**Discussion 8**

Nursing informatics transforms data into needed information and leverages technologies to improve health and healthcare equity, safety, quality, and outcomes.  Nursing informatics functional areas describe the integrated functions of nurses from clinical practice to the informatics end. According to ANA, the 9 key functional areas of Nursing Informatics include Leadership and management, system analysis and design, Compliance, Development of systems, products, and resources, Education and professional development, policy development, Quality and performance improvement, Research and Technology implementation. In this discussion post, I would like to discuss Research, a functional area of Nursing Informaticists.

**Annotated Bibliography**

Milner, J. J., & Zadinsky, J. K. (2022, August 1). Nursing Informatics and Epigenetics: An interdisciplinary approach to patient-focused research. Computers, informatics, nursing : CIN. [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9365264/Links to an external site.](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9365264/)

The article explains Epigenesis, the study of changes that occur because of Lifestyle, environment, and disease processes in DNA expression. Genome remains consistent but epigenome can change over time with exposure via a process called DNAm. Measurement of DNAm is data-driven. Cytosine one of the four nucleotides that form the building block of DNA when paired with guanine nucleotide is called the CpG site. Statistics and program packages that allow for analysis of methylation differential in CpG sites or clusters of methylated CpG sites called differentially methylated regions, are available and commonly used in epigenetics research. Bioinformatics is the work of using these tools, developing them, and programming packages.  The National Institutes of Health describes Bioinformatics as a combination of biology and computer science dealing with the collection and analysis of biological data and epigenetics can be performed strictly using bioinformatics tools and statistical analysis, when combined with nursing and clinical data, therefore Nursing informatics leading epigenetics research can enhance patient-centered care, improve patient outcomes, and contribute to the advancement of precision medicine. (Milner & Zadinsky, 2022)

 The article enhances further development of Research as nurse informaticists as it emphasizes Nursing informatics to be at the forefront of epigenetics research in order to provide patient data so that it can be incorporated into patient care because they are in a position to improve patient future via an interdisciplinary approach to research. Along with improving Electronic health records, this will move research towards patient patient-focused model and Nurse informaticists can develop needed skills.

The knowledge that I have gathered from this article might influence my questions as I get to know that both Nursing informatics and research are data-focused, it seems natural that these two should team to provide patient-centered research opportunities. Nurse Informatics in the field of research should consider each data source contains patient information, that is crucial in developing knowledge and wisdom about my patient and organization. By learning about epigenesis and its pattern and nursing informatics role. I can position myself as a researcher, improve patient outcomes, and assist in incorporating genomic data into electronic health records to enhance research. Organizations can see the advantages and improved patient outcomes served through Nursing informatics epigenetic research. The knowledge I have gained will demonstrate my interest in the topic making the interview more effective and interesting to both parties along with improving the efficiency of my interview process as it will help me know what questions I should ask. It will make me understand better how to communicate appropriately and I can also ask more questions regarding the subject matter to increase my knowledge and understanding.

**References:**

Nursing informatics: Scope and standards of practice 2 edition ND (2014). (n.d.). https://www.nursingworld.org/~4adc2f/globalassets/catalog/book-toc/nursing-informatics-scp-stds-2e\_toc.pdf

**Response1:**

Hello Molly,

Policy development and Advocacy, one of the important functional areas of Nursing informatics plays an important role in quality care because they can utilize the information to optimize the use of health informatics and campaign for safe, effective, and efficient health information technology. (Bell, 2018)

I like the example you have provided in your post about maintaining sterility during central line dressing change and how involving two nurses will assist in maintaining sterility in dressing change. Nurse Informatics have both nursing and technical knowledge, they are aware of what will benefit their patient and what can be done to achieve that goal. I agree with you that it is an ethical responsibility of Nurses to serve their patients and communities by advocating for change and Advocacy for advancing public health by targeting social determinants focusing on poor and disadvantaged persons can be done by Nurse Informatics. (Williams et al., 2018)

Healthcare policy influences Informatics nurses to advocate for ethical standards and principles during policy development. State and federal decision-makers are informed by NI on legislation that impacts the direction of technology, data, information, and communication solutions used by healthcare professionals, patients, families, consumers, and populations. Informatics nurses help communicate the need for new advisory opinions, declaratory rulings, or position statements to appropriate entities. They also have an important role in educating clinical and technology leaders on proposed and final regulations to support overall healthcare strategy and compliance activities

**References:**

Bell, K. (2018, April 5). Public policy and Health Informatics. Seminars in Oncology Nursing.

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Williams, S. D., Phillips, J. M., & Koyama, K. (2018a, September). Ojin homepage. OJIN.

[https://ojin.nursingworld.org/table-of-contents/volume-23-2018/number-3-september-2018/adopting-health-in-all-policies-approach/Links to an external site.](https://ojin.nursingworld.org/table-of-contents/volume-23-2018/number-3-september-2018/adopting-health-in-all-policies-approach/)

**Response2**:

Hello Isela

Thank you for the post.

Documentation burden in health care is not new but has been emphasized in times of crisis such as pandemics/epidemics, floods, hurricanes, or other mass casualty events, EHR documentation plays an integral role in guiding and tracking patient care. (Bunting & Klerk, 2022) According to HIMMS.org, The burden of documentation requirements for clinicians has led to a variety of challenges such as extended work hours, time constraints, increased professional workload, and disruptions to the patient-provider encounter that have resulted in an in increase in medical errors, negative impacts on patient safety, high rates of clinician turnover, and burnout.

Compliance issue requires a concerted effort and collaboration among healthcare organizations, regulatory bodies, and professional organizations and this collaboration with necessary bodies can be done by Nurse Informaticists

I completely agree with you that Nursing informatics can play a critical role in this case as they can assist in analyzing potential strategies to improve documentation accuracy and compliance. The article you chose presents how poor nursing documentation can have negative impacts on patient outcomes and gives us the strategy to help in this situation by auditing documentation and providing feedback.

**References:**

Bunting, J., & Klerk, M. de. (2022, February 14). 2023 Membership Assembly Dialogue Forum Topic - Ana enterprise. Strategies to Improve Compliance with Clinical Nursing Documentation Guidelines in the Acute Hospital Setting: A Systematic Review and Analysis.

[https://www.nursingworld.org/~498d8f/globalassets/ana/leadership--governance/ma/2023/background-doc-addressing-nursing-documentation-in-a-crisis-2023-ma.pdfLinks to an external site.](https://www.nursingworld.org/~498d8f/globalassets/ana/leadership--governance/ma/2023/background-doc-addressing-nursing-documentation-in-a-crisis-2023-ma.pdf)

Dane. (2022, August 2). Documentation burden: Healthcare IT innovations to optimize clinician documentation in Care Delivery. HIMSS.

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