14.2: Health Informatics

Nursing Informatics

Health information systems specialize in storing, managing, capturing, and transmitting information about the health of individuals along with all activities within the health care organization (CASN, 2012). Nursing informatics is a specialty that incorporates nursing care with the use of computers and information science to provide information about nursing care delivery. The Canadian Association of Schools of Nursing (CASN) developed a resource that outlines the competencies required by nursing students upon graduation (see CASN, 2012). When entering the workforce, graduate nurses are expected to (1) use information to support safe, effective, and evidenced-informed care for their clients; (2) follow workplace, professional association, and regulatory bodies’ standards with respect to information and communication technologies; and (3) be able to use information and communication technologies in practice. Required skills include, but are not limited to, searching for credible and reliable health information online and assisting clients and their families in finding and evaluating the credibility and reliability of online health information.

From the Field

Understanding principles related to nursing informatics is important for student nurses who will both observe and experience countless examples of clients’ use of technology throughout their careers. Examples include:

- working in a rural setting and using telehealth for a client’s appointment with a specialist;
- using electronic health records in daily practice; and
- using a medical app to assist in delivering safe, effective client care.
e-Health

**e-Health** is a term used by Health Canada to describe the information and communication technologies used in health care, which includes a range of services such as electronic patient administration systems, lab and diagnostic tests, information services, and telehealth and telehomecare monitoring devices (including remote vital sign monitoring).

m-Health

Mobile technology has changed the way health care providers communicate, monitor, and connect with clients, families, and other health care providers. Any mobile device with smartphone capabilities allows for downloading apps, which are self-contained computer programs that run directly on the device’s home screen. This **m-Health** technology includes many different types of medical- and health-related apps, currently available either free of charge or for a fee.

Health and fitness apps are generally intended for daily individual use and are related to monitoring or informing about a variety of healthy activities such as calorie counting or exercise (Aungst, Clauson, Misra, Lewis, & Husain, 2014; Martinez-Pérez, de la Torre-Diez, & López-Coronado, 2013). Medical apps focus more on health care practices and may assist in communication or pictorial representation of a medical condition or may help to record blood pressure or blood sugars in clients with hypertension or diabetes.

The use of m-Health technology may have potential security issues. Many health apps currently available require the client to input personal health information (Cummings, Borycki, & Roehrer, 2013). The developer informs the user of the terms of use (including use of personal health information) by requiring a confirmation agreement before the app can be used. If the client agrees to the terms of use, users must be informed of who has access to any personal information placed within the app. Clients also need to be informed if this information will be monitored by their health care provider or if someone else outside the circle of care will have access to this health information, such as the app developer. All health care providers must follow HIPA (Health Information Protection Act) when using apps with multiple clients so that any personal information is de-identified. If more than one client is accessing a mobile device during a hospital stay or health consult, it is also important to develop privacy policies to prevent clients from accessing another client’s health information entered into the app.

Infection control procedures must be developed based on the type of devices in use within the health care setting. Health care providers must consider infection control procedures when devices are shared between clients.

When choosing health care apps for clients, providers must consider factors such as the client’s age, the cost of the app, and app-specific features (e.g., email, messaging, or support groups) to determine if they will meet the needs of the client (Ristau, Yang, & White, 2013). If the client is to use the app upon discharge or at home, it must be cost effective. Some apps require an internet connection, so the client will need to have regular or intermittent access to the internet. The app must also be easy to use and updated regularly to provide current, reliable information.

**Essential Learning Activity 14.1.1**

For more information on nursing informatics, see CASN’s report titled "Nursing Informatics: Entry-to-Practice Competencies For Registered Nurses," then answer the following questions:
1. What three entry-to-practice informatics competencies does CASN set out?
2. Select one of these competencies and list the indicators.

For more information on privacy, review the sites below, then answer the questions that follow:

**Health Insurance Portability and Accountability Act for Professionals**, US Department of Health and Human Services

1. Can health information be shared in a severe disaster?
2. Who has the right to consent with respect to whether a covered entity may electronically exchange a minor’s protected health information to or through a health information organization?

**Your Personal Health Information and Privacy** (Government of Saskatchewan)

1. Who are the trustees under the Health Information Protection Act?
2. What rights do you have with respect to your personal information?

**How do I get access to information?** (Office of the Saskatchewan Information and Privacy Commissioner)

1. How do you access the type of information you need from the Office of the Saskatchewan Information and Privacy Commissioner?