CHANGING TRENDS IN HEALTHCARE INFORMATION MANAGEMENT AND ELECTRONIC HEALTH RECORDS

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POSITIONING STATEMENT

With technological advancements, Healthcare Information Management and Electronic health record systems have undergone a sea change over the years and what is even more noteworthy is that the evolutionary pace is expected to accelerate even further in the coming years. The increasing dynamism of these critical systems becomes easily evident when you look at the use of advanced technologies such as the Computerized Physicians Order Entry (CPOE) and Electronic Medical Records systems. These advanced technologies are being deployed with a view to improve the efficiency of patient information management systems, something that will enable healthcare centers to deliver the best possible care and treatment to patients.

In the near future, the immediate beneficiaries will be patients and healthcare professionals. However, the complete list of beneficiaries will not be limited and will certainly include others as well such as the insurance and legal entities that need medical records verifications on a regular basis. Conversion of all paper-based medical records into electronic form will help insurance and legal firms have access to required information at the click of the mouse. This will improve their operational efficiency and allow them to deliver prompt services to their clients. The list of beneficiaries will also include business process outsourcing companies with expertise in medical record retrieval and verification and other related domains. Benefits to these companies will accrue in the form of increased work orders as is expected when healthcare centers make the dramatic shift of converting all of their medical records into electronic form.

This report will discuss the best practices that healthcare centers have employed for effective management of medical records. It will also try to ascertain the options that might be available to healthcare and allied service sectors for making the final transition to electronic health record systems and realizing the benefits thereon. Apart from these, the report will examine all the various factors that will ultimately determine the success of complete digitization of medical records. These factors are related to studying the impact of increased digitization on existing work flows, the ability to merge physically dispersed medical records, and the ability to incorporate new tools and systems that might become available in the years to come.

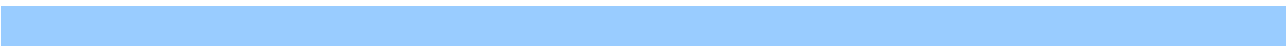# PRESIDENTIAL PROPOSALS 2008 AN INDICATOR OF THINGS TO COME

Presidential proposals are an indicator of things to come and with two of the leading presidential contenders raising their voices in support of increased digitization of medical records, it would not be wrong to assume that healthcare information management will undergo dramatic transformations. Both John McCain and Barack Obama have pledged both financial and statutory support for the complete automation of medical records. This is being done keeping in mind the growing concerns over medical errors and lapses that have become quite commonplace nowadays. Not all presidential proposals see the light of the day, but considering the huge support that proposals related to electronic medical records have generated, it's highly unlikely that presidential candidates will back down once they are finally in a position to convert the proposals into actual law. When these proposals finally get legal and statutory recognition, benefits will accrue in the form of improved medical care and operating efficiency and the ability to integrate new technology-based solutions as soon as they might become available.

THE DYNAMIC NATURE OF HEALTHCARE INFORMATION MANAGEMENT

In the United States, healthcare and allied sectors are counted amongst the most complex of all economic sectors. It is estimated that healthcare and allied sectors now contribute around fifteen percent to the GDP, something that makes it quite clear as to why presidential contenders are focusing on the need to improve existing healthcare systems.

Presently, Healthcare Information Management is certainly not an easy task because voluminous amounts of data, both paperbased and electronic, are generated by healthcare centers. Most problems relate to the processing, storage, and retrieval of paper-based medical records. It is estimated that for every hour spent on patient care, healthcare centers have to spend 30 minutes on administrative paperwork. The problem gets even more complicated because healthcare centers also need to compile diagnostic data and test results as are normally ordered by physicians and pathologists. Apart from these, use of advanced technologies such as MRI scans, PET scans, Computer Tomography and others are adding to the complexity and volume of paper-based medical records. For resolving such issues, healthcare centers have now started choosing

For resolving such issues, healthcare centers have now started choosing Integrated Delivery Networks (IDN) that provide the necessary integration between all those involved such as healthcare centers, physicians, hospitals, suppliers, researchers, clinical test centers, third parties and of course patients. With IDNs, the distribution and sharing of critical data and information between the involved parties has become a lot easier. The whole process has also become a lot faster and cost-effective now. The reliability and effectiveness of IDNs becomes evident when you

look at the increasing number of healthcare centers that have chosen it and the many that are in the process of doing so. A research survey conducted recently found out that around 99.98% of the healthcare professionals who were interviewed were well aware of the need to improve medical care quality and efficiency through IDNs.

