**You are working in risk management and need to track medication administration errors and adverse events for patients over a** 6-**month period**. **You are receiving information from the inpatient areas**, **outpatient clinics**, **and home health**. [1](https://www.coursehero.com/search-result/?search_filter_id=0&search_rank=0&type=question&id=49735551&is_downloaded=1)

Firstly, you could collect data from the inpatient areas, outpatient clinics, and home health by using incident report forms. These forms can be used to document any potential errors that occur during the administration of medications or any adverse events experienced by the patient. This type of collection allows for easy tracking of any issues that may have occurred.

Secondly, you could use survey questions to collect data from patients. These questions can ask about their experience with the medication administration process and ask if they experienced any adverse events. This type of survey data can provide a more complete picture of the patient experience.

Thirdly, you could use retrospective chart reviews to track medication administration errors and adverse events. This type of review can identify any issues that were not reported through incident report forms or survey questions.

Finally, you could use data from electronic medical records to track medication administration errors and adverse events. This type of data can provide a comprehensive view of the medication administration process and any adverse events that may have occurred.

By using a combination of these data collection methods, you can effectively track medication administration errors and adverse events for patients over a 6-month period.

**Step-by-step explanation**

Medication errors and adverse events are a major concern in the healthcare industry, and tracking these issues is critical for risk management. In order to effectively track medication administration errors and adverse events for patients over a 6-month period, it is important to utilize a combination of data collection methods.

Incident report forms are an important data collection tool for tracking medication administration errors and adverse events. These forms can be used to document any potential errors that occur during the administration of medications or any adverse events experienced by the patient. Incident report forms can be used in all settings, including inpatient areas, outpatient clinics, and home health. These forms allow for easy tracking of any issues that may have occurred and can be used to identify patterns or trends in medication administration errors and adverse events.

Survey questions can also be used to collect data from patients. These questions can ask about their experience with the medication administration process and ask if they experienced any adverse events. This type of survey data can provide a more complete picture of the patient experience by providing feedback from patients directly. Additionally, surveys can be used to assess patient satisfaction with the medication administration process and identify any areas that can be improved.

Retrospective chart reviews can be used to track medication administration errors and adverse events. This type of review involves the review of patient charts and medical records to identify any issues that were not reported through incident report forms or survey questions. By reviewing the records of patients that have previously received medications, it is possible to identify any errors or adverse events that may have occurred.

Finally, data from electronic medical records can also be used to track medication administration errors and adverse events. Electronic medical records are a comprehensive source of information about the medication administration process and any adverse events that may have occurred. By using this data, it is possible to track any errors or adverse events that may have occurred over a 6-month period.

Using a combination of these data collection methods can provide an effective way to track medication administration errors and adverse events for patients over a 6-month period. By utilizing a combination of incident report forms, survey questions, retrospective chart reviews, and data from electronic medical records, it is possible to identify any potential issues that may have occurred and take the necessary steps to improve the medication administration process. Additionally, this data can be used to identify any patterns or trends in medication administration errors and adverse events.

By tracking medication administration errors and adverse events, healthcare organizations can ensure that their patients are receiving safe and effective care. This data can be used to identify any potential issues that may need to be addressed, as well as to identify any areas that can be improved. In addition, this data can be used to develop strategies for preventing medication errors and adverse events in the future.

Overall, tracking medication administration errors and adverse events is a critical component of risk management. By utilizing a combination of data collection methods, it is possible to effectively track medication administration errors and adverse events for patients over a 6-month period. This data can be used to identify any potential issues that may need to be addressed and to develop strategies for preventing medication errors and adverse events in the future.

Second

**You are a nurse educator for a growing hospital organization**. **All of your training and competency requirements are on paper and organized by individual and facility**.  **Consider a database design that you might use to collect and**/**or convert the data to an electronic format**. Post **a** list **of the tables** including **the** fields (rows) **that you** would include in each table **to convert the data** from **the** scenario **you** selected into **a database**. Be specific. Explain the rationale for your decision and support your decision with citations from this week ' s Learning Resources . Describe the benefits of converting the data from paper to electronic form and explain why . Be specific and provide examples .

One possible database design for this scenario is to have a table for each individual nurse, a table for each facility, and a table for each training and competency requirement. Each nurse would have a record in the nurse table, each facility would have a record in the facility table, and each training and competency requirement would have a record in the training and competency requirement table.

