Story: At-Home Health Aides Database

My organization, which provides at-home health care aides, has taken pride over the years in being able to meet the needs of its customers. All of the new employees are required to attend a 6-hour training session to learn the necessary information about the organization. Because there are many different types of forms that we work with in handling our customers' orders, and various types of insurances are involved in the transactions we conduct, it is imperative that all employees know the rules and regulations. To generate the correct forms electronically, the user must select the correct processing options when he or she is keying in an order. If the customer has insurance, the entire order must be billed entirely to the insurance company. If the customer does not have insurance, the bill must be sent to the customer for payment. In addition, the person who is keying the order should not specify both insurance and self-pay as payment options for a single order. If the customer has a discount card, the amount of the discount should never be billed to the customer or the insurance company.

Recently, some of the employees have been a bit relaxed in ensuring that all of the rules were followed. Because of this, the system did not process some of the insurance payments correctly, and the customers were sent bills for the medical supplies that they ordered. In some cases, bills went to the customer, and reimbursement requests were sent to the insurance company on record. A recent audit that was conducted because of customer complaints found that over the last 9 months, approximately 20% of orders had some type of error when the order was keyed in. The employees were aware of the rules, but because there are so many rules to remember and numerous procedures to follow, some of the employees made serious mistakes when entering orders. According to these employees, who were questioned about the proper procedure, sometimes the order entry system led them to believe that they were doing things correctly. In other cases, the employees complained that they did not know how to use the order entry system correctly. In fact, they stated that they were never asked about how much they understood about the rules, procedures, policies or system. In all cases, the employees felt that there had been a major breakdown in communication and, because of that, they should not be held responsible for the errors.

The original database designers who planned the system did not effectively diagram and document the system, so when another information technology (IT) company was called in to discuss the issues that the company was having, there was no system documentation available to provide to the company for review. The lack of documentation cost the company money because the database designers had to spend a considerable amount of additional time researching the current system and determining the requirements.

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Moral of the Story

The documentation and verification of the rules of the procedure that an organization abides by are put in place as a means of communicating the rules to employees and also serve to assist database designers in gaining an understanding of the system requirements of the organization. Consensus as to what the business rules are should occur so that all end users have a common understanding. Systems developers need to carefully document the system design using entity-relationship data models, requirements documents, and system specifications documents so that the system can be effectively maintained over time. It is important that all business rules are written precisely, clearly, and in a simple form. The business rules must assist in the identification of the entities, attributes, relationships, and constraints that are needed in the system. Using a graphical data model can easily communicate the schema.

When it comes to insurance reimbursements for medical supplies, the insurance companies expect that all organizations that are processing claims will exercise due diligence during the processing to avoid errors that could cost both companies money. The customers will lose faith and trust in an organization that cannot satisfactorily process insurance claims for the medical supplies that they need. If the information system and related database allows mistakes to be made, that system will cost the company money in the long run. It is important that the information system be designed to enforce rules and to prevent the likelihood of errors occurring. If the end user makes a mistake, the system should prompt the user to assist him or her in making corrections. The integrity of the information that is stored in the database is only as good as the process and design of the system that is used to manage and store that information.