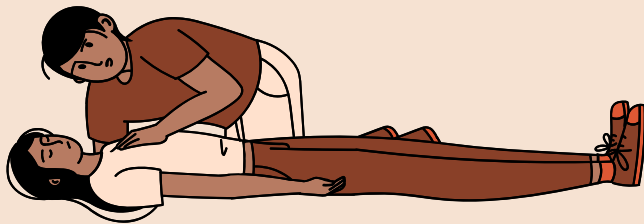# COMPUTER SCIENCE & NURSING

HOW HAS NURSING CHANGED OVER TIME?

Nursing was founded as a profession during the mid-19th century by Florence Nightingale. During this time, nursing was a skill young women learned from their mothers or other women in the profession. Furthermore, it was not as respected simply because women were not respected. However, we now have extensive training programs, more diversity, as well as more respect for our healthcare workers!

WHAT ARE ELECTRONIC HEALTH (MEDICAL) RECORDS?

EHRs are essentially digital versions of a patient's medical charts that are maintained by their primary care provider that includes pertinent clinical data. These are systems that we created in order to improve and provide better patient care through the use of interprofessional communication. Common systems used today are Cerner and EPIC

ADVANTAGES OF EHRS

- Reduced adverse drug effects
- Barcode scanning technology
- Legibility
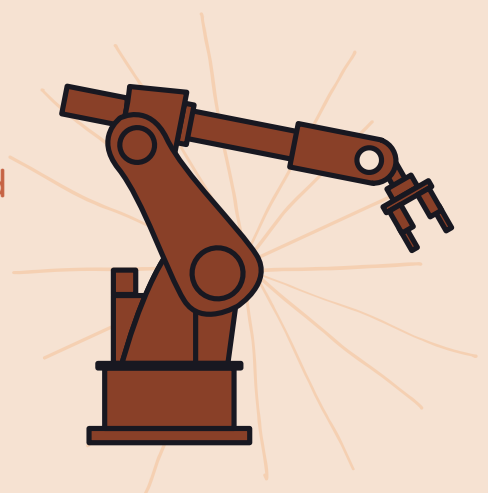- Better organization of records
- Availability to patients

DISADVANTAGES OF EHRS

- Cybersecurity and privacy issues
- Misunderstanding of medical information
- Malpractice liability
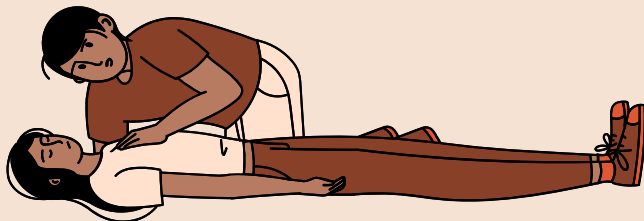- Inconvenience
- Time and money

WHAT ARE CAREBOTS?

Carebots are a new emerging variety of robots that are designed to take care of the elderly and individuals who face cognitive and/or social decline. Some of their functions include setting medication reminders, providing guidance to the bathroom, as well as connecting loved ones in cases of emergencies.

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ADVANTAGES OF CAREBOTS

- Virtual visits
- Companionship
- Automatic emergency notifications
- Cost effective treatment/monitoring
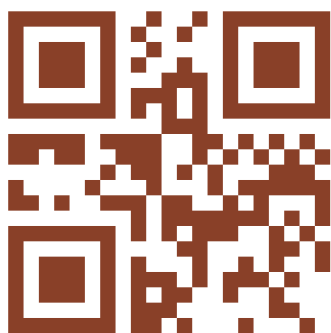- Automatic reminders
- Reduce occurence of mistakes

DISADVANTAGES OF CAREBOTS

- Lack of emotion
- Misuse of personal information
- AI algorithm

What is a computer?

I don't believe I have a complete definition of what a computer is. However, as this semester comes to an end, I believe a computer is anything that receives input, comprehends the input, and in turn produces an output. Within nursing, the nurses are the computers. We receive information from our patients, we interpret what they said or demonstrated, which in turn we produce an output by responding.

How do we use algorithms in our lives?

Algorithms are all around us. We see the use of algorithms everytime we use face ID, doing laundry, following a recipe, google maps, traffic signals, etc. An example of an algorithm in patient care is barcode scanning technology. This technology allows us to accurately administer medications to a patient. We can only administer a medication if and only if we have scanned the patient's identification wristband and the medication itself. Once we have done these things, we are then permitted to give it to the patient. This ensures that we are giving the right patient, the right medication, at the right time, and the right dosage.

Are algorithms created or discovered?

I personally believe that algorithms are both created and discovered. This sort of reminds me of the question, which came first the chicken or the egg? In order for algorithms to be discovered, they first have to be created somewhere in time. Once they are created it is up to either the creator to spread the information or for others to simply discover it.

How does technology affect the way we interact with others?

The use of electronic charting has greatly benefitted healthcare professional in that it makes it much easier to facilitate interprofessional communication. Before electronic charting everything was charted on paper, which made it super hard to keep up with a patient's complete medical record, as well as difficult to know a patient's medical background if they went to multiple places to receive care. However, with the use of electronic charting everything is all in one place. It's easier to facilitate interprofessional communication because you can see all activity pending or completed by other professions in real time.

What social or legal issues have arisen and will arise

A legal issue that is not common, yet still does occur in hospitals would be cybersecurity and privacy issues. Of course we see privacy being invaded in many different aspects of this world. However, in the hospital we experience hackers leaking all patient information to the public. This is a violation of HIPAA and also puts many patients at risk. Furthermore, another legal issue we continue to see throughout healthcare is malpractice liability. Essentially, this is when a healthcare professional is using the information in a patient's chart for their own good. We see this oftentimes whenever a celebrity is said to be at a hospital. Sometimes, nurses will go into their charts in order to see why their at the hospital and find out their medical history.

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