



Editorial

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I took the honor to serve as Editor-in-Chief of Health Services and Outcomes Research Methodology (HSORM) on January 1, 2021, succeeding Dr. Yue Li, who has been Editor-in-Chief of HSORM since 2014.

Since 1960s, health services research (HSR) has advanced as a field to study health care system and policy implications through quantitative and qualitative evaluations of health care structure, process, quality, and outcomes (Whicher et al. 2018). The improved methodologies and data sources have then strengthened the quality of HSR studies, especially in the past two decades. HSORM has functioned as one of the important platforms to publish original research on innovative methodological development and applications in health services research. HSORM in recent years has been maintaining submissions and publications on “traditional” topics of quantitative (or statistical) methods relevant to HSR, as well as expanding publications of research using methodologies from other fields such as economics, public health, and other social sciences. These methodologies range from quantitative to qualitative and mixed methods approaches, and the health care topics covered by these new lines of publications include well-being valuation, cost-effectiveness analyses, and methods for insurance claims fraud detection, among others, which are all highly relevant to health policies and patient outcome evaluations.

Following Dr. Li’s interests in publishing research and review papers on emerging data mining methods for analyzing electronic medical records and big data computational techniques, (Li 2014) one of my aims as the current Editor-in-Chief of HSORM is to increase the journal’s visibility to researchers in computer science and big data methodologists, and to solicit submissions from those scholars whose research expertise focuses on artificial intelligence (AI) and various machine learning methods that can be developed, adapted, and implemented for data-driven health care policy making and outcome evaluations.

The last decade has seen both dramatically increased networking (e.g. among patients, family members, health care providers, and policy makers) which leads to wide proliferation of “big data”, and new algorithms that are being developed to connect datasets and enable broader and deeper analyses than previously possible. The convergence of the two phenomena has given rise to the increasingly widespread application of data science principles and data-mining techniques to health care. Research studies of this type, however,

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are of insufficient number and scope among current publications of HSORM. Going forward, in addition to maintaining its current high-quality and diversity of publications, my goal for HSORM is to enhance its contributions to the interdisciplinary field of data science for health care which develops and relies on a range of health analytics approaches, tools, and data for better health, healthcare delivery, and data-driven policy making.

Although research and knowledge in data science for healthcare are advancing rapidly, the following two sub-fields seem to lead such advances around the world currently:

1. *Health Analytics* that integrates health and non-health data to predict patient health outcomes on the basis of treatments, lifestyle, behavioral factors, and genomics. Examples of health analytics research are the use of data mining techniques on social media (e.g. Twitter) data to identify global disease outbreaks in their earliest stages and track their spread; and the collection and “learning” from video and webcam data to measure subtle variations in skin color that can indicate risk for atrial fibrillation.
2. *Artificial Intelligence and Cognitive Science* that advance our ability to study, model, and replicate human perception, learning, memory, and decision-making. These technologies can be used in various health care areas such as the development of advanced machine vision programs to help improve the performance (or quality of care) for surgeons performing cataract surgery; the use of automated translation programs based on natural language processing to help improve patient-provider communications, and the use of automated conversation assistant to improve communication capabilities for persons with cognitive impairments (e.g. patients with mild dementia) or with developmental disorders (e.g. autism).

I would like to express my gratitude to Dr. Yue Li for his efforts to maintain HSORM’s high-quality publications. With new publishing options that have emerged in recent years, HSORM has been very successful in soliciting and publishing research of high relevance. I would also like to thank the editorial team for their invaluable and continuing support for HSORM. I look forward to working with all of them to achieve our goal of disseminating rigorous methodological research related to health care delivery and outcomes.

References

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