Health Data Science: Homework 4

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1. What is the difference between a spreadsheet and a database?
   a. A spreadsheet is used to handle and organize small amounts of data, while databases are more adept at working with larger amounts of data.
2. What are the advantages and disadvantages of using a spreadsheet for health data management?
   a. Spreadsheets are practical to use when handling tabular data, however they are limited in the ways they protect patient identifiable information and they are not built for multiple people having access and being able to edit the data.
3. What are the advantages and disadvantages of using a database for health data management?
   a. Databases can handle large amounts of data, and specifically can handle non-tabular data. However they can be complicated to utilize and implement throughout a healthcare organization due to user comprehension.
4. What are some examples of tasks that can be performed using a spreadsheet?
   a. Spreadsheets can be used to analyze summary statistics, data entry, and creating tables that demonstrate data.
5. What are some examples of tasks that can be performed using a database?
   a. Databases can normalize information, making the relationship between certain variables easier to understand and digest.
6. What are some examples of tasks that can be performed using both a spreadsheet and a database?
   a. Using both a spreadsheet and database, you can organize and analyze lots of information in various ways.
7. What are some examples of tasks that can be performed using neither a spreadsheet nor a database?
   a. Neither a database or a spreadsheet can analyze data on its own, rather humans must interpret the results of these softwares.
8. What are some examples of tasks that can be performed using a spreadsheet but not a database?
   a. Spreadsheets can export CSV files, unlike databases.
9. What are some examples of tasks that can be performed using a database but not a spreadsheet?
   a. Spreadsheets are not able to normalize data as effectively as databases.
10. What are some examples of tasks that can be performed using both a spreadsheet and a database?

a. Using both softwares, a human can analyze and interpret many different kinds of data.