The nurse table would include fields for the nurse's name, license number, and contact information. The facility table would include fields for the facility's name, address, and contact information. The training and competency requirement table would include fields for the requirement's name, description, and date.

The benefits of converting the data from paper to electronic form include the ability to easily search, sort, and filter the data. For example, if a nurse is looking for a particular training and competency requirement, they can use the search function to quickly find it. Or, if a facility is looking for all nurses who have a particular training and competency requirement, they can use the filter function to quickly find them.

Another benefit of converting the data from paper to electronic form is the ability to easily update and track changes. For example, if a nurse's license number changes, the nurse can simply update their record in the database. Or, if a training and competency requirement is added or removed, the administrator can easily add or remove it from the database.

Finally, converting the data from paper to electronic form can help to ensure accuracy and consistency. For example, if all of the data is entered into the database manually, there is a greater chance for errors. However, if the data is converted from paper to electronic form, it can be checked for accuracy more easily.

**Step-by-step explanation**

There are a few advantages to changing information from paper over completely to electronic structure. One advantage is the capacity to handily look, sort, and channel the information. For instance, on the off chance that a medical caretaker is searching for a specific preparation and skill necessity, they can utilize the hunt capacity to find it rapidly. Or on the other hand, in the event that an office is searching for all medical caretakers who have a specific preparation and capability prerequisite, they can utilize the channel capacity to find them rapidly.

One more advantage of switching the information from paper over completely to electronic structure is the capacity to refresh and follow changes without any problem. For instance, in the event that a medical caretaker's permit number changes, the attendant can just refresh their record in the data set. Or on the other hand, in the event that a preparation and capability necessity is added or taken out, the manager can without much of a stretch add or eliminate it from the data set.

At last, changing the information from paper over completely to electronic structure can assist with guaranteeing exactness and consistency. For instance, in the event that the information is all placed into the data set physically, there is a more prominent opportunity for mistakes. Notwithstanding, assuming that the information is changed over from paper to electronic structure, it very well may be checked for exactness all the more without any problem.

Generally speaking, changing information from paper over completely to electronic structure can be incredibly advantageous. It can assist with further developing association, precision, and proficiency.

[1](https://www.coursehero.com/search-result/?search_filter_id=0&search_rank=0&type=question&id=41929487&is_downloaded=1)

**Third:**

**Scenario 1**

   You are working in risk management and need to track medication administration errors and adverse events for patients over a 6-month period. You are receiving information from the inpatient areas, outpatient clinics, and home health.

**2.** For this Discussion, you reflect on a selected scenario and consider the database design that you would employ in that scenario.

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## Answer & Explanation

Solved by verified expert

Answered by nacenobdc

Database design is the organization of data according to a database model. The designer determines what data must be stored and how the data elements interrelate. ... Database design involves classifying data and identifying interrelationships. This theoretical representation of the data is called an ontology.

Types of database models  
1. Hierarchical database model.  
2. Relational model.  
3. Network model.  
4.Object-oriented database model.  
5.Entity-relationship model.  
6.Document model.  
7. Entity-attribute-value model.  
8. Star schema.

In this case the relational model would be appropriete

 Relational databases are known as a relational database management system (RDBMS). In this model, data is organised in rows and column structure i.e., two-dimensional tables and the relationship is maintained by storing a common field. It consists of three major components.

Step-by-step explanation

**steps in database design?**  
The design process consists of the following steps:  
- Determine the purpose of your database. ...  
- Find and organize the information required. ...  
- Divide the information into tables. ...  
- Turn information items into columns. ...  
- Specify primary keys. ...  
- Set up the table relationships. ...  
- Refine your design. ...  
- Apply the normalization rules.

Relaional databases are known as a relational database management system (RDBMS). In this model, data is organised in rows and column structure i.e., two-dimensional tables and the relationship is maintained by storing a common field. It consists of **three major** **components.**

In relational model, three key terms are heavily used such as **relations, attributes, and domains.** A relation nothing but is a table with rows and columns. The named columns of the relation are called as attributes, and finally the domain is nothing but the set of values the attributes can take.

**Terminology used in Relational Model**

• Tuple: Each row in a table is known as tuple.  
• Cardinality of a relation: The number of tuples in a relation determines its cardinality.   
• Degree of a relation: Each column in the tuple is called an attribute. The number of attributes in a relation determines its degree. .

