



MDM Solution for Life Sciences

Business Challenge

Complex and ever evolving regulatory restrictions in pharmaceutical spend management against the backdrop of disparate expense systems and the need for keeping track of per-provider spending cap impose strict control and tracking requirements.

The Solution

MDM based robust solution helps consolidate information across all applications and makes data available for tracking against regulatory initiatives. Solution is designed to fit into the existing ecosystem thus maximizing previous technology investments.

The Benefits

Helps implement a regulatory framework to achieve spend control and optimization while reducing compliance costs and creating 360 degree view of the Physician data.

Pharmaceutical Industry Landscape

Managing information – specifically, managing consistent data content and definitions throughout disparate systems is a priority for any growing business. It is also a challenge as much as it is a priority due to the increasing diversification of systems and a lack of consistency in the use of master data.

Few companies have a greater need for superior data management than those operating in the pharmaceutical industry. Information related to products, customers, prescriber behaviors and clinical trials is the foundation for regulatory and compliance needs, successful research and development initiatives, forecasting capabilities, and well-targeted sales and marketing campaigns.

Moreover, there are very few industries that are as regulated as Health and Life Sciences in terms of marketing and spend. Health and life sciences companies in the U.S. have struggled with marketing disclosure regulations since the last decade, and continue to invest significantly to ensure compliance to the state-level or Federal mandates. Firms must now track and control all marketing expenditures that benefit health care providers, and do so with a high degree of specificity, or face expensive penalties.

Compliance and IT managers continue to grapple to find solutions to address existing and impending regulatory requirements. All of these regulatory issues share one thing in common namely, the need for reliable control of master data or key business data related to customers, products and locations. Current and accurate knowledge of customer demographics for physicians and patients and their marketing preferences and interactions with the company are no longer simply effective tools for generating new business, but rather are critical reference data required for managing regulatory reporting and compliance.

Today, master data management is considered a strategic business driver as it enables institutions to unify and consolidate data about their customers, products and organizations -- data that is often fragmented across different systems.



Regulatory Restrictions in Pharmaceutical Marketing

What Makes Compliance Challenging?

- Federal and State-specific regulations that health care and life sciences firms need to be compliant of.
- A whole slew of laws that influence and enforce the regulations.
- Requirement of tracking per-provider spending caps which call for meticulous record-keeping and cap compliance requirements.
- Need to track the per-provider spend and limit the spend based on various State and Federal limits by pharmaceutical companies.
- Need of pharmaceutical companies to report on spend per health care provider and document the company's capability to remain compliant and produce evidence at any time.
- The challenging and daunting backdrop of the disparate transactional systems architecture of most enterprises.
- Discrepancies or duplicates in the data which can result in the firm not being able to determine or identify a 'unique' provider record and thus be unable to track or limit the total spend on each health care provider at any given point of time across several payment systems.

Serene Approach to the Solution

- At the core of these compliance measures is the organization's ability to access current and reliable information related to a company's interactions with customers, their demographics and spend. Without having access to a central repository of reliable information, companies will find it very difficult to comply.
- Hence our approach centers on creating a centralized repository of best-of-breed physician data and related spend transactions. This will enable the system to accurately manage and report the spends on physicians as well as proactively detect and prevent non-compliance by continuous monitoring and alerting mechanisms. The solution framework is also specifically designed to take advantage of and fit into the existing enterprise spend management ecosystem.

Why MDM?

- Through MDM, the master data entities from different sources are cleansed, standardized, and business rules enforced upon them. They are de-duplicated through a match/merge process and the Best-of-Breed records are consolidated in a single repository. The hierarchies and affiliations between the master data entities are also maintained. The Data Stewardship UI can be used to maintain these master data going forward. Security and roles can be configured to enforce Data Governance. This best-of-breed Physician Master Data can then be published to the downstream applications in real-time, near real-time or in batch modes. Thus a 360-degree view of unique physicians can be achieved and used by systems and applications throughout the enterprise.

