White Paper

Master Data Management

How to Implement MDM in 12 Weeks

Tuesday, June 30, 2015

clarity solution group
How to Implement Provider MDM in 12 Weeks

The Health Insurance industry is faced with regulatory, economic, social and political pressures to control the high cost of care and is looking at various approaches to address these challenges. One of the needs at the center of these transformations is to understand trends and measure performance of their provider network.

Companies often find though that provider information is captured independently in multiple systems with the focus on addressing the needs of a specific system. Key provider attributes such as specialty, qualifications and location addresses are captured differently. There is no overall coordination between teams capturing or consuming provider information across the organization, resulting in duplicative effort and inconsistent/inaccurate information across systems. The organization suffers from lack of holistic understanding of their Provider network and inability to answer critical questions such as which providers are highly utilized vs ones that are not and what differentiates the highest performing providers.

Provider MDM (Master Data Management) is an ideal foundational solution to enable the organization to address these challenges. With the provider directory information being typically the primary touch point with the member, for payer organizations, provider data quality directly impacts customer experience. However, companies implementing MDM often find that they need to allocate significant budgets, resources and timelines toward the goal of achieving a data domain golden record. Whether it’s a business transformation program, or a point release along an existing MDM journey, these projects can drag on for years and cost millions of dollars. The average cost of an MDM implementation is about $7 million. These projects may involve as many as eight full-time associates and last as long as three years. However, companies investigating MDM should not be intimidated by these statistics. A streamlined, focused initiative can dramatically reduce these costs and result in far faster “time to value.”

Based on our recent experience, Provider MDM can be achieved at a significantly lower cost and duration than the industry average, without sacrificing the business benefits that come with a well-executed MDM system and process.

Background

This paper describes a recent initiative undertaken by a large health insurance payer seeking to merge provider data from multiple sources into one centralized repository to manage and govern the data for analytical needs. The mastered provider data was then exported to a Data Warehouse to enable enhanced analytics across a variety of business functions.

By having cleansed, matched and merged provider data, the company expected the following outcomes:

- The ability to measure member health status, health improvement and intervention management effectiveness.
- Establishment of a foundational environment that meets immediate, analytic/reporting requirements and can scale to accommodate future population health reporting and analytic requirements.
Our client company’s board of directors had identified these capabilities as strategic imperatives necessary for completion within a short timeframe. The company partnered with Clarity Solution Group to address these needs through a data transformation program. After completing detailed planning and analysis, Clarity successfully implemented an analytical-style Provider MDM solution in just 12 weeks. The Clarity roadmap to accelerated MDM is described in greater detail below.

The following timelines in our quick-turnaround MDM roadmap make the following assumptions:

- Duration estimates assume activities within phases occur simultaneously
- Development, testing and project environments are pre-established and tested
- MDM software, which is well integrated and easily configurable, has been installed and tested
- Other key software components are already installed and tested
  - ETL tools
  - Database
- High-level requirements are finalized and a well-defined manageable subset of providers, such as individual practitioners, is chosen for a first iteration
- No real-time operational integration is required
- Low to medium complexity data model (less than 50 attributes other than address data)
- Minimal complexity for leveraging business rules to create a ‘golden record’

With these prerequisites in place, most enterprises should be able to accelerate their “time to value” with a streamlined, focused MDM implementation that follows a roadmap similar to the one below. While we discuss a single project experience below, the methods are repeatable across MDM domains in the healthcare industry.
Planning

Achieving a quick-turnaround MDM implementation starts with significant planning. A typical MDM program may include two to three months of planning efforts. This time can be compressed to two to three weeks by staying focused on a distinct data domain and by pre-selecting and setting up a simple MDM tool, such as the Profisee Maestro solution. Before consultants and/or resources are assigned, the following pre-planning tasks should be completed:

- Schedule team kick-off meeting and send pre-read materials
- Confirm training logistics with relevant software providers and complete pre-requisites
- Create a high-level internal plan for work stream and deliverable ownership
- Finalize third-party agreements as needed
- Gather list of requested documentation for team review
- Create project logistics document for team members
- Complete software training
- Create preliminary project plan
- Schedule project plan review meeting
- Establish project team communication tool(s)
- Schedule source system specification review meeting(s)
- Schedule environment specification review meeting(s)

Once the pre-planning effort is complete and the project is officially kicked-off, discovery of data requirements can begin in earnest. The team should focus on understanding every nuance of the data from the source system(s) along with what will be needed for the conceptual data model. With just two weeks allocated to this activity, the team must be focused and pointed in the same direction. In over-reaching MDM programs, the effort to document and understand requirements extends beyond the planned time frame, or is not done comprehensively.

