Title: Introduction to the Special Issue: *Management Science in the Fight Against Covid-19*

Abstract: <no abstract>

Keywords: Covid-19

Background

At the time of writing of this Editorial in April 2021, Covid-19 continues to ravage our planet, with an official global death toll now exceeding three million, and a horrendous legacy of economic and human damage. The roll-out of vaccination has given hope that we will soon reach the end of this chapter of history. However, it will take years for the world to overcome this calamity and many individuals whose health or livelihoods have been destroyed will never fully recover.

This failure of the world to effectively respond to the challenge of Covid-19 is all the more bitter because the outbreak of a novel pathogen was entirely predictable; the spread, preventable; and the suffering, avoidable. The experience of different countries around the world shows that the ability to plan, and to execute plans in a disciplined fashion, can make all the difference between relative security and catastrophe.

The challenge for Management Scientists is to show that our discipline can have a role – a critical role – as a part of this planning. Epidemiological models of disease dynamics have been prominent through this crisis but do not fully capture the constraints in the health system and cannot directly support many of the management decisions which have to be made as part of the response. As Management Scientists, our perspective and our modelling tools have the potential to address those shortcomings; but if our profession cannot demonstrate our ability to add value, others will do so in our place.

Special issue

In June 2020, *Healthcare Management Science* issued a call for papers for this Special Issue. We purposely convened an extensive editorial board, with representation from Africa, Asia-Pacific, Europe and North and South America. The response has been overwhelming, with a huge number of submissions over the last few months. In order to ensure timely turn-around, we have only taken papers which we could accept with minor revisions; as a result, we have had to reject many promising manuscripts. We are pleased to have been able to accept 12 papers [1-12]. We are particularly proud to be able to highlight that "From predictions to prescriptions: A data-driven response to COVID-19" by Dimitris J Bertsimas and colleagues [1] has been awarded the Pierskalla Best Paper Award for 2020 by the INFORMS Health Applications Society.

It is worth highlighting that scientific papers are often years in gestation: all the work reported in this special issue has been carried out and written up within a few months. We are grateful to the authors for submitting their important work to the journal, and for expeditiously carrying out revisions, as well as the reviewers who have contributed often very detailed reviews in a timely fashion.

Conclusion

In summary, the papers in the special issue tackle a range of subjects, from system-wide planning, through service delivery, to the clinical encounter; and cover both prevention and treatment, and both mental and physical health. A common thread running through many of the papers is the difficulty of forecasting demand in an uncertain and chaotic environment, showing that there has to be a close partnership between Management Scientists and epidemiological infectious disease modellers, whose discipline can give a better understanding of the dynamics of infectious disease.

Our hope is that the contents of this issue represent the first steps in the development of a body of scientific work which can help ensure that neither we nor our descendants have to live through a repeat of the events of the past year.

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