A computerized clinical database is a collection of organized clinical data, created to store, retrieve, analyze, and report meaningful information (McCartney & Barnes, 2012). In today’s data-driven healthcare system, efficient access to clinical database information is necessary for decision-making, managing care, conducting research, performance improvement, and reporting. Three general types of clinical databases include the operational databases discussed here.

**Operational Database**
An operational database is the clinical information system containing the patient’s live electronic health record. These kinds of systems are used during patient care for everything from healthcare provider orders, to laboratory tests, to nursing documentation and are generally proprietary, vendor products. Data are entered and exchanged within the clinical workstations and the particular system’s servers and databases. This information exchange occurs in real time and is identifiable protected health information requiring privacy and security safeguards. Healthcare organizations use many different kinds of operational database vendor products, each with different kinds of software data formats, interfaces, and hardware, to meet the various information needs in today’s complex care. Therefore, a patient’s electronic health record is actually a distributed record with components residing in multiple operational databases. In most cases, these systems are incompatible with each other and can’t share data. Clinicians need to seek information in multiple systems to get the whole picture of the patient.

**Clinical Data Repository**
A clinical data repository (CDR), sometimes called a unified information system, is a software program that securely collects (extracts), combines (integrates), and organizes data from the many operational database vendor products used in an organization (including connected ambulatory office systems) so information can be shared across systems.

**Data Warehouse**
A data warehouse is an extensive database created for the organization’s long-term storage and analysis of data. The warehouse is built by a cumulative extraction and integration of data from the organization’s multiple operational and CDR systems. Many years of data can then be queried for retrospective analysis, clinical or management reports, and research.

Inquire about the databases in your clinical setting. What kind of databases are the brand name products in your setting? ✤

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