

**What are the Roles, Responsibilities, and Errors that Occur in the Stakeholder
Groups for Administering Medication**

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On my honor as a University Student, I have neither given nor received unauthorized aid on this
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What are the Roles, Responsibilities, and Errors that Occur in the Stakeholder Groups for Administering Medication

Within various departments in a hospital, much of the treatment that occurs relies on time sensitive medication which must be administered at a certain interval in order to be successful. However, in many cases this medication is delayed causing medication administration errors (MAEs) and adverse drug events (ADEs) resulting in patients having to go through additional treatment in order to correct an avoidable error by the hospital. As a result of these MAEs, patients are required to increase the length of their hospital admission which ultimately leads to higher costs they must pay off and negatively affects their quality of care. Throughout this project, I hope that by getting a better understanding of how the interactions occur between the various stakeholders when administering medication and performing a simple review on the causes of MAEs, we are able to specifically point to areas that may be flawed or need improving and can implement these changes to develop a better system. The framework I will be using for this research paper is presented by “Unintended Consequences of Information Technologies in Health Care—An Interactive Sociotechnical Analysis” (Michael I. Harrison et al., 2007). Thus, the categories will consist of understanding the “sociotechnical systems through research papers, the social subsystems, technical subsystems, and the social and organizational environments.” In this STS research, I will be focusing on understanding the requirements and the process that is taken for the delivery and administration of medication by the stakeholder groups, doctors, nurses, and pharmacists. By breaking apart and recognizing the goals for each of these groups, we can create a better timeline of how the process works and then use this information to determine where the lack of communication, instruction, or clarity occurs resulting in MAEs and delays.

Understanding the stakeholders

In a research article determining the causes of MAEs from 2013, it states that the majority of errors are a result of lapses or slips in information (Keers et al., 2013). More specifically, many of the mistakes were written communication errors, supply errors, patient factors, and health staff status. In other words, examples of these errors are an incorrect prescription (wrong name, date, quantity, etc), a shortage of the medication in the supply for the pharmacy, the availability of the patient, or poor working conditions for the staff which may have caused a lapse in judgement. Thus, the causes for MAEs and delivery errors range from a variety of reasons involving the various stakeholder groups along the way.

Doctors

The responsibility for doctors is similar to that of the pharmacist however, they focus on writing prescriptions based on their judgement and knowledge rather than performing the checks and filling the prescription as the pharmacist would do. As stated by Velo and Minuz (2009), the role for doctors comes down to three primary aspects including, making a medical decision for which medication is best for the patient, writing prescriptions, and communicating this information with the nurse in charge of administering the medication. Throughout these three aspects, the most common error that arises is errors in writing the prescription, resulting in almost 70% of the errors, including, faults in dosage, incomplete prescriptions, and poor handwriting. Generally, these errors and faults by doctors are attributed to human error or a lapse in judgement however, these simple mistakes can lead to a negative and possibly life-threatening outcome in some situations. In many cases this human error is caused by the pressure the doctors

are under, a heavy workload, and a lack of communication between the doctor and the rest of the team involved with the patient care.

Pharmacist

One of the most important stakeholders involved in the delivery of medicine, and the second step to medication administration, is the pharmacist filling the prescription. According to the book by the American Pharmacist Association, “Pharmacists’ Impact on Patient Safety,” pharmacists have eight key responsibilities in this process including, ensuring access to medication, supplying medication information, evaluating the appropriateness of the medication ordered, improving the way the medication is taken per patient, medication management (making sure there is not interference with other medication the patient is on), assessing current health status, and coordinating care transitions. In other words, the pharmacist plays a crucial role in the delivery process of medications because if there are any errors in their responsibilities then a delay is inevitable.

ProficientRx highlights some of the errors that pharmacists face causing delays with one of the most common, 15% of errors, being incorrect entries of prescriptions (2019). This means that the prescription sent by the doctor was not legible, the name was entered incorrectly, dosage was written incorrectly, or other information was misprinted. This causes lots of delay because in these situations, the pharmacist must either make their best assumption as to what was intended, or they must contact the doctor to confirm the prescription which can sometimes take hours. Additional errors from the pharmacist include lack of patient education on the medicine prescribed which leads to errors taking the medicine, distractions that occur within the office causing a quick lapse in judgement, cross contamination between different medications which

can cause an allergic reaction, or providing the wrong medication to the patient, all of which are extremely dangerous and could be potentially fatal (2019).

