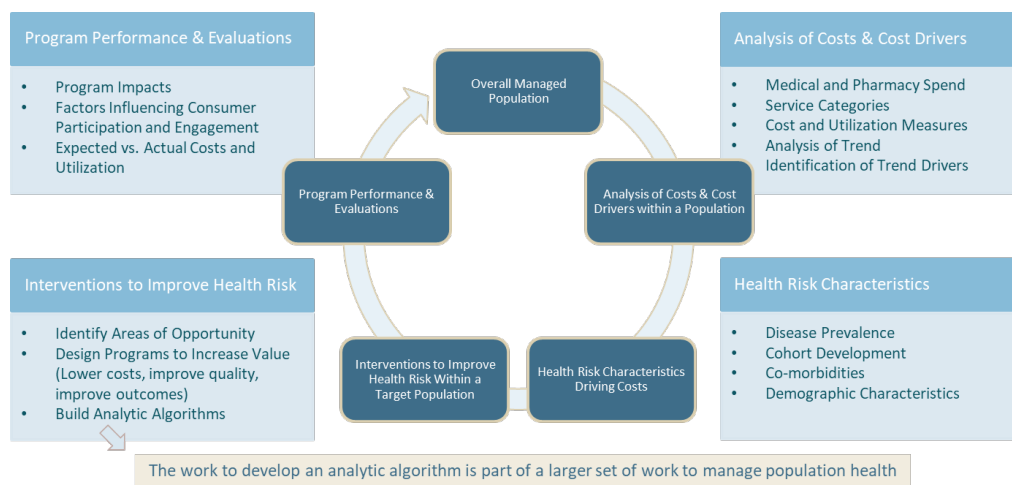
Standard Formatting – Data value formats across different data sources are provided in one standard format. Dates are consistently formatted, code values are padded with leading zeroes where appropriate, leading, and trailing spaces are removed from code values.

Simplified Structures – Hierarchical structures provided in appropriate layouts, for ease of loading and joining to datasets in report. Structures are available in denormalized form for easier table joins, when needed.

Analytic Building Blocks in support of Population Health Management

The analytics and technical teams at DataWELL have decades of experience in the health care industry and apply that knowledge to the creation of data models and data layers well suited and designed specifically for analytics in support of population health management. Effective population health management depends on accessing and analyzing a wide array of health care data from claims to electronic health records to holistically map an individual's health care journey.

Population Health Management crosses the divide between clinical and business/financial realms. While each piece of information can add a new dimension to the detailed picture of a patient's health, establishing the right units of analysis and common definitions for variables of interest requires an in-depth understanding of how health care is delivered and accessed. DataWELL has created a foundational set of analytic building blocks (definitions, categorizations, ...) that provide the basis for analyzing the drivers of health care cost and utilization for a population of interest.



DataWELL's health care data models and data layers reflect its experience working within the health care sector at both the payer and provider level, and from a business, clinical and analytics perspective.

- DataWELL's health care data model can encompass both standard and customized service categories to show components of medical and pharmacy cost and utilization. Measures can be created based on well-established industry standards, and/or can be customized for each client to match up with business case performance proof points related to specific population cohorts.
- Medical claim data is categorized by clinical condition, type of service and other measures of health status which can be used to create clinical cohorts that can be tracked over time.
- Unique patient records are associated with health benefits eligibility to establish consistent and reliable "denominators" so that subsequent measurements of cost and utilization are a statistically valid reflection of population cohort experience.

In summary, organizations (whether they be well established or just starting up) will be well served in today's fast moving and rapidly changing health care business environment, armed with an analytics database capability that is "primed" and ready to provide the level of "just in time" insights needed to be competitive. DataWELL's Primed Analytics Platform™ is a flexible and efficient solution that can serve as a cornerstone capability to jump start analytic maturity and speed to market.