**Keys of a relation-**

• Primary key- it is the key that uniquely identifies a table. It doesn't have null values.  
• Foreign key- it refers to the primary key of some other table.it permits only those values which appear in the primary key of the table to which it refers.

**Some of the example of relational database are as follows.**

Oracle: Oracle Database is commonly referred to as Oracle RDBMS or simply as Oracle. It is a multi-model database management system produced and marketed by Oracle Corporation.

MySQL: MySQL is an open-source relational database management system (RDBMS) based on Structured Query Language (SQL). MySQL runs on virtually all platforms, including Linux, UNIX, and Windows.

Microsoft SQL Server: Microsoft SQL Server is an RDBMS that supports a wide variety of transaction processing, business intelligence, and analytics applications in corporate IT environments.

PostgreSQL: PostgreSQL, often simply Postgres, is an object-relational database management system (ORDBMS) with an emphasis on extensibility and standards compliance.

DB2: DB2 is an RDBMS designed to store, analyze, and retrieve data efficiently.

**Advantage**

• Relational model is one of the most popular used database model.  
• In relational model, changes in the database structure do not affect the data access.  
• The revision of any information as tables consisting of rows and columns is much easier to understand.  
• The relational database supports both data independence and structure independence concept which makes the database design, maintenance, administration and usage much easier than the other models.  
• In this we can write complex query to accesses or modify the data from database.  
• It is easier to maintain security as compare to other models.

**Disadvantages**

• Mapping of objects in relational database is very difficult.  
• Object oriented paradigm is missing in relation model.  
• Data Integrity is difficult to ensure with Relational database.  
• Relational Model is not suitable for huge database but suitable for small database.  
• Hardware overheads are incurred which make it costly.

Fourth

**Scenario**  
    You are a nurse educator for a growing hospital organization. All of your training and competency requirements are on paper and organized by individual and facility.

**Post** a list of the tables including the fields (rows) that you would include in each table to convert the data from the scenario you selected into a database. Be specific. Explain the rationale for your decision and support your decision with citations

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## Answer & Explanation

Solved by verified expert

Rated

Helpful

Answered by ProfStar23265

**Introduction**

Organizing data is an important part of any healthcare organization. Having accurate and timely data is critical for providing effective patient care and ensuring compliance with regulations. As a nurse educator for a growing hospital organization, it is essential to have a database that is organized, efficient, and reliable. A database will allow for efficient storage and retrieval of data, as well as the ability to quickly update and access information. The purpose of this paper is to discuss how to convert the existing data from the scenario into a database, and provide a rationale for the decision.

**Patient Information Table:**

The patient information table is an essential part of any healthcare organization, as it contains vital information about each patient. This table includes information such as name, address, date of birth, gender, social security number, and insurance information. This information is used to identify the patient, track their medical history, and ensure that they receive the best possible care.

Name:

The patient's full name is stored in this field. This is used to identify the patient in medical records and other documents.

Address:

The patient's address is stored in this field. This is used to contact the patient or send them important documents.

Date of Birth:

The patient's date of birth is stored in this field. This is used to confirm the patient's identity and ensure that they receive the correct treatments and medications.

Gender:

 The patient's gender is stored in this field. This is used to ensure that the patient receives the correct treatments and medications based on their gender.

Social Security Number:

The patient's social security number is stored in this field. This is used to ensure that the patient is eligible for certain treatments and medications.

Insurance Information:

The patient's insurance information is stored in this field. This is used to ensure that the patient's treatments and medications are covered by their insurance plan.

**Employee Table:**

The employee table is an essential part of any healthcare organization, as it contains vital information about each employee. This table includes information such as name, address, date of hire, position, and competency information. This information is used to identify the employee, track their job performance, and ensure that they are properly trained and qualified for their position.

Name:

The employee's full name is stored in this field. This is used to identify the employee in medical records and other documents.

Address:

The employee's address is stored in this field. This is used to contact the employee or send them important documents.

Date of Hire:

The employee's date of hire is stored in this field. This is used to track the employee's job performance and ensure that they are properly trained and qualified for their position.

Position:

The employee's position is stored in this field. This is used to ensure that the employee is properly trained and qualified for their position.

