

## **Strategies to improve patient health care in terms of quality and cost effectiveness**

Improving the patient healthcare system is an immediate priority for all the healthcare facilities with the target of establishing a patient friendly system having minimal medical errors and maximum patient safety and satisfaction. Improved knowledge and awareness among the people, improved care conditions in hospitals and healthcare settings, strict and prompt regulation of healthcare, among the public, increasing demand for better care, keener competition, better health care regulation are some of the concerns in this area.

The degree of the healthcare quality is dependent on the type of services offered to the patient, the amount of time and care given to every incoming case, the degree of precision maintained in providing medical care/ laboratory testing support, availability of trained staff and paramedical staff, use of ethical practices at every step of patient care and the cost effectiveness of the healthcare facilities for the patients. The quality of patient care is essentially determined by the quality of infrastructure, quality of training, competence of personnel and efficiency of operational systems. The basic necessity is the acceptance of a patient friendly system. The complication in the present healthcare systems are contributed by various factors and come under the scope of this literature review. Health care systems across various middle income, low income and even developed nations face these challenges everyday and this necessitates the need to address these issues in terms of patient care quality and cost effectiveness

As per the definition by IOM, patient safety is defined as ‘the freedom from any accidental injury’ (IOM, 2000). The IOM simultaneously defined ‘health care quality’ as “‘the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge’” (IOM, 2001). The Institute of Medicine (IOM) reported that medical errors lead to around 98,000 patient deaths annually in hospitals. It has been already been stressed on various platforms and thinking podiums that strategies for providing better patient care that too in terms of quality of patient care given keeping in mind its economic aspect for the patients, are warranted. Necessary steps are needed to plan, conceptualise, asses and implement strategies for ensuing patient quality and cost effectiveness. One of the most significant problems for improving patient care, at an affordable cost to every incoming patient, is the lack of accessibility of the healthcare facilities to the common population in some geographical locations, lack of knowledge regarding the rights of patients and ineffective or complete lack of strategies to

define quality and cost effectiveness in present healthcare settings. To influence and improve quality of healthcare in various settings we need to formulate and strategize on this important aspect. As discussed above the rationale behind choosing this topic is completely justified keeping in mind the importance and urgency of providing better quality patient care in terms of cost effectiveness and quality of healthcare facilities. This supports the rationale in favour of choosing this topic for reviewing.

To ensure that all applicable literature in the given subject was captured, a broad literature search was performed on 2 Sept 2015 for the period between 01 January, 2005 through 31 Aug 2015 in Embase and Medline via Ovid, Scopus and PubMed. The results were noted and then full text, abstract, key words and title were searched using the library and other facilities. After screening against the eligibility criteria, some of the articles were identified as eligible and included in this literature review. With respect to the strength of the body of evidence, the included studies were assessed according to the degree of evidence as per the oxford level of evidence.

On assessment of peer reviewed literature many studies were noted worth discussing within the scope of this literature review. As per the studies reviewed, good and efficient leadership support, concern and involvement of the healthcare providers with patients and consistency among the plans and committed strategies for providing good quality patient care along with real time improvement, were found to be important aspects contributing to crucial changes in this field (Buhr and White, 2006; Guinane and Davis, 2004; Mills et al., 2005; Pronovost et al., 2000; Thompson, Wieck and Warne, 2003; Willeumier, 2004; Leape et al., 2006; Smith and Haig, 2005). As evidenced by literature, Six Sigma is reported to be successful in lowering errors as well as deviations (Printezis and Gopalakrishnan, 2007; Johnstone et al., 2003; Guinane and Davis, 2004) and also the operating costs (Guinane and Davis, 2004) and improve the endpoints in various health care settings in various measurable process models.

Six Sigma can be seen as an important model to improve healthcare facilities which can be taken was taken to differentiate between the reasons causing variation causes and the measurable endpoints (Guinane and Davis, 2004). Also it was reported that the effectiveness of the model improves with experience in using the model and the prescribed strategy specially in healthcare settings. Still it was evident that effective implementation of this strategy was successful only after contributory factors like availability of committed staff,