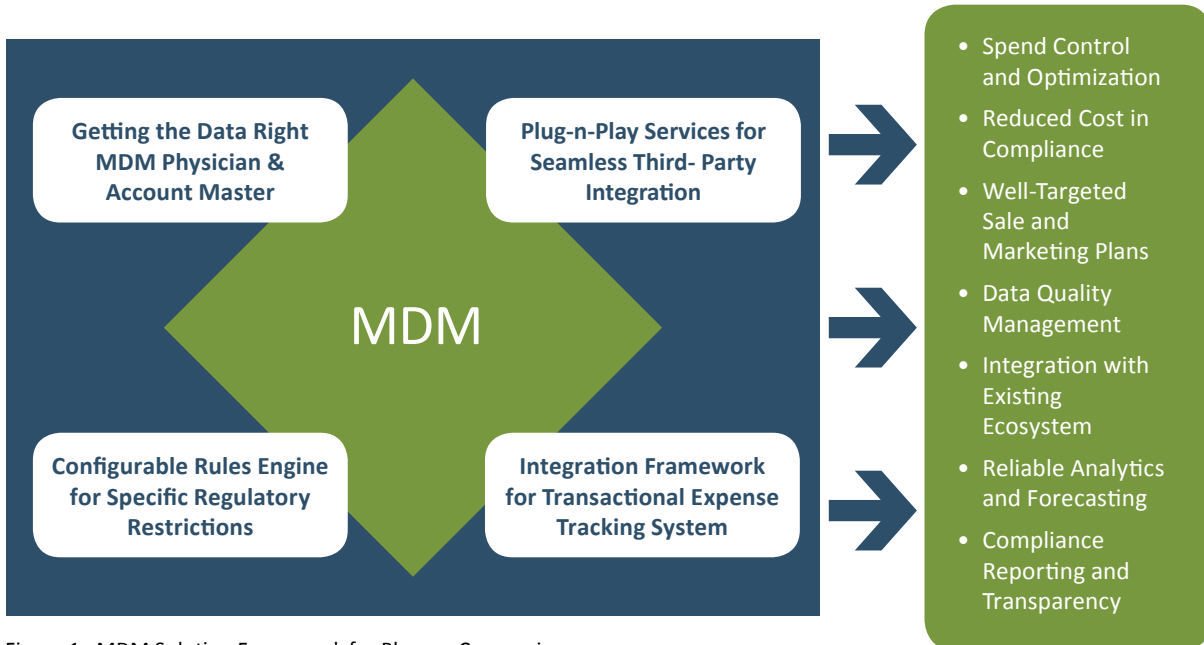
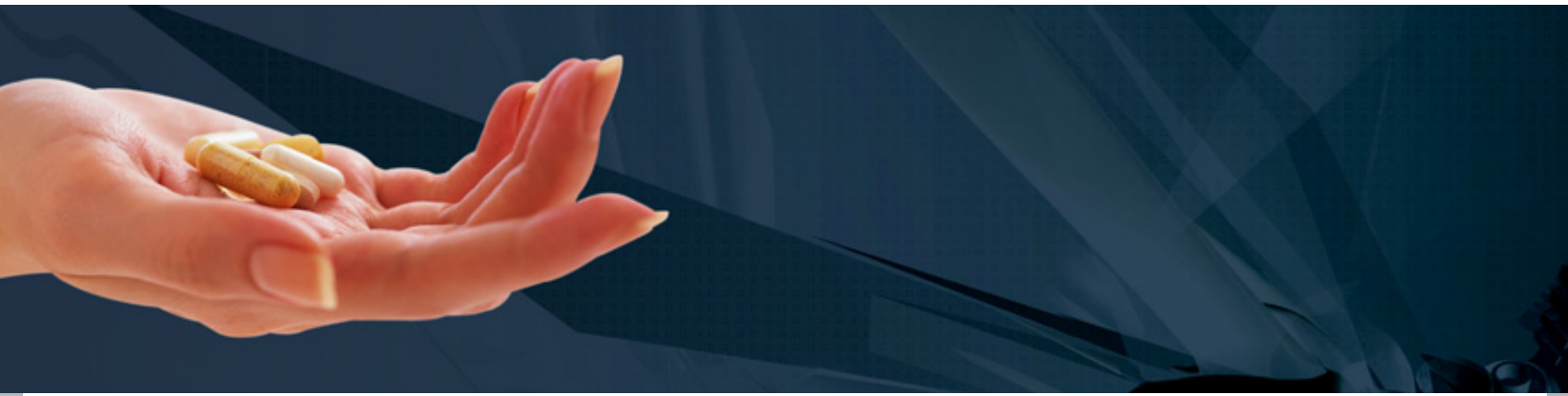


