

WHITE PAPER

# ELECTRONIC MEDICAL RECORD (EMR) *PRIMER IN ACCREDITATION SUCCESS*



**NAPIER**  
Healthcare

**Patients today have understood that they are ultimately paying for Healthcare regardless of the source of funding and hence have been an active stakeholder in their Healthcare journey**

## Introduction

The Healthcare System has been described as an industry that “NEVER STOPS or SLEEPS”. Patients trust the system with their lives and hold it to extremely high standards of safety and professional accountability one hundred percent of the time. Thus, the industry must strive constantly to deliver safe, high quality care at reasonable costs. Employers, Governments, Payors and Individuals (Private Pay) are paying for Healthcare as compared to a few decades ago when it was predominantly paid by the individual. Patients today have understood that they are ultimately paying for Healthcare regardless of the source of funding and hence have been an active stakeholder in their Healthcare journey, from understanding their Health information, demanding data privacy and questioning sometimes the interventions even.

In some countries, an active community of litigants serves to keep the Healthcare system accountable, but it also drives the cost by way of malpractice insurance requirements consequently. Hence Accreditation becomes a much sought-after remedial measure to alleviate many such concerns.



## The centrality of information to health care delivery

Information and information exchange are crucial to the delivery of care at all levels of the health care system. To offer safe and effective care, care teams must have access to different types of clinical information such as the patient's health record, the rapidly changing medical-evidence base, patient preferences and important administrative information, such as the status and availability of resources such as beds and personnel. Patients also need access to information and education if they are to be involved partners in their own care. Hospitals gather, filter, analyze, process, communicate and act upon large amounts of information in their daily routines involving patient care.



Traditionally, for centuries, this information handling was accomplished using paper charts. However, the sheer volume of accumulating data leading to hospitals literally 'drowning' in paper work and other challenges related to physical storage space, accessibility, organization and tracking of records and more importantly,

security and confidentiality of information served as the impetus for attempts in the early 1960's to digitalize medical records.

Since then, EMRs have continuously evolved and have currently become highly sophisticated systems. They range from computer based to simple mobile applications to virtual solutions and have had a tremendous impact on the way medicine is practiced.

“

*Our recovery plan will invest in electronic health records and new technology that will reduce errors, bring down costs, ensure privacy, and save lives.*

”

said President Barack Obama in Address to Joint Session of Congress on February 24th, 2009.

## Value of Accreditation in Healthcare Systems

In the recent years, demand for quality in healthcare services has risen due to a number of factors such as increased consumer awareness and expectations, pricing regulation of medicine and intense competition. To maintain credibility and gain the trust of patients, payers, other stakeholders including healthcare facilities are increasingly volunteering to be a part of global and national Accreditation Systems. The accreditation standards and emphasis on clinical practice guidelines help organizations establish a consistent approach to care, reduce the risk of error, increase patient safety and care quality and help them stay on top of the game.

However, achieving and maintaining compliance with these stringent accreditation standards is not easy; enormous resources, commitment, robust controls, streamlined processes and constant monitoring are required. The remaining sections of this document will examine, without a reference to any particular accreditation standard, some of commonly recognized issues that Providers would find useful to adhere to in preparation for their accreditation.

## The role of electronic medical records in accreditation success

The digitalization of health services and the widespread adoption of HIT solutions, of which the EMR forms a central component, have now emerged as tools that could have a dramatic impact on health care processes and outcomes. EMRs can significantly improve patient safety and care quality by automating and streamlining work processes, providing a seamless transition of patient health information, and offering a variety of safety mechanisms that can potentially reduce the risk of errors.

Unlike in the paper systems, electronic records can mandate adherence to and completion of processes and protocols to ensure standardized and safe care.

EHRs can aid in the accreditation process by supporting the following

1. Patient safety parameters
2. Streamlining processes to improve clinical outcomes
3. Facilitating patient engagement
4. Easing the internal audit and monitoring process
5. Strong data Security and Back up plans



## 1. Patient safety parameters

Human errors in the healthcare industry are undesirable but anticipated and inevitable to a certain extent. Adverse events impact not only patients, but also healthcare providers who unwittingly become the “Second Victims” of the incident.

