

# **Software Technology: The right way to reduce 'medical error'**

## **Introduction**

The Health Care System in America, in general, is considered one of the best health care provider in the world. Skilled physician, trained nurses, qualified administrator make it one of largest industry(20) in USA. But recently, some reports on healthcare system turnish its image.

**The institute of Medicine (IOM)** report “To Err of Human” which was published in Nov. 1999, pointed out a very important issue related to health care system. ‘Error caused by medical professionals’ in the health care system is the focal issue of that report, which have drawn attention from all levels. According to that report, about 44000-98000 people die in different American hospital in every year due to 'error by medical professional'. IOM also mentioned that places health care at least a decade behind aviation in safe guarding consumers life and health.

**The Veterans Affairs(22)**, the largest health care system in the country, counted almost 3000 errors-some of 700 deaths among them -within its health network between June 1997 and December 1998.

So All these reports pointed out that the health care system required more attention to improve the situation.

## **Goal:**

The goal of our research work is to find out the “ the human role” which leads different adverse events or errors in the last 10 years in different American hospitals. Also to recommend the suggestions to reduce the frequency and consequence of the error, which is due to just “ To Err is Human”.

## **Terminology:**

We use the term 'Medical Professional' which includes Physician, Pharmacist, Nurse, administrative person. In our research we found that incidence of error was happened by all type of 'medical professional' in different stages.

## **Data Sources:**

To analysis "the human role” in a medical error we followed the definition of error given by the IOM. (Definition)

We used all sources of medical informatics, and information science literature, including electronic database, MEDLINE, EMBASE, EBSCO to search for cases of medical error from 1985-2000.

We analysis some of the law suits, which was due to Medical error.  
We also reveiwed 15 research papers,regarding Medical Information system from graduate students of CIS 763 of fall 2001 semester of Brooklyn College.

### **Study Selection:**

We included the studies which presented different cases of medical error with proper reference, and also the studies which evaluate the application of software technology to prevent those errors.

### **Abstract:**

Medical sector is a multidisciplinary service.So error can occurs in all discipline.  
We classified all of the medical error in different categories according to the type of that error. Some of those categories again classified according to the cause, to find out whether or not "the human role" is responsible for that error.

### **CLASSIFICATION**

In our analysis we observe that administrative error, diagnostic error, err in treatment procedure, and all catagories of medication error are mainly due to "the human role".  
Experimental studies in different hospital indicate that, the application of Physician Order Entry System,Computer base clinical decision support system,Computerized alert system,Smart Card for patient information,reduce medical error by a considerable level.Different studies showed different range of error reduction but the minimum level is at least by 50% error reduction

### **Conclusion:**

'Human error' in an universal pathological condition of human being.BMJ(2) says"  
Despite outrage,despite grief,despite experience,despite our best effort, despite our deepest wishes,we are born fallible and will remain so.That's why just "trying harder" makes no one super human.Exhortation does not help much nor will suspending the doctors,nor will outrage in the headlines,nor even will guilt".So to over come the situation we have to change our system of health care service,among which application of software technology in different stages will be most crucial turnnig towards reducing 'medecal error'.