Figure 1 : MDM Solution Framework for Pharma Companies

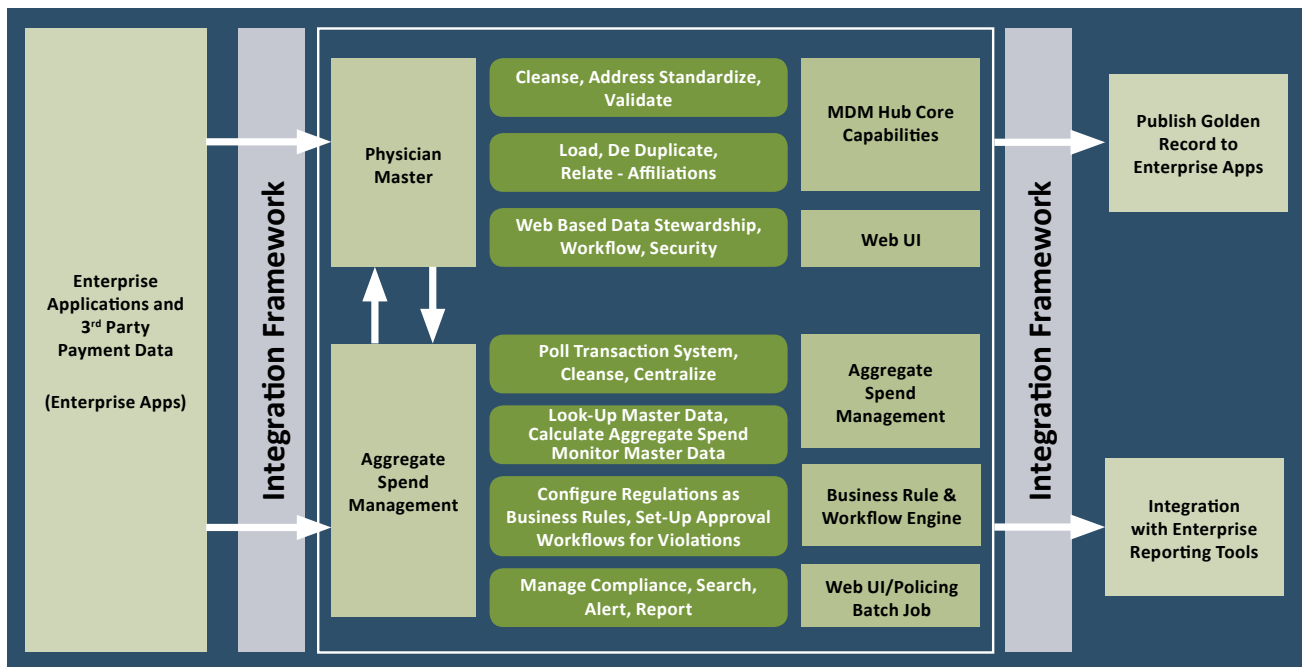


Figure 2 : MDM Hub Ecosystem



Feature Set

Physician Master

The solution includes a customizable built-in data model and UI in the MDM Hub to Integrate and Manage Physician Data. De-duplication and consolidation of physician data results in a single hub of high-quality consolidated physician information that can be referenced by all departments within the pharmaceutical company for marketing, business development, reporting and analytical activities. Spend per physician can be accurately calculated thus helping in meeting compliance regulations.

Cleanse, Standardize and Validate Physician and Address Information

For any pharmaceutical company, the quality of their customer data is of utmost concern and maintaining high quality and standardized customer data, one of their primary goals.

The MDM Hub will aid in this by cleansing and standardizing physician and address data based on a defined set of rules. The data cleansing and standardization requirements might vary from one source to the other and the system is designed to cater to the specific needs of each individual source. There is also provision for integration with external data quality tools for address standardization and validation which will also enable address parsing and address augmentation.

Integration with Third-party Providers for Enrichment of Customer Profile and Addresses

For any organization, customer data residing across its disparate systems is usually not the most accurate and reliable and valuable information is often observed to be missing from the customer profile. The need of the hour is to augment the source data with reliable, accurate and complete data from some external data providers (like D&B, HMS etc).

