

The University of Minnesota and the Pandemic

La Universidad de Minnesota y la pandemia

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Dear Editor:

The University of Minnesota and universities across the world have had to respond and adapt to the COVID-19 pandemic and its impact on academic and clinical instruction. Since mid-March 2020, all undergraduate and graduate classes at the University of Minnesota have been held online; the Medical School adopted a hybrid system to allow for some on-site clinical teaching. Medical students continue to be highly involved in patient care at the Community-University Health Care Center that serves low income individuals and families.⁽¹⁾ They also are conducting a greater number of telemedicine visits, consistent with the major increase in the use of telemedicine (virtual visits) for patient care in the United States.⁽²⁾

There are many pandemic-related activities in process across the entire university. The University of Minnesota's Center for Infectious Disease Research and Policy is in the national forefront, providing leadership in disseminating accurate information and making recommendations to mitigate the pandemic.⁽³⁾ The university's Institute for Engineering in Medicine is studying how the coronavirus travels indoors; faculty and students from the Medical School and other university

institutes have used innovative technologies to develop low-cost mechanical ventilators and protective equipment for health care workers.⁽⁴⁾ Multi-center clinical trials in which the Medical School is involved include evaluation of the high blood pressure medication losartan to reduce infection, and clinical studies to evaluate other therapeutic agents in hospitalized patients.⁽⁵⁾ In addition, the Medical School is a collaborator on a new multi-center clinical trial evaluating mesenchymal stem cells for the treatment of COVID-19 and lung failure. A completed multi-center study showed that hydroxychloroquine had no benefit over placebo in preventing COVID-19.

University-wide planning for the return of undergraduate and graduate students for the Fall 2020 semester is being carried out with flexibility in scheduling, cognizant of the resurgence of the virus on university campuses across the country when students have returned. The current plan at the University of Minnesota is to start Fall Semester with the first two weeks of undergraduate courses conducted online, followed by a hybrid of distance and in-class instruction, depending on the status of the virus on campus. Faculty members and staff who are not essential will continue to work at home through the end of the 2020 year. These plans are with the stipulation that if COVID cases increase over time, there will be additional restrictions placed to limit or cancel in-person classes and dormitory living.

Dealing with the mental health of students at the university has been a priority even before the pandemic. Psychological services are available through the university Mental Health Clinic and also the Student Counseling Services. A recent weekly publication by the university featured the ongoing research activities within the Department of Psychology relevant to dealing with the pandemic.⁽⁶⁾ An online intervention program developed by a faculty member in the department to help students cope with stress in the context of COVID was highlighted. My own expedition research was described; I discussed how the findings of adaptive coping in extreme environments can be applied to dealing with stress in the time of COVID.

The pandemic is having a major impact on space analog research in confined environments. The next mission study in the NASA Human Exploration Research Analog (HERA) habitat located at the Johnson Space Center is currently delayed;⁽⁷⁾ the ongoing collaborative U.S./Roscosmos SIRIUS studies held in the multi-compartment Mars simulation habitat at the Moscow Institute of Biomedical Problems also has been delayed.⁽⁸⁾ The eight-month SIRIUS-20 mission originally scheduled for May 2020 is now rescheduled for July 2021. At the present time, the polar environment seems the most feasible in terms of conducting space-relevant research in isolated,

confined, and extreme (ICE) environments. Research projects are ongoing at several national stations in Antarctica, and I am involved in a new study, the LUNARK project, that was just launched in Greenland.⁽⁹⁾

LUNARK is the creation of two young Danish architects who designed a lunar habitat they will live and work in on the ice in Greenland for a three-month period. Their goal is to evaluate the functioning of the habitat in terms of its structural and design aspects and its influence on human factor processes. The LUNARK project is particularly timely for the planned NASA Artemis mission to land two astronauts on the moon (a woman and a man) during the year 2024.

Over the course of the LUNARK mission, an international group of investigators, each team with its own psychological protocol, will study the two expeditioners living in the habitat. I am collaborating with my Danish colleague Anders Kjærgaard and also Konstantin Chterelev of the United Kingdom who is the overall coordinator of the psychological studies. Our own project consists of the standard measure protocol I have used in other studies, with relevant modifications for this mission. We are interested in examining the interaction between personality factors, coping methods used to deal with the stressors experienced, and team effectiveness in this confined two person habitat located in an ICE environment. Conflict resolution and changes in this process over time is of particular interest and highly relevant for future long duration exploration missions to planetary surfaces.

On a personal and institutional level, we are coping with this devastating pandemic as best as we can, and continue efforts to maintain high quality academic and clinical instruction, patient care, and research. Hopefully, there will be “lessons learned” in terms of disease prevention as well as meaningful change in supporting the physical and mental health of others.

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Conflict of interest

The author declares that she has not conflict of interest.