

Medical Information Management Systems* On Its PEARL™ System

Background. **Medical Information Management Systems** was founded in 1993 to design and develop a sophisticated, but user-friendly, computerized medical record system. The Company's largest stockholder is Bristol-Myers Squibb Company, a Fortune 50 pharmaceutical company with world-wide operations. The management team that founded **MIMS** has extensive experience in the design, development, and implementation of mission critical computerized medical record systems. Using a wealth of experience and rapid application development skills, the team developed and brought to market an extensive computerized medical record solution called **PEARL™** in a record time of 15 months. This system is unique in that it incorporates an industrial grade document imaging component with an extensive relational database that is designed to capture all relevant medical information in data format that allows very high-level decision support and outcomes analysis.

The **PEARL™** system was designed, from its inception, to allow the storage and retrieval of patient data with a Master Patient Index that is constant for a given patient across multiple facilities. Using a real time communication network, our team can provide the most advanced real time, multi-facility medical record system on the market.

With this system, the transfer of medical records from one facility to another is instantaneous, and in fact, the patient's medical record is compiled in such a manner that all relevant information about a patient, regardless of where the data was entered, is simultaneously accessible to all authorized users in all locations. Conversely, all or portions of a patient's record can be securitized to allow access by selected users at selected facilities.

Facilities Management. Unlike most medical record systems, which seem to operate in a "vacuum" relative to the environment, the **PEARL™** system is designed to integrate relevant information about the environment with the medical record. For example, the facilities management function of the **PEARL™** system, which allows room tracking in a hospital or outpatient area (e.g. room status of either occupied, housekeeping and vacant), will allow the facility to monitor for infection outbreaks on a real time basis. This unique feature, which takes advantage of the capture of laboratory and vital signs data in the same relational database as room assignment, is just one example of the value-added decision support capability of the **PEARL™** system.

Data Integration. Perhaps the most distinguishing feature of the proposed solution is that it will fully integrate data from clinical to operations management to financial reporting all in one set of databases. These areas are recognized by **Medical Information Management Systems** to be highly intertwined in real life. Most other solutions, if not all, tend to recognize these as parallel functions and are therefore viewed as separate applications often requiring duplicate entry and invariably making decision support from an integrated data set impossible. We have already cited one example above (epidemiologic studies to monitor infection outbreak) of the many benefits of this highly integrated data set. Another example would be in the area of drug efficacy; the combination of material management, inventory control, prescription writing, patient lab data, patient vital signs and patient diagnosis, will allow the facility to monitor the

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true efficacy of a drug relative to cost because the various biological targets for a drug's action are coupled so closely with pharmacy cost in the combined databases.

Document Imaging. Finally, it is rarely recognized that many items in the patient's record (e.g. physician progress notes, history, physicals and photographs) that reflect the progression of a wound, for example, can be conveniently captured with document imaging techniques. The **PEARL™** system includes an industrial grade document imaging system designed to handle millions of documents online, which is the only viable pathway today for a paperless medical record. The

use of document imaging allows the clinicians (nurses and physicians), who rarely have time for "screen interaction" with a computer, to continue to use paper as their primary means of recording notes regarding a patient. The scanned images are coupled with other relevant data (pharmacy, lab, cultures, X-Ray results, pathology results (ICD9 codable), diagnoses, procedures, vital signs and intake/output measurements) to offer the most comprehensive, paperless medical record solution available. Paper is a very effective recording medium; its problem is in the area of storage and retrieval. The **PEARL™** system combines the best of both worlds; paper is used to record data conveniently in a manner that does not encumber the highly-paid clinicians, and then it is stored for future retrieval as digitized optical images.