



MedAbility Distributed Medical Record (DMR) Framework

About MedAbliti Software, Inc.

MedAbliti was established in 2001 in order to design, develop, and deploy information solutions for the health care industry. Recognizing that the health care market is one of the most data intensive, yet least automated of industries, MedAbliti sees a clear need for integrated medical technology solutions.

MedAbliti's approach to development is one that applies international quality assurance methods to application access, data analysis, and process efficiency. MedAbliti's commitment to structured software methodology, software engineering practices, quality standards for data deployment/access, confidentiality and security of sensitive data, and commitment to customer client management, position it as an emerging industry leader in medical software design and implementation.

MedAbliti's corporate headquarters is in New York City, with offices in midtown Manhattan. Through our experience with the health care and software industries, and by means of our network of hundreds of information technology professionals worldwide, we are able to handle your information technology needs wherever you are located.

Table of Contents

About MedAbiliti Software, Inc.....	2
Table of Contents.....	3
Introduction.....	4
DMR Overview	5
MedAbiliti's DMR Approach.....	7
DMR Technology	8
XML Processing	8
Transactions	8
Vocabulary.....	8
Synchronization.....	9
Work Flow.....	9
Security	9
DMR Partnerships.....	10

Introduction

DMR is a framework for digitizing medical data based on open architectures and open standards. DMR integrates existing data and new functionality to achieve the realization of a Distributed Medical Record. DMR digitizes workflow to eliminate paper and waste, reducing health care costs. DMR provides increased security and privacy controls, ensuring HIPAA compliance.

MedAbiliti DMR is XML-enabled technology that integrates existing, diverse repositories of medical data with privacy and security controls that can be customized by the provider or patient. With MedAbiliti DMR, an organization can unify its existing medical data into the realization of an Electronic Medical Record that can be delivered on the Web in a secure fashion.

MedAbiliti DMR integrates numerous patient record application components (Billing, Charting, Patient Intake, General Practice Administration, Specialized Patient Management, Trending Analytics, Statistical Research, Imaging, Medical Hardware Connectivity) that compile health data into digital records that detail the comprehensive medical history of individual patients. DMR works by integrating diverse databases and stores of medical data. Since it is created as an XML standard, it establishes an open framework. Because it has privacy and security features, the framework is HIPAA compliant. Since the focus is on integration rather than a new application, our clients save money on their prior IT investments.

DMR Overview

Over the past two decades the health care industry has made exceptional strides, most notably in the area of informatics. Much of the industry discussion has taken place in court rooms, legislative sessions, and office buildings across the country. In each case, the primary focus has been placed on improving the overall quality of health care. A number of strategies have arisen from this discourse, none so revolutionary or complex as the vision of a fully comprehensive, universally portable patient medical record. This nameless technology was a fantastic notion of systematically capturing and utilizing patient medical histories, covering all practitioners ever involved in patient health care experiences, whether directly or indirectly. Out of this discourse has emerged MedAbiliti's Distributed Medical Record (DMR) approach.

The MedAbiliti DMR is founded on the concept of a virtual central data mode that authorized users (caregivers, health care payers, and patients) may reference to search relevant patient data residing in multiple data storage sites. This virtual data model is composed of a network of independent and interoperable applications and databases that capture, analyze, and store specific personal health data. The MedAbiliti DMR approach utilizes the power of the internet to network and extract information from various data storage sites housed in physician offices, hospitals, and insurance data centers to temporarily create a virtual patient medical record for usage by care givers and patients alike.

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MedAbiliti's universally applicable Distributed Medical Record (DMR) integrates data within the currently disparate system architectures utilized within the health care industry, providing patients with a fully portable medical record. The DMR promises to revolutionize the way in which medical records are created and managed. Diverging from conventional electronic medical record applications on the market, MedAbiliti has taken a unique approach to its DMR that involves an intense level of communication between government officials, insurers, providers and patient advocates in the industry. We have considered and overcome weaknesses and limitations that have hindered past applications. In addition,

MedAbliti has created technical solutions essential to making DMR an integrative, cost-saving, security conscious application.

MedAbiliti's DMR Approach

MedAbiliti Distributed Medical Record (DMR) is the culmination of decades of attempts to realize a single vision of health data integration and exchange. It considers the weaknesses of the approaches preceding it and supplements their limitations with sound standards of development, data interchange, data storage, and implementation. It is an evolving international method for system development and data exchange within the health care industry. Such a methodology is necessary for global interoperability of health care informatics solutions.

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The vision of a fully portable digital patient history can only be realized via a sound, tiered, phase approach to system development. MedAbiliti has worked arduously to construct and package a universally executable approach to application development, system architecture and data exchange. This approach incorporates a commitment to controlled implementation of open standards, secure data stores, and reliable application behavior. To realize the vision of DMR, the industry must commit to a long-term effort to implement efficient data processing practices, effective data storage, and secure exchange of relevant data between providers, patients, and payers.

