**NUR 4130 Professional Nursing Practice**

**Paper on Technology or Nursing Informatics**

**The paper is worth 8 % of your course grade**

**Topic:**  A specific area of technology or nursing informatics that is important to the profession of nursing. This paper is a description of an important topic in the profession of nursing today related to technology or nursing informatics. You need to choose a specific area that is of interest to you and/or you think will have an impact on nursing and health care.

You need to identify and describe this topic using evidence from the literature you should state why it is important and anything pertinent about why you chose this topic.

**Instructions:**

This paper is designed to have students demonstrate their skills in writing a paper and/or to identify some areas of weakness.

1. Literature search - you must identify one article from a peer reviewed journal. You may use more than one article if you like but it is not necessary. The article does not need to be a research study.

2. You should include an introduction and a summary. Your paper should be logical and clear.

3. You need at least one direct quote in the paper using correct APA format for the citation in the text.

4. You need to paraphrase at least once in the paper using correct APA format for the citation in the text.

5. You need a correct reference list using APA format.

6. Page length is 1 to 1.5 pages

**Grading Criteria:**

Please look at the Rubric below for a breakdown. If you compare this rubric to the Term paper rubric you will see some similarities and differences.

**Some ideas:**

These are just some ideas you might consider. Remember that this is a short paper so you need to consider the scope of what you want to include. Some topics can be made more specific.

Genomics and genetics

Artificial Intelligence (perhaps in direct care or in surgical nursing)

Clinical decision support

Point of care testing

3-D bringing

Less invasive and more accurate tools for diagnosis and treatment

Biometrics

Electronic health records - current status, specific issues that have arisen, etc.

Social Media use

Virtual nursing avatars

Overview of the role of nursing informaticists

**Technology/Nursing Informatics Paper Rubric**

| **Criteria** | **Excellent** | **Good** | **Adequate** | **Poor** |
| --- | --- | --- | --- | --- |
| Description of the topic | The description of the topic presents an accurate understanding with reflection and/or originality of thought.  1 point | The description of the topic presents an accurate understanding.  0.8 points | The description of the topic presents an accurate understanding with some minor inaccuracies.  0.6 points | The description of the topic is inaccurate or very superficial or illogical  0-0.5 points |
| Content development - Use of research findings or information from an article in a peer reviewed journal in the paper | Reference(s) is very well integrated and cited in the text and are used to support the description.  2 points | Reference(s) is integrated and cited in the text and are used to support the description  1.8 points | Reference(s) is partially integrated and cited in the text and are partially used to support the description  1.6 points | Reference(s) is not integrated and cited in the text or used to support the description  0-1.5 points |
| Organization and and clarity of writing | Very well organized and developed  Includes an introduction and summary  Writing is very clear and descriptive  2 points | Generally well organized and developed  Includes an introduction and summary  Writing is clear and descriptive  1.8 points | Generally well organized and developed  Includes an introduction and summary  Writing is not always clear, well written  Inconsistent organization  1.6 points | Unclear writing that is very poorly organized  Excessive use of long quotes or use of bullets  0-1.5 points |
| Format including APA format, grammar, punctuation, spelling, sentence/paragraph construction, page limit, and instructions | No errors in APA format, grammar, punctuation, spelling, sentence/paragraph construction,  page limit or instructions  3 points | Few (1-3) errors in APA format, grammar, punctuation, spelling, sentence/paragraph construction,  page limit or instructions  2.8 points | Many ( 3-6) errors in APA format, grammar, punctuation, spelling, sentence/paragraph construction,  page limit or instructions  2.5 points | Many (over 6) errors in APA format, grammar, punctuation, spelling, sentence/paragraph construction,  page limit or instructions  0 - 2 points |

Healthcare is a fast-moving field that is embarking on a wide range of remarkable changes. One of these changes is the advancement in genetics and genomics that are being translated into every day practice. genetic and genomic information is increasingly important in providing effective healthcare. According to the Medline plus, Genetics “is the study of heredity, the process in which parents pass certain genes onto their children” (2013). Meanwhile, genomics is the interaction of genes and environment to influence health and disease. With the improved technology, we are able to read the multifaceted genomic changes, and identified their contribution to a number of conditions being presented in many patients. These conditions include some of the chronic diseases and have many implications for nursing practice. Many of these implications include that it is used in personalized medicines and can be used in the diagnoses and treatment of many disease. Therefore, nurses need to be at the frontline of this revitalization treatment.

One of the biggest breakthrough within the genetic and genomics advancement is personalized medicine.  According to Mini and Nobili, with the aid of personalized medicine, the focus of medical treatment will no longer be on symptomatic disease management and empirical drug-prescribing regimens (Mini et al., 2009). However, it will be tailored to the individual genetic make-up of each patient. The approach relies heavily on pharmacogenomics which is the “study of genetic variations interface with drug response and disease risk” (Mini et al., 2009). Therefore, it is the scientific breakthroughs in our understanding of how a person’s unique molecular and genetic profile makes them susceptible to certain diseases and their response to specific gene therapy. This research is aiding our ability to predict which medical treatments will be safe and effective for each patient, and it will aid to “treat patients with more specificity and efficacy but fewer adverse events, and to more accurately determine disease predisposition” (Mini et al., 2009). As we know, different patient interact with the same medication differently. A drug may display varied efficacy in different patients. patient genetic make-up has been recognized to play an important role in the individual response to drugs.

The main problem that arises today is that many nurses and healthcare professionals are not educated on the benefit and importance of Genetic and Genomic advancements. According to Calzone et, al. “Health care increasingly demands that registered nurses, who represent the largest contingent of health providers in the United States and the world, use genomic information and technology when providing care” (2012). Thus, in order for people to benefit from the widespread genetic/genomic discoveries, nurses must be competent to obtain comprehensive family histories, and being able to identify at risk family members. Nurses will play a key role throughout this advancement by communicating, supporting, advocating and educating their patients regarding the availability of advanced testing, care and treatment in personalized and precision medicine. Our Knowledge on genetic treatment and personalized medicine will help people make informed decisions about and understand the results of their genetic and genomic tests and therapies. This will allow nurses to refer at risk patients to appropriate health care professionals and agencies for specialized care. This will also help to lower the cost of health care and put an end to trial based treatment.

For decades, Medical treatments have been designed for the average patient, leading to a one-size-fits-all approach. However, our advancements in genetic and genomics studies leads to changes in the way we diagnose, treat and care for our patients. Thus, Nurses need to equip themselves with the requisite knowledge to enable them to alert patients to potential genetic influences and empower them to reduce their risks of illness and death.

**References:**

Calzone, K. A., Jenkins, J., Yates, J., Cusack, G., Wallen, G. R., Liewehr, D. J., … Mcbride, C. (2012). Survey of Nursing Integration of Genomics Into Nursing Practice. *Journal of Nursing Scholarship*, 44(4), 428–436. https://doi-org.proxy.wexler.hunter.cuny.edu/10.1111/j.1547-5069.2012.01475.x

Medline Plus (2013). The Hereditary Material of Life. *Genetics 101*, 8(2), 11-12. Retrieved from <https://medlineplus.gov/magazine/issues/summer13/articles/summer13pg11-12.html>.

Mini, E., & Nobili, S. (2009). Pharmacogenetics: implementing personalized medicine. *Clinical cases in mineral and bone metabolism : the official journal of the Italian Society of Osteoporosis, Mineral Metabolism, and Skeletal Diseases*, *6*(1), 17-24.

exler.hunter.cuny.edu/doi/full/10.1111/jocn.13598