leadership skills and training, awareness and proper training of the staff in healthcare settings were additively acting to implement the strategy. Improved patient safety, better quality of healthcare systems provided, economical and affordable healthcare costs, and more job satisfaction all of these factors were found to be interrelated in context of improving quality and cost effectiveness in healthcare (Thompson, Wieck and Warner, 2003). The present state of healthcare settings in most of the low income developing nations and even developed nations focus on a setup which gives a fragmented and very unaffordable system of implementation of healthcare plans. Initiatives are needed to promote better healthcare based on improvement of cost effectiveness and to create economically viable and affordable system of intertwined healthcare settings like primary, secondary and tertiary referral hospitals. So that good quality healthcare facilities are made available to each and every citizen irrespective of their economic status. Study by Gaylin et al. (2011) Americans' assesd various attitudes regarding the potential of health information technology's (IT's) for improving the health care and also observed the respective differences in the attitudes on the basis of demographic characteristics and affinity to technology. The study was based on telephone interviews and reported that most of the participants favored the use of electronic medical records and many of them believe that the electronic medical records could improve healthcare and also reduce the respective healthcare reduce costs. Many of the participants also supported that health care information should be shared. The findings showed that the participants believed improvement in health information technology improvements can be used as effective means to have improved and cost effective treatment across various healthcare settings. Another study by Hillestad et al. (2005) assessed if electronic medical record systems is having an impact on the health care system or not and if yes, what is the benefits and the cost effectiveness expected out of EMR system usage. The study estimated the possible cost savings with the use of electronic medical record (EMR) systems, and concluded that the implementation of electronic record systems could eventually save a substantial amount of money by improving patient acre quality and cost effectiveness yet many challenges are to be addressed before taking it as a standard model in health care system. A recent review of technologies and strategies to improve patient healthcare quality with tele-medicine and tele-health was published by Kvedar and Coye (2014). The study reports that national health reforms has increased accessibility at low costs to large populations. The increasing use of digital technologies has been reported to be accepted widely as an important strategy for management of patient acre, quality and improving cost effectiveness.

It has been clearly substantiated by the above mentioned literature that a healthcare system with better patient care and affordable costs are needed with active contributions expected from the healthcare policy makers, private-sector organizations, non-governmental organizations, small and large healthcare settings and patients themselves in order to effectively implement the various strategies in this context. We also need to encourage and enable the health care delivery systems so that they can effectively provide patient friendly and cost effective health care. Proper management of value in terms of patient care and healthcare settings are necessary to ensure that the endpoint (measurable outcomes) and the related expense are defined as per the settings they are put in. the respective cost of even a laboratory test incurred on a patient should be completely determined based on valid data and followed using proper implementation plan. The measured endpoint and the measurable outcomes must cover the whole patient care procedure along with substantial contributions from a whole team of healthcare providers. The strategies are to implemented at every stage of patient treatment. Overall the gap in the literature regarding the issue warrants further studies in this context.

## References

- Buhr, G.T., & White, H.K. (2006). Management in the nursing home: a pilot study. *Journal of American Medical Directors Association*. 7, 246-253.
- Gaylin, D. S., Moiduddin, A., Mohamoud, S., Lundeen, K., & Kelly, J. A. (2011). Public Attitudes about Health Information Technology, and Its Relationship to Health Care Quality, Costs, and Privacy. *Health Services Research*, 46(3), 920–938.
- Guinane, C.S. & Davis NH. (2004). The science of Six Sigma in hospitals. *American Heart Hospital Journal*. 42, 8.
- Hillestad, R., Bigelow, J., Bower, A., Girosi, F. et al. (2005). Can electronic medical record systems transform health care? potential health benefits, savings, and costs. *Health Affairs*, 24(5), 1103-17.
- IOM (2000) <http://iom.nationalacademies.org/Reports> accessed on 2.9.2015.

Johnstone, P.A., Hendrickson, J.A., Dernbach, A.J., et al. (2003). Ancillary services in the health care industry: is Six Sigma reasonable? *Quality Management Health Care*. 12(1), 53-63.

Kvedar, J., Coye, M.J. & Everett, W. (2014). Connected health: a review of technologies and strategies to improve patient care with telemedicine and telehealth. *Health Affairs (Millwood)*. 33(2), 194-199.

Leape, L.L., Rogers, G., Hanna, D., et al. (2006) Developing and implementing new safe practices: voluntary adoption through statewide collaboratives. *Quality Safety Health Care*. 15, 289–295.

Mills, P.D., Neily, J., Luan, D., et al. (2005). Using aggregate root cause analysis to reduce falls and related injuries. *The Joint Commission Journal on Quality and Patient Safety*. 31(1):21–31.

Printezis, A. & Gopalakrishnan, M. (2007). Current pulse: can a production system reduce medical errors in health care? *Quality Management Health Care*. 16(3), 226–238.

Pronovost, P.J., Morlock, L., Davis, R.O., et al. (2000) Using online and offline change models to improve ICU access and revenues. *Journal of Quality Improvement*. 26(1):5–17.

Smith, D.S. & Haig, K. (2005). Reduction of adverse drug events and medication errors in a community hospital setting. *Nursing Clinics of North America*. 40(1), 25–32.

Thompson, J., Wieck, K.L. & Warner A. (2003). What perioperative and emerging workforce nurses want in a manager. *AORN Journal*. 78(2), 246–249.

Willeumier, D. (2004) Advocate health care: a systemwide approach to quality and safety. *The Joint Commission Journal on Quality and Patient Safety*. 30(10), 559–566.