Data Management Practice Maturity Assessment Consulting Services

Assessing the Maturity of the Healthcare Organization’s Business and Technical Processes to Manage its Data Assets
“Build up your weaknesses until they become your strong points.”  
- Knute Rockne (1888-1931)

All American football player and head coach at U. of Notre Dame

The Need

Healthcare organization’s are information-intensive organizations whose viability depends upon the efficient and effective access and use of data. The success and effectiveness of a healthcare organization’s data management strategy depends largely on the maturity of its data management practices. Accordingly, the organization needs to assess the maturity of its data management practices to identify its strengths and improve the weaknesses of its processes to assure the integrity, quality, usability and timely access of its data assets.

What You Get

An assessment based upon interviews, observations made and the evidence obtained from the organization is performed by Meta Informatix using its Data Management Process Assessment Framework™ and the Data Management - Capability Maturity Model™ (DM-CMM™) to score the maturity levels for each data management process area.

<table>
<thead>
<tr>
<th>Data Management Process</th>
<th>DM-CMM Assessment Level Score</th>
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<tbody>
<tr>
<td>Data Program Coordination</td>
<td>2.25</td>
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<tr>
<td>Organizational Data Integration</td>
<td>2.00</td>
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<tr>
<td>Data Stewardship</td>
<td>2.25</td>
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<tr>
<td>Data Development</td>
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<tr>
<td>Data Support Operations</td>
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<tr>
<td>Data Asset Use</td>
<td>2.50</td>
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A detailed and an overall averaged assessment of the current data management practice is determined to identify the strengths and weaknesses of the organization’s data management processes. Recommendations to improve weak practice areas are also provided.

Meta Informatix has launched a new consulting service to complement its expertise in designing and implementing meta information repositories and large data warehouses for the healthcare industry – data management practice assessment consulting services.

After many years working with a variety of organizations it became clear to Meta Informatix that an enterprise’s ability to successfully implement and sustain meta information repositories and data warehouses to support its business depends largely on its maturity to meet the challenges affecting its business. Moreover, it is an essential step in mitigating enterprise risk and assuring the success of service-oriented architectures linked to master database components enabling the exchange of healthcare information between health-care providers, patients and insurers.

Although data management serves the enterprise, the organization oftentimes doesn’t appreciate the value it provides. Management’s short-term focus has often made it difficult to secure the necessary funding for medium- and long-term data management investments.

Tracing data management practices to direct and indirect organizational benefits has been difficult, so it hasn’t been easy to present an articulate business case to management that justifies subsequent strategic investments in data management.

Viewing data management as a collection of processes, each with a role that provides value to the organization through data, makes it easier to trace value through those processes and point not only to a methodological “why” of data management practice improvement but also to a specific, concrete “how”.

Meta Informatix has added to its arsenal of capabilities a data management practice assessment consulting service to assess the current data management processes of enterprises that are information-intensive organizations and whose viability depends upon the efficient and effective access and use of data.

The assessment approach and method objectives guide the structure of our investigation into the current state of a healthcare organization’s data management practices to probe for evidence. Observations and the presence or absence of evidence form the basis of the resulting assessment to indicate the corresponding maturity level (levels 1 through 5) of an healthcare organization’s current data management practice.

Accordingly, the data management practice assessment levels of the Data Management - Capability Maturity Model™ (DM-CMM™) are used to score the maturity levels for each data management process area; namely,

- Data Program Coordination
- Organizational Data Integration
- Data Stewardship
- Data Development
- Data Support Operations
- Data Asset Use

Overall averages of assessment results are tallied and reported to the organization for the six interrelated and coordinated data management processes. For example, assessment results may indicate that its overall averages are at Level 2, the repeatable and controlled level of the DM-CMM™ for all data management practice areas.
Recommendations for improving each practice area to move it to the next level and improve the data management practices of the organization are also provided as part of the service.