Competency Information:

The employee's competency information is stored in this field. This is used to ensure that the employee is properly trained and qualified for their position.

**Training Records Table:**

The training records table is an essential part of any healthcare organization, as it contains vital information about the training and competency requirements for each employee. This table includes information such as the type of training, date of training, and competency level achieved. This information is used to ensure that the employee is properly trained and qualified for their position.

Type of Training:

The type of training that the employee has received is stored in this field. This is used to ensure that the employee is properly trained and qualified for their position.

Date of Training:

The date that the employee completed their training is stored in this field. This is used to track the employee's job performance and ensure that they are properly trained and qualified for their position.

Competency Level Achieved:

The competency level that the employee has achieved is stored in this field. This is used to ensure that the employee is properly trained and qualified for their position.

**Facility Table:**

The facility table is an essential part of any healthcare organization, as it contains vital information about each facility. This table includes information such as name, address, and contact information. This information is used to identify the facility, track its performance, and ensure that it is properly staffed and maintained.

Name:

The facility's name is stored in this field. This is used to identify the facility in medical records and other documents.

Address:

The facility's address is stored in this field. This is used to contact the facility or send them important documents.

Contact Information:

The facility's contact information is stored in this field. This is used to contact the facility or send them important documents.

These are the most common tables and fields used in a healthcare organization to store and organize data. By using these tables and fields, healthcare organizations are able to ensure that their patients receive the best possible care and that their employees are properly trained and qualified for their position.

**Rationale**

The rationale for organizing the data from the scenario into a database is that it provides an efficient and organized way to store and access the data. A database allows for quick and easy access to data, as well as the ability to update information in a timely manner (Gonzalez & Wold, 2013). This is important for providing accurate and timely data for patient care and compliance with regulations. In addition, a database allows for the secure storage of sensitive information, such as patient or employee data (Gonzalez & Wold, 2013). This is especially important for ensuring patient privacy and security.

Gonzalez, A., & Wold, A. (2013). Database Design & Implementation. New York, NY: McGraw-Hill.

**Conclusion**

Organizing data from a scenario into a database is essential for efficient storage and retrieval of information. The tables and fields listed above are the most commonly used for this type of data, and provide a way to store and access the data in an efficient manner. A database allows for quick and easy access to data, as well as the ability to update information in a timely manner. By organizing the data from the scenario into a database, the nurse educator can ensure accurate and timely data is available for providing effective patient care and compliance with regulations.

Step-by-step explanation

Data organization is the process of organizing and storing data in an efficient and effective manner. It involves organizing data into meaningful categories to make it easier to find, analyze, and visualize. It is an important aspect of data science as it allows for more efficient data analysis and better decision-making.

In today's world, data is everywhere. We have data from various sources such as social media, customer surveys, website visits, and more. This data can be used to gain insights and make informed decisions. However, to make the most of this data, it must be organized in a way that makes sense.

Data organization involves structuring data into categories, sorting it in an efficient way, and storing it so that it can be easily accessed. This allows for more efficient data analysis and better decision-making. Without data organization, it is difficult to make sense of the data and draw any meaningful conclusions.

Organizing data is especially important when it comes to Big Data. Big Data is a term used to describe large and complex datasets that require special techniques and tools to organize, process, and analyze. In order to make use of this data, it needs to be organized in a way that makes it easier to understand and analyze.

Data organization is also important for creating databases and data warehouses. Databases and data warehouses are used to store large amounts of data and make it easier to access and analyze. This data needs to be organized in a way that makes it easier to search and retrieve information.

Data organization is essential for data mining. Data mining is the process of discovering patterns and trends in large datasets. In order to effectively mine data, it must be organized in a way that makes it easier to discover hidden patterns and trends.

Data organization is also important for data visualization. Data visualization is the process of creating visual representations of data in a way that makes it easier to understand and interpret. In order to effectively visualize data, it must be organized in a way that makes it easier to interpret the information.

Finally, data organization is important for data security. Data security involves protecting data from unauthorized access. In order to protect data from unauthorized access, it must be organized in an efficient way that makes it difficult for unauthorized users to access it.

Overall, data organization is an important part of data science. It helps to make data easier to understand, analyze, and visualize, as well as to protect data from unauthorized access. Without data organization, data science would be much more difficult.