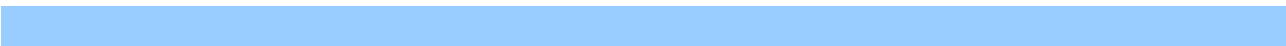## EXISTING AND ONGOING INITIATIVES IN HEALTHCARE INFORMATION MANAGEMENT

On the national level too, many different healthcare initiatives have been launched in the past, most of them targeting improvements in healthcare information management. The most important amongst these is the HIPAA, introduced in 1996. Short for Health Insurance Portability and Accountability Act, this act was introduced with a view to safeguard the privacy and security of patient information and related documentations. The Act also covers related transactions such as medical insurance eligibility, insurance claims, documentation needs, referrals and required authorizations. Something that is even more noteworthy about this Act is that it provided the required framework for secure digitization of medical records. This was done through mandated prerequisites and regulations dealing with health plans, insurance firms, healthcare centers, and electronic data transactions.

In short, it can be said that the Act laid the foundation for a national level health information infrastructure and electronic health record systems. Over the years, HIPAA has proved highly successful and this is why the Federal government is not letting up on its efforts to achieve even greater efficiencies in healthcare information management.

THE CHANGING TRENDS IN HEALTHCARE INFORMATION AND MEDICAL RECORDS MANAGEMENT

The shift to Electronic Health Records has already taken off in a big way, but even then there is plenty that needs to be done. This is because the task at hand is quite huge and can only be completed if the necessary financial and logistical support is made available to all of the involved parties. However, nobody is showing signs of fatigue because it is being anticipated that when the shift to digitization is over, it will result in huge savings, as high as $140 Billion every year. Savings that are as high as ten percent of the total national health spending provides enough motivation and encouragement to all those involved.

With increased digitization, it has now become easier to manage medical records that have become more comprehensive and include everything from patient information to diagnostic care and prescription data. As of now, electronic medical records are being used for a wide variety of purposes such as for getting multiple views on diagnostic care and treatment, for assessing

preventive measures for various illnesses, and for assessing the outcome of clinical trials and research. They are also being used for assessing eligibility for health insurance plans, claims settlements, and financial lending. Apart from these, electronic medical records are helping medical research organizations to keep a tab on common ailments and their prevalence in specific areas such as county, state, national and international levels.

With mandated policies on storing, accessing, sharing and distributing electronic medical records, the medical records management costs have certainly increased. However, not everybody is complaining because the overall value of derived benefits far exceeds the costs. Moreover, since the option to reduce costs through outsourcing medical records retrieval and verification is always available, there has not been much hue and cry over the increasing dependence on electronic medical records.

A Look at Advanced Medical Records Management Systems

Voluminous amounts of data and information have already been converted into electronic form, but in comparison to data and information that is still on paper-based medical records, it's still minuscule. Accommodating different data formats into the same system has thus become the need of the hour and everyone seems to be working hard on developing newer, advanced medical records management systems that can handle the increasing complexity. It is anticipated that when developed, these advanced systems will persist for many years to come, because converting completely to electronic health record management is not something that can be achieved in weeks and months.

When developed, these advanced systems will be required to integrate with emerging electronic data management solutions and work in accordance with the existing statutory policies and guidelines related to healthcare records management. They will be required to be flexible so that procedural changes in the records management can be reviewed and incorporated. Such changes are most likely to relate to workflows, documentation control, reporting capabilities, secure storage and retrieval of records, and sharing and distribution policies. To be able to satisfy all of the requirements described above, advanced healthcare information management systems will be required to have the following capabilities.

1. Should have the requisite scalability for handling varied information types and increased volumes that may arise due to newer partnerships entered with other healthcare organizations and third parties.

2. Should be accessible 24/7 over wide area networks (WAN) or the World Wide Web, making it possible for geographically dispersed constituents to have access to required data at the click of the mouse.

3. Should be able to store healthcare data and information along with their detailed descriptions (metadata) so that users can know what is actually there inside the records without actually accessing the information contained. Just by looking at the descriptions, users can determine whether or not a medical record contains data and information that they are looking for.

4. Should have failsafe log components that can record every access gained into the system and data and information that was accessed or copied from the system. Log files will help in providing accurate audit trails and complying to requirements as stated in the Accounting of Disclosures.

5. Should have built in logical parameters that can detect unwanted data and remove it intelligently from the system. This will make it easier to manage the ever-increasing volume of data and information coming into the system.

Benefits of Advanced Health Information Management Systems

It is estimated that complete automation of medical records will require at least two more decades and till then health information management professionals will have to manage both physical and digital file systems. Now this certainly looks like a big problem, but in reality it is not because health information professionals can always choose advanced health information management systems that make it quite easy to manage different file systems in parallel. Using these advanced systems, professionals can save a significant percentage of their available productive time and use it for other more important tasks such as resolving operational problems and issues related to medical records management. Using these advanced systems, professionals can merge varied record libraries into a single cohesive system, allowing easy and fast storage and retrieval of medical records. These systems will also help to smooth the transition to electronic health records and allow professionals to manage integrated file repositories from a centralized location.