Detailed assessment scores may range from level 1 (initial and improvised) to level 3 (defined and consistent) or level 4 (managed and predictable), and pinpoints strengths and weaknesses within each of the six interrelated and coordinated data management processes. Level 5 is the highest level indicating that the data management activity or process is optimal and self-improving.

**Assessment Approach and Method Objectives**

The objectives of the approach and method used to assess the current state of data management practices of an enterprise are to understand the:

- Data management practices across the enterprise;
- Distribution of specific data management practices throughout the enterprise;
- Level of organizational data management maturity for each data management process; and,
- Current state of data management practices in each area of the enterprise — in what areas are the data management practices weak, average, and strong?

**Assessment Tools**

Meta Informatix uses a data management process framework to identify and define the interrelated and coordinated processes of an enterprise’s data management practice. Moreover, the framework is used to identify the specific organizational data management practice areas to assess.

In order to understand and assess the level of organizational data management maturity for each data management practice area a Data Management-Capability Maturity Model™ (DM-CMM™) adapted from the Capability Maturity Model (CMM), published by the Software Engineering Institute (SEI) is used. The DM-CMM™ provides a scale for measuring data management practice accomplishments. The assessment results identify the practice areas for data management process improvement and pinpoints areas and/or processes where strategies need to be developed to overcome the data management challenges.

**Data Collection Process**

Meetings and telephone interviews with key personnel are conducted to assess specific organizational data management practices and obtain evidence of current data management processes, quality assurance reports and analysis, and related organizational procedures. Key concepts sought included the presence of commitments, abilities, measurements, verification, and governance of current data management practices in the enterprise.

Face-to-face interviews and follow-up telephone inquiries are conducted with persons identified as having the best, firsthand knowledge of organizational data management practices for the enterprise.

With the aid of organization’s data management team, evidence is located and obtained indicating the existence of key process areas within specific data management practices of the organization.

For each data management process, the assessment approach and method objectives guide the structure of our investigation into the current state of organization’s data management practices to probe for evidence. The presence or absence of this evidence formed the basis to indicate the corresponding maturity level of the organization’s current data management practice.
Modeling the Healthcare Organization's Data Management Processes

Business process models of the organization’s current operational data processes are developed to better understand the nature of the healthcare organization’s data management practices to support the business.

Meta Informatix develops the models following the Business Process Modeling Notation (BPMN) methodology and models each of the enterprise’s data management processes. The models developed using the BPMN show the flow of data (messages), and the association of data artifacts to activities; it is not a data flow diagram. Alternative business modeling methods can be used to accommodate the organization’s standard of choice (e.g., IDEF0).

Outcomes of the Assessment Approach and Method

The outcomes of Meta Informatix’s data management practice assessment approach and methods include:

- Modeling the processes of the data management practices of the enterprise;
- Identifying and documenting the strengths and weaknesses of the enterprise’s current data management processes;
- Pinpointing areas in the current data management processes that need improvement; and,
- Developing recommendations and a “roadmap” for improving current practices.

The assessment framework can also be used to perform a self-assessment of the healthcare organization’s data management practices to reassess and review its data management processes over time.

Data Management Process Assessment Framework

Data management in an organization consists of six interrelated and coordinated processes; namely,

- Data Program Coordination
- Organizational Data Integration
- Data Stewardship
- Data Development
- Data Support Operations
- Data Asset Use

Meta Informatix assesses each of these processes which represent the major business activities that determine how effective and efficient the data management processes in an enterprise provide the requisite data in a timely fashion to the other areas of the healthcare organization.

Two of these processes, data program coordination and organizational data integration, provide direction to the implementation processes, data development, data support operations, and data asset use.

The data stewardship process provides guidance and direction, but also shares some implementation processes related to data development and data support operations. All processes exchange feedback designed to improve and fine-tune overall data management practices.

Accordingly, the scope of the data management process assessment for an enterprise examine not only the processes that deal directly with its data support operations, it looks at the other related processes that directly affect the effectiveness and efficiency of its data support operations processes across the enterprise.