With a quick-turnaround MDM implementation, we recommend keeping focused on a distinct problem area, or sub-domain. This allows the team to spend significant effort on data profiling during the planning stage. Having a quantitative understanding of the data characteristics can dramatically alter design approaches and/or priority of requirements. With these firmly defined in the planning stages, the next phases can proceed more quickly than normal.
Iterative Matching

The matching phase in a typical MDM project can consume more than a month, while the team sorts out key dependencies. Even without all the dependencies defined, we recommend starting the entity matching process early. Once data is extracted from the source system(s) and loaded into the MDM tool, the matching process can begin, using a variety of different scenarios. For the provider data, in the case of the client mentioned earlier, several matching rules were created to identify providers that were the same or those that were unique. Complexities were discovered when key attributes, such as Social Security Number or Provider Type, were missing data or contained unexpected values. Key attributes such as primary specialty were found to be coded differently. Once these complexities were identified, the team was able to quickly and proactively make changes to the design or discuss alternative approaches with the data stewards.

There were approximately nine different matching iterations reviewed by project stakeholders for this engagement. The matching process started by the third week of the project and was completed within three weeks. To stick to an aggressive timeline for the matching phase, we recommend using an MDM tool with configurable matching capabilities that does not require custom scripts or coding.

Design and Build

Another key workstream for the MDM implementation is the effort to extract and load data from source system(s) to MDM. During this activity, skilled resources familiar with ETL technologies and principles design a solution that optimizes the data load process based on existing IT standards. For MDM, this is a critical component. Careful consideration needs to be applied to several areas, including:

- Data Transformation: Are data validation rules created and maintained in MDM or ETL?
- Change Data Capture: When data changes in the source system, how are they integrated with MDM?
- Attribute Reference Values: How are attribute code lists managed, maintained and synchronized between source systems and MDM?

Other key work streams during this phase are configuring MDM to support the data validations, data standardization (names and addresses), survivorship, roles and security, workflow and reporting specifications. The obvious goal here is to avoid software customization to optimize supportability and reduce
development and testing time.

This phase normally takes three to six months. With a simplified data set, design can also be simplified. When you are able to finalize model decisions earlier in an MDM program (and, again, when you work with a toolset that eliminates complexity and emphasizes speed), you can squeeze months from the normal design/build phase.

Unit testing can be accomplished during this phase, along with additional iterative matching and results review(s). The test plan should be documented and reviewed by the project team to ensure that the testing effort is organized and that the roles and responsibilities are established.

**Test and Deploy**

Testing should involve a comprehensive validation of both system and end-user interactions. System test cases should be based on ETL best practices, including end-to-end environment validation, initial and incremental load testing, traceability documentation and more.

End-user testing is based primarily on business users’ data review and validation. The end-users, usually the data stewards, will check for the following:

- **False positives:** Were any records automatically matched that should have been unique?
- **Missed matches:** Should any records have been automatically matched based on the data populated?
- **Records for review:** Is the match engine threshold set at the right level to accurately identify unique and matched records?

Testing and deployment can take as long as six months in a traditional MDM implementation. In this case, the planning for testing has been addressed in each earlier phase. When an accelerated MDM program can launch after the infrastructure and environments are in place, the program can deploy and achieve value in short order.
Conclusion

Companies that have implemented Provider Master Data Management continue to realize significant benefits. Most medium-sized and large enterprises are somewhere on the MDM maturity curve. Those considering the launch of a new phase of MDM have many considerations to weigh, including IT architecture, business process impact and alignment to enterprise strategy. Primary among these considerations is often cost – both dollars and other resources.

“Clarity helped us deliver value to the business with a streamlined, consolidated process for validating and governing our critical provider data,” said (name, title, firm). With quick-turnaround MDM for this firm’s provider data, we were able to deliver reliable and actionable information to the business in record time. Benefits include speedier analytics and higher-quality data that help reduce claims errors and inefficiencies.

Clarity has demonstrated a proven roadmap to lower-cost and faster time-to-value for MDM programs. New implementation approaches and improved software are lowering the entry barriers to MDM. The next generation of MDM is here, and companies that are ready can improve their competitive advantage.

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