**Requirements for database:**

* Very Large, has to house the entire population of NC
* Multiple health services
* Secure, medical information
* Reliable, can’t lose information
* Easily updatable
* Simultaneous user support
* Longevity/Updatability
* Easily supported by any device
* Supports charts

**Lower priority requirements:**

* Speed
* Cost

**Three database options:**

* MySQL
* Oracle 12c
* Microsoft SQL server

Oracle 12c:

Pros:

* Recover previous states as backup (Flashback Technology)
* Scalability
* Multiple Database support
* Merge Multiple Databases into one
* Security

Cons:

* Expensive
* Computer resource intensive
* Complex and difficult to learn
* Difficult to manage
* Only useful for larger companies

References:

<https://www.keycdn.com/blog/popular-databases>

<https://www.cherryroad.com/2021/10/22/oracle-database-cloud/>

<https://theninehertz.com/blog/advantages-of-using-oracle-database>

MYSQL:

Pros:

* Its free
* Variety of ui to choose from and implement
* They offer training and certification
* Has good compatibility with other databases
* secure

Cons:

* Can use features that other databases have like back-up but it takes a lot of work
* No built-in support for XML or OLAP
* Does not support large database as efficiently as its paid counterparts
* Poor performance scaling
* Poor development and debugging tools

References:

<https://www.mysql.com/>

<https://www.techstrikers.com/MySQL/advantages-and-disadvantages-of-mysql.php>

<https://www.keycdn.com/blog/popular-databases>

Microsoft SQL Server:

Pros:

* Multiple versions of the software
* Support for use on Linux
* Microsoft support
* Plenty of online documentation
* Data recovery and restoration features
* Security with complex encryption

Cons:

* Can be expensive for Enterprise edition
* Newer versions require newer hardware
* Not supported on every major platform (Mac OSX)

References:

<https://learnsql.com/blog/microsoft-sql-server-pros-and-cons/>

<https://www.rothmobot.com/the-advantages-and-disadvantages-of-microsoft-sql-server/>

**Definitive Database: Oracle**