The adoption of Electronic Health Records (EHRs) can substantially ameliorate threats to patient safety in a number of ways:

### 1.1. Powerful patient identification mechanisms to prevent wrong patient errors

- Detailed patient banner on every screen with patient photograph to avoid wrong patient selection errors
- Alerts for identical or similar sounding names
- RFID's and bar code scanning enabled system prevents medication administrations errors

### 1.2. Continuous access to updated patient information

- 24x7 access to patient information
- Complete, accurate and structured clinical data made available in desired formats and tailored to meet the user's expectations.
- Automatic sorting and summarization of data for information generation.
- Instant access to updates/changes made to the record
- Remote access to patient records

### 1.3 Enhanced communication amongst providers

- Standardized forms, checklists and other tools to support consistent and complete handover processes.
- Standardised workflows and procedures for sign offs for verbal, written or telephone orders.
- Alerts and standardised workflows for the review and action of critical lab reports
- Intuitive and sophisticated referral systems that allow two-way real-time communication for care continuity



## 2. Streamlined processes for better clinical outcomes

Electronic medical records can help to streamline workflow and processes leading to improved clinical outcomes by the use of a wide variety of tools such as

### 2.1 Clinical decision support

CDS can encompass a variety of tools such as:

#### 2.1.1. Checklists

Checklists are considered important tools that can condense large quantities of knowledge in a concise fashion, reduce the frequency of errors of omission, create reliable and reproducible evaluations and improve quality standards and use of best practices. To provide flexibility in the Hospital's operations, any number of standardised checklists should be configurable in the system and some examples are

- The standard surgery safety checklists
- Adherence to evidence-based best practices checklists (For example, inpatients presenting with stroke or chest pain)
- Patient handover checklists
- Central venous lines insertion checklist

#### 2.1.2. Alerts and reminders

Alerts and reminders delivered in a measured hierarchical fashion based on the gravity of the condition can serve as powerful tools to ensure timely, precise and accurate actions are taken to deliver the best possible care. A number of rule-based alerts and notifications should be configurable in the EHRs.

Interruptive alerts can force stop a user from doing something that is very obviously wrong while non-obtrusive alerts serve as reminders that the user can override. Some examples of alerts are

- Critical and abnormal result alerts
- Allergy and interaction alerts
- High risk medication alerts
- Look-alike sound-alike medication alerts
- Patient fall risk alerts
- Communicable diseases alerts
- Scheduled and overdue intervention alerts
- Reminders for appointments like preventive screenings or vaccinations.
- Reminders for completion of documentation



### 2.1.3 Standardized care process tools

Standardization of scientific evidence-based information and integration into EHRs can help decrease variability and increase standardisation of care. Some examples of such tools are

- Clinical guidelines
- Standardized care pathways
- Care plans
- Well laid out documentation templates
- Condition-specific order sets
- Patient data reports and summaries
- Diagnostic support
- Contextually relevant reference information

## 2.2 CPOE (Computerised Provider Order Entry)

Combining CDS with CPOE systems has been known to further reduce medication errors and lower mortality. Some such alerts that can be programmed to trigger before order placement are

1. Missing "required details" alert
2. Allergies alert
3. Height and weight alert
4. VTE prophylaxis alert
5. Duplicate order alert
6. Non-formulary medication alerts

## 2.3 Other medication safety mechanisms

A number of other functionalities in the EMR can help manage the accurate and safe flow of medication through the entire cycle from procurement to administration and monitoring.

Some of these are

- Detailed and frequently updated drug Masters
- Medication Reconciliation functionality to ensure that accurate and comprehensive medication information is communicated consistently across transitions-of-care to prevent most common medication errors such as prescribing a previously ceased medicine, duplication of therapy, inadvertently omitting a medication a patient was taking at home during a hospital stay; as well as prescribing incorrect dosages.
- E-prescription to help decrease medication errors that occur due to errors in transcription or interpretation of orders and increase the accuracy of the rates of medication errors such as dosing levels and dosing frequency in hospitals, thus aiding in patient care
- Easily accessible drug monographs
- Electronic prescription for Controlled substances workflows
- Automated dispensing and automated drug labels generation
- E-Mar to facilitate the 7 rights of drug administration
- Maintenance of lists of high alert medications, look-alike, sound-alike medications,
- The use of tall man lettering to prevent LASA medication errors