Nurses

In terms of the timeline for medication delivery, nurses are at the end of the line as they are the ones administering the medication. Ideally, any errors or flaws in the medication should be corrected by the time it's the nurse's role however, a study conducted in 2013 states that nearly 64.5% of nurses have made a medication error and the majority of errors in the process are caused by nurses (Cheragi MA et al., 2013). This article by Cheragi illustrates that the primary reason for these medication errors is because of a lack of pharmacological knowledge. In other words, because the prescriptions from doctors contain abbreviations for the medication and sometimes the dosage may be unclear, nurses are required to make a judgement call which may lead to MAEs or delays because they must get clarification. Additionally, these errors can be linked back to poor communication between the doctors and nurses. In other words, because the heavy workload and constant pressure that both doctors and nurses are under, there may not be enough time to talk with the doctor and instead they are required to make a judgement call in order to start treatment on time, which can cause errors and ultimately lead to a failure in treatment. This article highlights a key error that must be resolved in order to minimize the MAEs as these nurses are the final step between a patient and their treatment.

Current systems

Currently most of the hospitals around the United States use one of the three emergency medical records, either Epic, Cerner, or Meditech, with Epic being used much most frequently used because of its time in the field and contracts that have been signed by hospitals. In this

paper, I will focus more on Epic as they are a much bigger company and used much more often. While Epic has been around for a long time, there are many drawbacks with their system. For example, in an interview I conducted with two doctors working in Columbus, Ohio, who will be referred to as JS and SS in this paper for their privacy, state that a lot of the issues and delays that occur are because of the poor communication and system from Epic. Specifically, one of the biggest drawbacks they mentioned was how each of the stakeholder groups has a different user interfaces when they access the same patients medicine log. These differences of options and views on the screen will often cause a lot of confusion and delays because they must be worked out before the medication order can be placed, reviewed/filled by the pharmacist, and then administered to the patient. Additionally, the interface for each of the groups is very complex and not user friendly. Due to the complexity of the interfaces, parts of a medication order may get overlooked or entered incorrectly which results in having to restart the whole process because the doctor must sign off on the prescription again. Furthermore, one of the other big flaws JS and SS described was in the communication within the system. They mentioned how a secure chat was very recently introduced into the system which does make the process of dealing with errors a little bit easier, but it is still inefficient and time consuming when they are with other patients and unable to check the system to confirm changes on a prescription, which ultimately leads to more delays again. Besides the chat feature, there is little to zero status updates on what the progress is on a medication, if it has been filled, or whether it has been administered. This lack of transparency and status updates results in a lot of confusion between the stakeholder groups in trying to locate what went wrong with the order or where the medication is currently which can cause extreme delays.

While these systems have been around for several decades and have proven to be effective in some areas such as storing patient data and records, lots of the other aspects for daily medical care are difficult to manage and can act like clunky software. For example, Lucas Mearian also discusses in his article how EHR is one of the biggest areas of complaints for doctors because other members on the care team may not be allowed to enter or edit the information for a patient; leaving the doctor as the only individual allowed to enter data (2019). Additionally, he also mentions how EHRs were created for billing and records not patient care. In other words, because they did not focus on creating these systems to handle all aspects of patient care, which they practically do today, there are many overlooked and flawed aspects that make patient care inefficient. In order to correct these systems, I will need to propose a system that will focus on maximizing the communication, transparency, and connectivity between each of the individuals in the group.

As we can see, the roles and responsibilities for each member of the stakeholder groups entails a lot of planning, checks for errors, and efficiency to provide quality and effective treatments. Currently, we can notice a big gap in communication between the departments in the hospital and the pharmacy causing many errors that must be fixed resulting in delays of treatment. In order to improve these flawed systems, we need to incorporate technological systems that can help automate and ease some aspects of each individuals' responsibilities as well as, a system that is easy to use, protects sensitive patient data, and allows the members of each group to focus on treating the patient rather than fixing avoidable errors or tracking individuals down.

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