

Special Issue on
**Mathematical Modeling and Models for Optimal
Decision-Making in Health Care**

CALL FOR PAPERS

The amount of data within the health care increases by the minute; in reality it makes it difficult for health care systems to identify the insights to what is most valuable for the patients. Data driven approach to health (or health economic) outcome assessment, artificial intelligence, and mathematical, computational, methodological, and technological advances are the core of this special issue.

The development of such mathematical models used to simulate medical outcomes is a growing area in medicine. The mathematical modeling is known by various names like predictive modeling, simulation, or decision analysis. In general, modeling techniques are used for health service planning, effectiveness and outcome assessment, health care financing and budget impact assessment, health economic assessments, infectious disease surveillance, health service outcomes predicting purposes, and other applications in health care. Mathematical modeling is also helpful when limitations like a rare event prohibit implementing RCT and similar studies or expanding research on actual patients due to time, ethical, legal, financial, technical, and other limitations.

We anticipate that papers will address data analytics and methodological and practical questions regarding modeling and models for optimal decision-making in health care delivery, solving problems in predicting outcomes for clinical medicine and public health.

Potential topics include but are not limited to the following:

- ▶ Good practices for decision analytic modeling in health care
- ▶ Relevant methodologies and tools for modeling and data analysis/processing approaches for decision-making in health care
- ▶ Optimization, advanced statistics, and machine learning methods of decision-making in health care
- ▶ Application of artificial intelligence methods in decision-making for health care
- ▶ Deep learning for decision-making in health care
- ▶ Mathematical modeling approaches in drug development, safety, and efficacy studies for optimal decision-making in health care
- ▶ Modeling to predict future decision-making in health care needs
- ▶ Predicting demand on health care services from subgroups of the population
- ▶ Mathematical modeling for decision-making in public health and disease surveillance
- ▶ Mathematical modeling of disease dynamics
- ▶ Mathematical modeling for decision-making in health impact assessment
- ▶ Mathematical modeling for decision-making in health economic evaluations, health care financing, and budget impact analysis
- ▶ Modeling and models for decision-making in clinical audit and outcome assessment

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/cmmm/mmdm/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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