## 2.4 Antimicrobial Stewardship Program

Antimicrobial stewardship programs (ASPs) are an established means for institutions to improve patient outcomes while reducing the emergence of resistant bacteria. ASP can be assimilated into EMRs to assist in the accreditation process by the use of tools such as

- Individual and cumulative antibiograms
- Inbuilt guidelines for the meticulous use of antibiotics
- Pre-authorization or prospective audit with interventions
- Antibiotic restrictions
- Hard and soft stops for restricted antibiotics
- Intravenous to oral conversion alerts and reminders
- Antibiotic specific order sets



## 2.5 Surgical Care

The EMR can holistically support the accreditation requirements of surgical care in addition to enhancing OT efficiency by facilitating

- Surgery scheduling with resource conflict checking
- Surgery readiness: The use of preference cards and pick lists will enable the OT to effectively prepare for the surgery in advance.
- Surgery Safety protocols and checklists; pre-anesthesia assessment, surgery standard safety check lists etc.
- Continuous Patient Monitoring through integration with OT and anesthesia devices.
- Electronic discharge criteria to guide discharge from the PACU
- Pacu flowsheets and checklists
- Post discharge orders and care plans.

**IT as a  
competitive  
differentiator  
– not a cost initiative**



### 3. Patient engagement

The adoption of EHRs and patient portals would greatly facilitate patient engagement and allow patients to assume a much more active, controlling role in decision making for their own health care. Patient portals can serve as a powerful platform for patients to communicate directly with providers, access their medical data, request refills, book appointments, pay bills or even tele-consult their doctors remotely.

EHRs also have extensive inbuilt patient education material libraries and workflows that will help providers identify and distribute appropriate education material to patients.

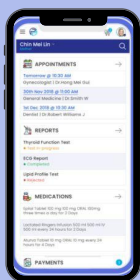
**In today's era where there is a high demand of every service being offered online, healthcare services can no longer be an exception.**

### 4. Easing the internal audit and monitoring process

At the level of the organization, a health information system would greatly facilitate the capture, integration, report generation and analysis of clinical, administrative, and financial data for measuring and improving the quality, patient-centeredness, and efficiency of health care. This would also facilitate the conduct of planned and regularized internal audits that are key to successful accreditation survey readiness.

### 5. Strong data Security and Back up plans

EHRs can ensure data security and privacy through increased data encryption at transit and rest, role-based access, authorization and authentication protocols, audit trails, monitoring and flagging suspicious activities etc. Powerful Data Backup systems ensure business and care continuity in case of unexpected hardware or software malfunction and during planned system downtimes.



Napier Patient Portal is an EMR/HIS agnostic patient engagement tool that lets patients and their families stay connected to the hospitals and own their health record.

[Learn More](#)

## Summary

Accreditation standards both global and national are keen on assisting healthcare facilities in providing the highest level of care. Patients are also highly informed and look for accreditation status of the facilities they chose to receive care from

The adoption of Health information systems can facilitate and ease the arduous processes involved in the entire journey to a successful accreditation.

### About Author



Ms. Neha Musaddi, is a CPHQ & Six Sigma Black certified professional. With her experience in International accreditation Systems she has successfully led the accreditation initiatives for Hospitals in the Middle East. Her main focus in Quality initiatives has been in implementation of standards such as JCI, ISO Management Systems, NABH and NABL.



## About Napier

Headquartered in Singapore, Napier Healthcare Solutions is a specialist global technology vendor for healthcare providers. Since 1996, the Company has been enabling medium to large, private and public sector hospitals and hospital networks across the globe to capture and work with clinical information, streamline workflows, reduce medical errors, drive cost efficiencies and maximize profitability.

Napier Healthcare's expanded portfolio today covers the information needs of acute care providers and operators of long-term care facilities, such as hospices and nursing homes, as well specific healthcare IT needs in other industries such as aviation and maritime. To find out how Napier Healthcare can help your organization to derive top dollar returns on IT investments, make your way to [www.napierhealthcare.com](http://www.napierhealthcare.com) today.

Contact Us Today  [info@napierhealthcare.com](mailto:info@napierhealthcare.com)



[www.napierhealthcare.com](http://www.napierhealthcare.com)