There are many other benefits that can be derived from advanced health information management systems. From the patient's point of view, the benefits will relate to the improved quality of medical care and treatment. Medical errors may still continue to plague patients, but considering the accuracy and efficiency of advanced healthcare information management systems, it would not be wrong to assume that the occurrence of medical errors will in fact become a rarity. Quick and highly accurate retrieval of medical records will then automatically result in improved diagnostic and medical care, reduced medical costs due to faster turnaround times, and increased physician satisfaction. Healthcare centers and professionals, information management professionals, and other related third parties also stand to benefit in terms of lesser work load, quicker billing cycles, reduced account receivables, and reduced operational costs. By providing quick search options,

advanced healthcare information systems will also help save the available productive time of healthcare information management professionals.

Even more benefits can be derived if healthcare information management related tasks are outsourced. When this is done, medical records will get transformed into valuable assets, which can then be used for revenue generation purposes. Insurance, legal and financial entities regularly need to source medical records of their customers, something that has already been made into a revenue generating, highly profitable business model. Revenues and profits can be maximized if the current business model is standardized using advanced healthcare information management systems.
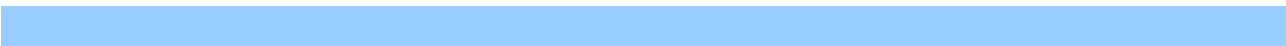
As the regulatory environment becomes more comprehensive and as newer public health policies and initiatives are chalked out, advanced healthcare information management systems will make it easier to incorporate these changes into the existing setup. By making information available through secure, high bandwidth data transmission lines, these systems will also help in speeding up data retrieval and maintaining the highest accuracy levels. Improved management of electronic health records will help mitigate legal risks and also enable better compliance with centralized healthcare initiatives such as surveying the potential spread of communicable diseases and researching their probable remedies. All this will automatically result in improved diagnostics and treatment.

INTENDED TECHNOLOGIES, WORKFLOWS AND POLICIES THAT WILL DRIVE ADVANCED MEDICAL RECORDS MANAGEMENT SYSTEMS

Technology has always played an important role in the evolution of electronic medical records management. It has made it easier for health planners to implement standards such as HL7 and DICOM as well as legislations such as HIPPA. All of these together have helped in fostering a favorable environment as is necessary for integrating all the various systems and constituents associated with healthcare information management. In the coming years, even higher standards will be defined for healthcare information management and as always, technology will be the key to the success of achieving those high standards.

For making the best possible use of their productive time, healthcare information managers should look to advanced technologies that are already available. For best results, they need to rely on intelligent technology platforms that can automatically identify errors and eliminate those from the system. Having inbuilt technologies that can intelligently detect irrelevant and unnecessary data and information will be an added advantage.

Apart from technology, comprehensive medical records management will also require well thought out policies and workflows. Efforts on this front have already started and quite a lot has already been achieved, but such is the complexity of medical records that there is still plenty left to be done.

As information systems become increasingly complex, workflow managers and policy planners may have to sit down together to plan the most favorable guidelines for healthcare information management.

With time, the easy availability of healthcare information at the click of a mouse will fuel even more demand for easily accessible medical records. If the existing infrastructure is not upgraded, it will slowdown the system and render it ineffective. As such, what is needed is constant infrastructural upgrades, keeping in mind the increasing demand for online medical records.

For making a complete switchover to electronic health records, information managers will be required to merge archived, paperbased records with existing, ongoing treatment information that would most probably be in electronic form. As such, medical records archival and retrieval systems will be required to have flexibility of operations and the ability to accommodate potential changes and increased work load.

CONCLUSION

As of now, the healthcare information management sector may have to continue with paper based and filmbased medical records, but judging by the pace of electronic health records management, it would not be wrong to assume that the targeted complete switchover will happen sooner than expected. The presidential proposals, most of which are supporting electronic health records also provide a glimpse of the future trends in healthcare information management.

The primary beneficiaries of electronic health records will certainly be patients and healthcare organizations. However, other constituents such as insurance, legal and financial entities will also benefit because when the switchover is complete, it will make it easier for these entities to source the medical records of their clients. The end beneficiaries will be third party offshore outsourcing companies dealing in medical records retrieval and verification services. Benefits to these business entities will accrue in the form of increased work orders when the targeted switchover to electronic medical records is finally complete.