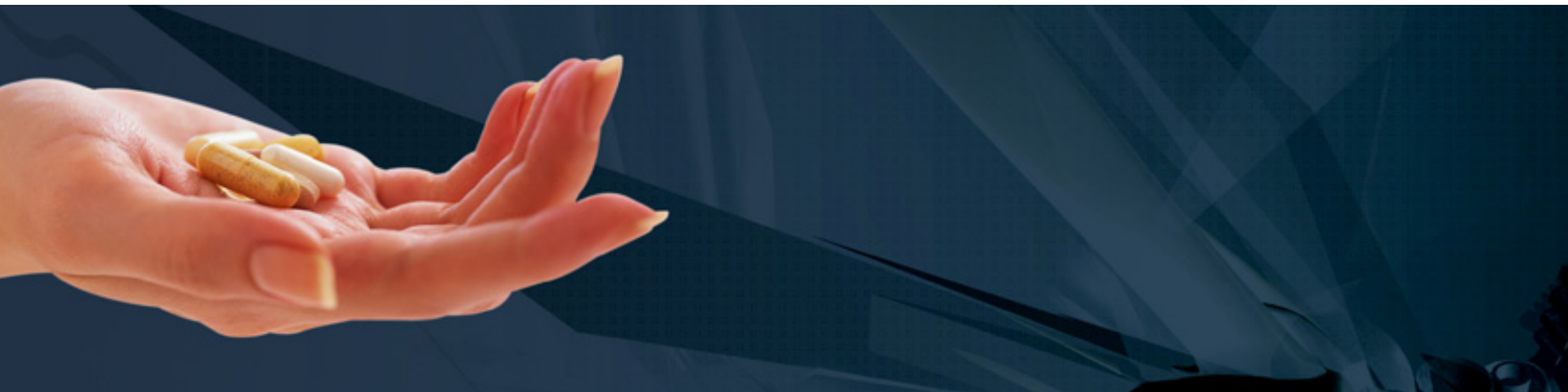
The MDM Hub can be integrated with external data providers for enrichment of the physician information as well as addresses associated with them. It thus provides a complete, consistent and accurate 360-degree view of the physician to the business.

Identification of Duplicate Physicians Enabled by a Scalable and Flexible Match and Merge Framework

The MDM Hub enables identifying potential duplicates by matching on a wide range of physician and address attributes. The system has both exact and fuzzy matching capabilities, and match rules can be configured with different scores or priority, leading to matched records being either automatically merged or queued for review and manual merge by the Data Stewards. The match results can be analyzed and if necessary, the match rules can also be tuned and tweaked thereafter to arrive at the optimum matching and performance level.

Physician Merge and Dynamic Cell Level Survivorship Based on a Configurable Trust Framework

As there are multiple sources capturing the same customer information, the accuracy and reliability of the information often



varies across source systems – there will be sources which are more reliable than others for certain customer attributes and less reliable for others. The idea is to capture the most accurate and reliable data from these disparate sources and thus arrive at the best-of-breed customer information.

The MDM Hub facilitates merging of duplicate physicians and creation of the best-of-breed physician profile based on a flexible trust framework where the reliability of the source data can be configured per attribute and dynamic cell-level survivorship enabled.

Affiliation Master Data

The MDM Hub centralizes and maintains affiliation relationships between health care professionals and institutions, as well as managed care providers, to drive key analysis and influence how business decisions are made.

Spend Compliance and Physician Master Data

For compliance managers to detect and prevent compliance violations, they need to track the total spend per physician and in order to do that, there must be a mechanism to identify duplicate physicians across disparate systems as one and the same.

The MDM Hub de-duplicates and consolidates the Physician Master Data, and is thus able to uniquely identify each physician across systems and accurately calculate their spend data.

Integration with Existing Transaction Systems or Aggregate Spend System

Since our approach centers around drawing on a company's compliance expertise to develop an understanding of critical risk areas for compliance monitoring in the area of aggregate spend, the solution provides a framework to capture, cleanse, standardize and store the transactional spend data from disparate systems like Sales Force Automation Systems, Field Expense Systems or 3rd Party Payment Systems within the MDM Hub

Business Rule Engine

The MDM Hub contains an expandable scalable 'Rules Engine' that can allow the compliance managers to define business and data-processing rules which can be applied to the aggregate spend and the physician's master data. Federal or state regulatory rules can be configured in the Business Rule Engine through the application UI and approved or modified according to a defined approval workflow.