The MedAbiliti approach requires an increased level of communication between major players in the health care industry: government officials, insurers, providers, and patient advocates. MedAbiliti has positioned itself as a facilitator of this industry-wide conversation. MedAbiliti organizes forums and represents the voice of health care informatics specialists, in an effort to steer the industry towards the direction of MedAbiliti DMR technology.

DMR Technology

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MedAbliti creates technology that collects existing medical data from existing health care information systems (via common industry standards), converts that data into XML, and provides tools and a user interface to integrate that data and apply security and privacy policies to that data, down to the individual data fields. The end result is a repository of XML data on a MedAbliti DMR server. This data is suitable for conversion to HTML for Web access.

In this way, MedAbliti works to integrate diverse databases and stores of medical data. We establish an open framework and add privacy and security features to make the framework HIPAA compliant. Additionally, we focus on integration rather than a new application, thereby saving our customers money on their previous IT investments.

XML Processing

Most standards organizations are in the process of creating XML versions of existing standards. While the current state of the industry does not require XML, it is certainly on the horizon. MedAbliti creates transformation rules that make XML documents backwards compatible with current standards. By making all existing medical data available as XML, disparate data is easily integrated. In some ways, DMR can be thought of as using XML as a platform for system integration. MedAbliti's DMR XML formats are based on standards published by HL7 and ASTM.

Transactions

The notion of a transaction is very important in health care and insurance. MedAbliti DMR technology includes a concept of the transaction as something that discretely changes the state of the data repository. As transactions apply to each piece of information that a doctor adds to a medical record, each exam or lab result, MedAbliti DMR technology maintains data integrity in the same way that a database does. Each transaction is recorded to create an audit record.

Vocabulary

Many health care standards are simply lists of codes that refer to specific medical terms, diseases, diagnoses, pharmaceutical products, etc. MedAbliti DMR involves a strategy that deals with these databases of medical vocabularies. When additions are made, these vocabularies can be updated. Epidemiology, the spread of diseases, could greatly benefit

if health care providers begin reporting their disease cases electronically. There is also a financial incentive that comes into play when it is considered that, if incorrect codes are recorded during a medical visit, hospitals may not receive full compensation from insurance companies. Accurate coding is an entire sub-profession of health care.

Synchronization

The key to a scalable architecture is the ability to add additional data processing nodes without creating data inconsistencies. No existing health care standards address the technical challenges present with multiple data stores. MedAbiliti has developed a robust solution to this distributed computing challenge.

Work Flow

The cost-saving benefits of DMR come from the elimination of paper work from the medical profession. MedAbiliti DMR assumes many workflow-related functions. We think of everything from entering chart data to ordering drugs as a workflow activity. In addition, we include generic workflow abilities and then build up to specific tasks performed by different professionals, such as Doctors and Nurses.

Security

Security is an essential element of DMR. MedAbiliti places special attention on patient medical records because of existing HIPAA laws and laws that will be passed in the future. Our DMR contains a security framework that provides granular control over the data elements within a patient's medical record. This granular control is configurable by medical professionals as well as the patients themselves. Certain patient's rights groups want this ability so that patients can control who has access to their sensitive data. There are also security issues that arise simply by maintaining a database of patients. Patient's rights groups have rejected the use of the social security number as the sole patient identifier. Our DMR uses its own patient identifier.

MedAbiliti DMR, as a security conscious application, addresses the three A's of security: Authentication, Authorization and Auditing. All access is restricted by a username and password. Our security framework provides the ability to designate certain users or certain roles with authorization to see different levels of sensitive data. All actions against the system, including entering data and reviewing data, are recorded and stored in a log than can be audited.

DMR Partnerships

The vision of the Distributed Medical Record requires a commitment from all players within the health care industry -- providers, payers and advocates alike. MedAbliti is leveraging its position as an emerging software engineering leader in the EMR space to lead the team building effort required to construct this revolutionary framework. There are clear market leaders in the area of application development, networking, and data storage who are product and service providers to the industry that, up until now, have been unable to find a clear synergy of their expertise. MedAbliti is facilitating discussion of the Distributed Medical Record framework and developing relationships between various industry product and service providers to build partnerships that can ultimately deliver DMR technology to the world.

MedAbliti offers its line of electronic medical records applications to the market, ensuring that these products abide by international standards of data communication and allowing for interoperability with other existing hospital information systems and data capture services. MedAbliti is leverage its expertise as a system integrator to build partnerships with networking service providers to ensure the security of protected health information as it is transmitted between sites. MedAbliti is strengthening its ties with data storage leaders to provide superior information management and processing capacity within an open architecture framework.

MedAbliti's implementation of the Distributed Medical Record is where the future lies. As the facilitator of discussion and quarterback of an industry wide team of professionals who each provide a component of the DMR, MedAbliti will lead the industry to the future.