The convergence of telecommunications and informatics has opened up a new world of communication service delivery and health information for consumers and health professionals. This chapter is designed to provide a basic understanding of the Internet, intranets, and extranets.

**What Is the Internet?**

At the most basic level, the Internet is the name for a group of worldwide computer-based information resources that are connected. It is often defined as a network of networks of computers. According to the Internet Systems Consortium, there are more than 171 million hosts (computers) connected throughout the world (http://www.isc.org/index.pl/?/ops/ds/host-count-history.php). These sites support more than 2 billion indexable Web pages. It is estimated that more than 1 million sites join the Internet every day.

One of the major challenges when using the Internet is that there is no clear map of how all those networks are connected. There is also no master list of what information or resource is available where. Because there is no overall structured grand plan, the shape and face of the Internet is constantly changing to meet the needs of the people who use it. The Internet can be likened to a cloud in this way; it is amorphous, without boundaries and constantly changing shape and space.

Although the thought of all those computers joined together is mind boggling, the real power of the Internet is in the people and information that all those computers connect. The Internet is a people-oriented community that allows millions of individuals around the world to communicate with one another. The computers move the information around and execute the programs that allow us to access the information. However, it is the information itself and the people connected to the information that make the Internet useful.
Connecting to the Internet

There are three basic ways to connect to the Internet: make a direct connection over dedicated communications lines; use your computer to connect to a university or hospital computer system that has Internet access; or buy time and connections from a commercial Internet service provider.

**Direct Connection to the Internet**

A direct or dedicated connection wires a personal computer directly to the Internet through a dedicated machine called a *router* or *gateway*. The connection is made over a special kind of telephone line. The gateway identifies the personal computer as an “official” Internet computer that must remain on-line all the time. This type of direct connection is extremely expensive to install and maintain. For this reason, it is usually used only by large companies or institutions rather than by individuals or small businesses.

**Connecting Through Another’s Gateway**

Another way to connect to the Internet is to use a gateway that another company or institution has established. In this case, a company or university or hospital that has an Internet gateway allows individuals to connect to the Internet using their system. The connection is usually made through a modem or remote terminal. This type of access is often available to students through the computing services department of their university. Many hospitals and health services organizations also allow staff access to the Internet through the institution’s facilities. To use an institution’s access, each user needs a login identification and password. For the individual, this is the best type of access to have if full Internet access is available. An organization maintains the computer system and the Internet connection and, most importantly, pays for the connection.

**Connecting Through a Commercial Service Provider**

Connecting to the Internet through a service provider is much the same process as using another’s gateway. The service provider builds and maintains the gateway and sells Internet connection access to individuals and organizations. The service provider supplies a user name and password to connect to its gateway. Service providers usually charge a flat fee to provide a certain amount of Internet access per month or year and a personal e-mail address. Some providers, such as America Online (AOL), also offer access to other interesting software or participation in unique discussion groups through their own system.