Integration with Enterprise Reporting Systems

The physician/account golden record and aggregate spend information will be published to the enterprise reporting systems to help create a compliance dashboard which will present trends and information related to critical risk areas in a format that is easily understood by company management.



Proactive Spend Compliance Management through Prevention Alerts

Heightened regulatory restrictions necessitate compliance managers to anticipate potential violations – reactive tracking and reporting is of little use. Data Policing Batch Scripts can scan the enterprise spend and third party reference data against the configured business rules and effectively monitor and alert on potential violations.

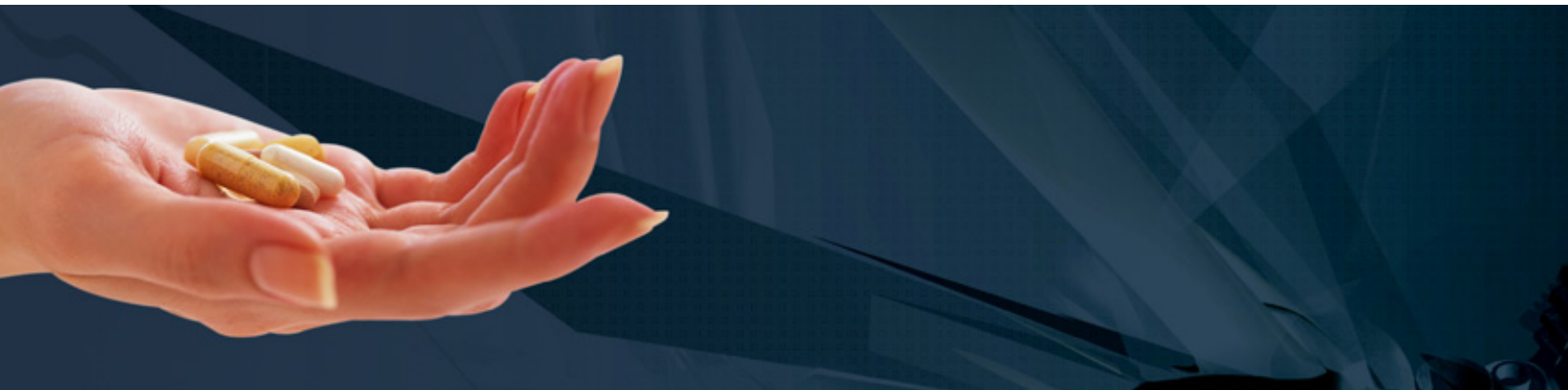
Plug-n-Play Services for Seamless Integration

The solution provides a scalable modular framework for seamless integration with third party or enterprise applications to reduce implementation costs and take advantage of the previous technology investments.

Data Governance and Workflow Approval

A web-based light-weight customizable UI helps to govern the data on an ongoing basis. Data Stewards can perform data quality and data governance activities and at the same time business end-users can view information related to physician profile, address, spend data etc. The solution offers a configurable workflow mechanism for quality control and approval. The UI can be used to:

- Search for a physician and create custom search query.
- View physician profile, related spends, view cross reference and history.
- Insert new and update existing physician profile.
- View, add and update physician relationships and hierarchies.
- Execute manual merge tasks and unmerge erroneous merges.
- Permit approval workflow to handle physician inserts and updates.



Business Benefits

- Understand a physician's value to the organization and assess the return on its investments in marketing and sales.
- 360-degree view of physicians achieved by the Physician Master solution to enable better analytics and business intelligence and result in more accurate and reliable forecasting.
- Authoritative and reliable physician information to help make effective business decisions and create better opportunities for cross-sell and up-sell.
- Reduced costs and efforts on regulatory compliance measures enabling companies to focus on core business.
- Rationalize and better allocate physician spending across functions, channels and brands to improve ROI.
- Meet regulatory and compliance requirements by managing physician spend data in a centralized repository enabling better control and accurate reporting.
- Proactively prevent non-compliance by continuous monitoring of physician spend data and alert responsible personnel/systems for those approaching cap violations.
- Enable an enterprise-wide Data Governance framework for managing the master data.

Serene Corporate Headquarters

3211 Scott Blvd, Suite # 201

Santa Clara, CA 95054

Tel: (408) 335-0077

Fax: (408) 884-2231

Email: pharma@serenecorp.com