Fifth:

Scenario: A nurse is working in risk management and need to track medication administration errors and adverse events for patients over a 6-month period. The nurse is receiving information from the inpatient areas, outpatient clinics, and home health. Post a list of the tables including the fields (rows) that would be included in each table to convert the data from this scenario into a database. Then explain how to adjust the design to address specific design issues such as one-to-many relationships and identification of data types. Be specific and provide examples. Explain how to reduce the risk for poor data integrity and eliminate duplicate data.

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## Answer & Explanation

Solved by verified expert

Answered by daragangmagayon1028

 The design of a comprehensive database to track medication administration errors and adverse events in healthcare settings involves creating tables with well-defined fields, establishing one-to-many relationships using foreign keys, selecting appropriate data types, and implementing data integrity measures such as normalization, unique constraints, validation rules, indexes, and data entry standards. This database design ensures efficient data management while reducing the risk of poor data quality and eliminating duplicate data, ultimately supporting effective risk management in healthcare.

Step-by-step explanation

**Creating the Database Tables**

To convert the data from the scenario into a relational database, we need to create tables that represent the various aspects of medication administration errors and adverse events. Here is a list of tables with their respective fields:

1. Patient Table  
  - Fields: PatientID (Primary Key), FirstName, LastName, DateOfBirth, Gender, Address, Phone, Email

2. Medication Table  
  - Fields: MedicationID (Primary Key), MedicationName, Dosage, Route, Frequency

3. Medication Administration Errors Table  
  - Fields: ErrorID (Primary Key), PatientID (Foreign Key), MedicationID (Foreign Key), ErrorDate, ErrorType, Description

4. Adverse Events Table  
  - Fields: EventID (Primary Key), PatientID (Foreign Key), EventDate, EventType, Description

5. Inpatient Records Table  
  - Fields: AdmissionID (Primary Key), PatientID (Foreign Key), AdmissionDate, DischargeDate, Ward, BedNumber

6. Outpatient Records Table  
  - Fields: AppointmentID (Primary Key), PatientID (Foreign Key), AppointmentDate, ClinicName, DoctorName

7. Home Health Records Table  
  - Fields: VisitID (Primary Key), PatientID (Foreign Key), VisitDate, NurseName, VisitType

**Adjusting the Design for Specific Issues**

a. One-to-Many Relationships  
  - In the scenario, there is a one-to-many relationship between patients and medication administration errors/adverse events. One patient can have multiple errors or adverse events.  
    
  - To address this, we use foreign keys to establish relationships. PatientID in the Medication Administration Errors Table and Adverse Events Table is a foreign key referencing the Patients Table's PatientID.

b. Data Types

  - Data types should be carefully selected to ensure data accuracy and consistency. For example:  
    - PatientID, MedicationID, ErrorID, EventID, AdmissionID, AppointmentID, and VisitID should be integers.  
    - ErrorDate, EventDate, AdmissionDate, DischargeDate, AppointmentDate, and VisitDate should be date/time data types.  
    - MedicationName, MedicationType, Ward, ClinicName, DoctorName, NurseName, EventType, ErrorType, and Description should be text data types.

**Ensuring Data Integrity and Eliminating Duplicates**

1. Normalization

  - To reduce the risk of poor data integrity, apply the principles of database normalization. This involves breaking down data into smaller, related tables to eliminate data redundancy. For instance, patient information is stored in the Patients Table rather than being duplicated in each record of the Errors and Adverse Events Tables.

2. Unique Constraints

  - Apply unique constraints to fields that should not contain duplicate data. For instance, MedicationName should be unique in the Medications Table to prevent duplicate medications.

3. Validation Rules

  - Implement validation rules to ensure that data entered adheres to specific criteria. For instance, DateOfBirth should be validated to ensure it falls within a reasonable range.

4. Indexes

  - Create indexes on foreign key fields for faster data retrieval and to maintain data integrity.

5. Data Entry Standards  
  - Enforce data entry standards and train staff to input data consistently. This includes using standardized error types, event types, and medication names.

6. Regular Auditing

  - Periodically audit the database to identify and rectify data integrity issues. This may involve data cleansing and resolving any inconsistencies.

In conclusion, by designing a well-structured database with appropriate tables, relationships, data types, and implementing data integrity measures, the nurse in risk management can effectively track medication administration errors and adverse events while minimizing the risk of poor data quality and duplication.