In this week 5 DB I am going to compare and talk about the papers which I have read and pointing some similarities and dis-similarities.

The first paper is Reduce medication errors with a closed-loop medication administration system by Contributors: Kareen Hall-Clarke, MPH, FACHE, CPHIMS, Seneca College, ON & Alstair Forsyth, MHSc, North York General Hospital, ON, Canada. In this paper I read about the medication erros which is big problem in healthcare. How they reduce the medication errors. What things are they used to reduce and make the healthcare efficient. Start with the electronic medication administration record (eMAR) was created to improve the healthcare system and reduce the errors which are important to get the good result in medication phase. But still errors are taken place at each phase in medication like the misinterpretations of order by physicians, miscalculations during the order filling, misadministration of the medication by the nurse. These things can be prevent using the proper communication, good software system, exact amount, or unit of dose calculation by body. the using of applicators for dosing can be used to minimize the misadministration of medicine. closed loop is the secure process of preventing making the way better for the patient and medication system.

The second paper is JAMA Performance Improvement, β-Blockers in Myocardial Infarction Issues with Standard Admission Order Sets by Arjun Gupta, MD; Sandeep R. Das, MD; Ambarish Pandey, MD. In this paper I read and learn about the case study how the fix it, what things are considered, how they process the analysis and correct the mistakes or errors. The case study of 58-year-old man, how they solve the problem of heart block, what mistakes are done during the case, how they consider the analysis on this. Review of this case initially revealed individual error as an important cause of prescription of β-blockers. Ideally, the physician would have recognized the contraindications to β-blocker therapy. How- ever, it is important to recognize that interaction between an individual and a system creates challenges in delivering optimal care. 1. The optimal order set A CDS stating that “β-blockers can be started orally, in the absence of contraindications (heart failure, hypotension, bradycardia)” was introduced in the β-blocker ordering window. 2. ReevaluatequalitymeasuresforSTEMI.Qualitymetricsaretools that reflect consensus standards and are intended to benchmark health care processes to facilitate system-level improvements in the ability to provide high-quality health care. 3. Improve communication. Arrival of a patient with STEM I triggered a consultation to the inpatient cardiology team in addition to the interventional cardiology team. These things are important and that makes the things better for the patient like the old man discharged 5 days later after the heart block resolved. STEMI order sets once updated there are less, or no cases seen in medication phase.

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| Key Similarities in first and second paper | Dis-Similarities in first paper | Dis-Similarities in second paper |
| Both used strong technology which helps to the healthcare system to focus on the mistakes and prevent them easily. for example, like phone and computer. | As we saw in first paper, they use closed loop medication which is secure and safe but still there are in some phase the errors come out. | Beta-blockers slow down your heart rate that’s why the old man gets in trouble, and they didn't find the proper solution in that time. |
| Both papers have updated data and consistency for the records that helped them to remind about the information is new or old. | medication administration is seen as holistic closed loop process. | Poor circulation. Your heart beats more slowly when you take beta-blockers sometimes, they provide the wrong results and that affect human system. |
| Both the cases Modification is hard in first phase but after some changes in system in second phase it is easy to modify the things in medication phase. | The barcode system is main and important system if barcode makes mistake everything will affect the process. | they must use repeat or more time laboratory works for the results cross checking. |
| Quality measures are taken place in both the cases which helps them to provide a better service to the patients. for example, STEMI | Similar *difference* was observed for non-critical *medications*, 80% were administered within 60 min of their scheduled time at the EMMS site versus 41% at the order sets. | some cases they must restore the process and stop some medications. |
| Both the cases as we saw in paper, they follow a step-by-step procedure during the phase of medication. | *Closed Loop Medication* Management (CLMM) system is a fully electronic *medication* management process which is depends on electricity and internet. | An order set or “guideline-based care, “has its own set of limitations and does not replace clinical judgment. |
| Both papers examine the old things or problems mistakes errors and design new workflow to solve the problem. | some cases required ICU. | End users should be involved in all aspects of developing and modifying order sets. |

# Rethinking electronic health records to better achieve quality and safety goals

Stead WW. Rethinking electronic health records to better achieve quality and safety goals. Annu Rev Med. 2007;58:35-47. doi: 10.1146/annurev.med.58.061705.144942. PMID: 16987082.

Healthcare information technology changes the ecosystem of practice. Human roles are important in this system help the patients and their life. Process workflow technology infrastructure are busy and interrelated. Medical errors may increase if a change is happened in one phase and other phase is not accommodated by that change. In last decades of healthcare informatics, we saw the error presentation is now a days good and in future of healthcare informatics maybe better and errorless healthcare system gives proper and good medications. Information technology supports a family of technological approaches, each with distinct mechanisms of action, benefits, and side effects. We all know how the system gives better result and some problems with them. It is hard to understand and get the things better. By matching technological approach to task and staging introduction into practice, initial benefit can be obtained more quickly, at reduced cost, while managing risk of a misfit. Some technological approaches need practice before from start of the introduction to the final stage of deployment and good knowledge. the initial benefit is always good and more quickly at reduced cost, but it also comes with the bad things like the risk of a misfit means problems errors and trouble. A staged approach to turning direct access by patients to their health information into more effective care is presented as an example of this strategy. Rethinking electronic health records are the term where we can rethink about the electronic health record to be better in future which achieve quality and safety goals. The important thing in healthcare is quality of the system and the safety of the person that matters most in healthcare for me as an informaticians. As Informaticians I would like to make this system better and efficient with the help of relevant data and information about the technology with detailed and care.