Welcome to the quarterly IMIA-SEP-NI Newsletter! On this Winter-edition, we will introduce you to our newly appointed chair-elect Jiyoun Song, as well as take a closer look at the challenges of assessing quality of care from secondary data entries by yours truly. We will also proudly unveil the latest of our collaborative efforts, a wonderful review on assessing carbon footprint of digital health interventions, lead by Zerina Lokmic-Tomkins. Enjoy!

Wishing you happy holidays and the best for New Year 2023,
Hanna
Hanna, Chair of IMIA-SEP-NI

Welcome Aboard Jiyoun!

Greetings, my name is Jiyoun Song, PhD, AGACNP-BC, APRN. I am a postdoctoral research fellow in Nursing informatics at Columbia University, and I am serving as the incoming chair of the IMIA Student and Emerging Professionals Special Interest Group. Currently, I am focused on research using artificial intelligence to support clinical decision support systems tailored to the individual characteristics of patients to improve outcomes for patients and reduce negative outcomes, and 2) predictive modeling for early detection of the patient at risk through multidimensional methodologic approaches including quantitative statistics and machine learning. Based on multiple experiences managing and processing large datasets as a research assistant and data manager, it was apparent that large datasets can be used to make better predictions about patient outcomes. However, using standardized assessment tools in current practice, the information captured may be lost amount of information when entered into an electronic health record as structured data. Therefore, I was inspired to explore other information-rich data streams to fill this gap. In order to extract information from narrative clinical notes or verbal communication, my research has focused on natural language processing or speech recognition, a field within artificial intelligence.

Through my research skills, programming knowledge, and endless curiosity about informatics, I will explore possibilities within our group for collaborating on various research projects that lead to improved healthcare through the use of technology. It is my hope that our organization can become a central hub for international collaboration for informatics researchers. Moreover, because of my background in South Korea and my time in the United States studying and developing my career, I had the advantage of having a unique perspective. As a member of our group, in addition to supporting the development of global networking strategies and resources, I will also understand and support the concerns of individuals who wish to take part in international activities. Therefore, we are an open group and welcome anyone who is interested in joining.

As a fun fact, I enjoy obstacle races and camping in my free time!

Upcoming Meetings:

Thu Dec 22nd 2022 at 1400 UTC
Thu Jan 26th 2023 at 1400 UTC
Thu Feb 23rd 2023 at 1400 UTC

Wishing to participate to our meetings or to join our mailing list? Please contact us at imiasepni@gmail.com
Spotlight on Research
by Hanna von Gerich, MNSc, RN and PHN, working currently as a project researcher at the Turku University Hospital, Finland and soon to begin her PhD studies at University of Turku.

How can nursing care quality be evaluated using secondary data sources such as electronic health records (EHR) to support the provision of good care, and could it be evaluated automatically without adding any burden to the care providers or the nurse managers in need of this information? These are the big questions I have been working on and around ever since I begun to consider my Master studies leading towards a career in nursing research. The abstract nature of care quality is what makes the task so challenging, yet so intriguing. While conducting a review exploring how EHRs have been utilized in assessing health service quality [1], the results showed that, though I was not alone pondering these questions, the research is mainly focused on using structured data entries, with very little evidence provided within nursing science. These results are not surprising: using structured entries provides quick and almost ready-to-use data, that is easy to compare and present as statistics.

However, when using structured entries alone, there is a risk of losing something crucial in researching and measuring nursing care quality components. A major component of the nursing paradigm, the person, is more than numbers. Free text data entries, on the other hand, could provide a more holistic assessment of nursing care quality, as we found out in our latest study. Using selected nursing-sensitive indicators as a framework of nursing care quality to manually annotate EHRs, nearly 75% of quality information were in fact extracted from free text entries [2]. The results of the study were encouraging, however they also proved that before we are able to move forward with developing automated tools to assess nursing care quality from EHRs, more research is still needed on the multifaceted phenomenon of nursing care quality, how it is portrayed in documentation, and how to present it in an informative and comparable way to best benefit the professional in need of this information.

Measuring Carbon Footprint of Digital Health Interventions
by Zerina Lokmic-Tomkins, PhD (TissEng), MNSc, BAppSci (Hons) GradCert (HigherEd), FHEA
Affiliate Research Fellow, Victorian Heart Institute, Australia

Information and communication technology contribute approximately 3.7% to global greenhouse gas emissions. Subsequently, any integration of environmentally sustainable digital health interventions requires robust evaluation of their carbon emission life-cycle before implementation in healthcare. However, a scoping review [3] by Lokmic-Tomkins et al of 3299 studies found that across the world there are no standard tools or methods of measuring the carbon footprint of digital health interventions. Instead a fragmented approach is used that focuses on a single component of technology like travel times, energy consumption saved trees or paper consumption rather than the entire life-cycle of the digital health technology and related intervention. The review identifies urgent need for health informaticians to develop the standardized frameworks, methods, and tools to evaluate the carbon footprint of digital health interventions reflecting the system-thinking approach. The value of digital health technologies as solutions to developing climate-resilient systems is only possible if their benefit outweighs their contribution to greenhouse emissions.

Further reading:
Upcoming Conferences

MEDINFO 23
19th World Congress on Medical and Health Informatics
7 - 12 July 2023
Sydney, Australia

IMIA-NI
Nursing Informatics 2024
Manchester, UK

WHEN: July 21 - July 24, 2024
WHERE: Manchester Central Convention Centre, Manchester, UK
@ni2024

THEME: Applied Nursing Informatics: Innovations in the practice of nursing informatics

Happy Holidays Everyone
from the whole SEP NI-group!