Q&A with Julien Naylor, MD, MPH, at the South Pole

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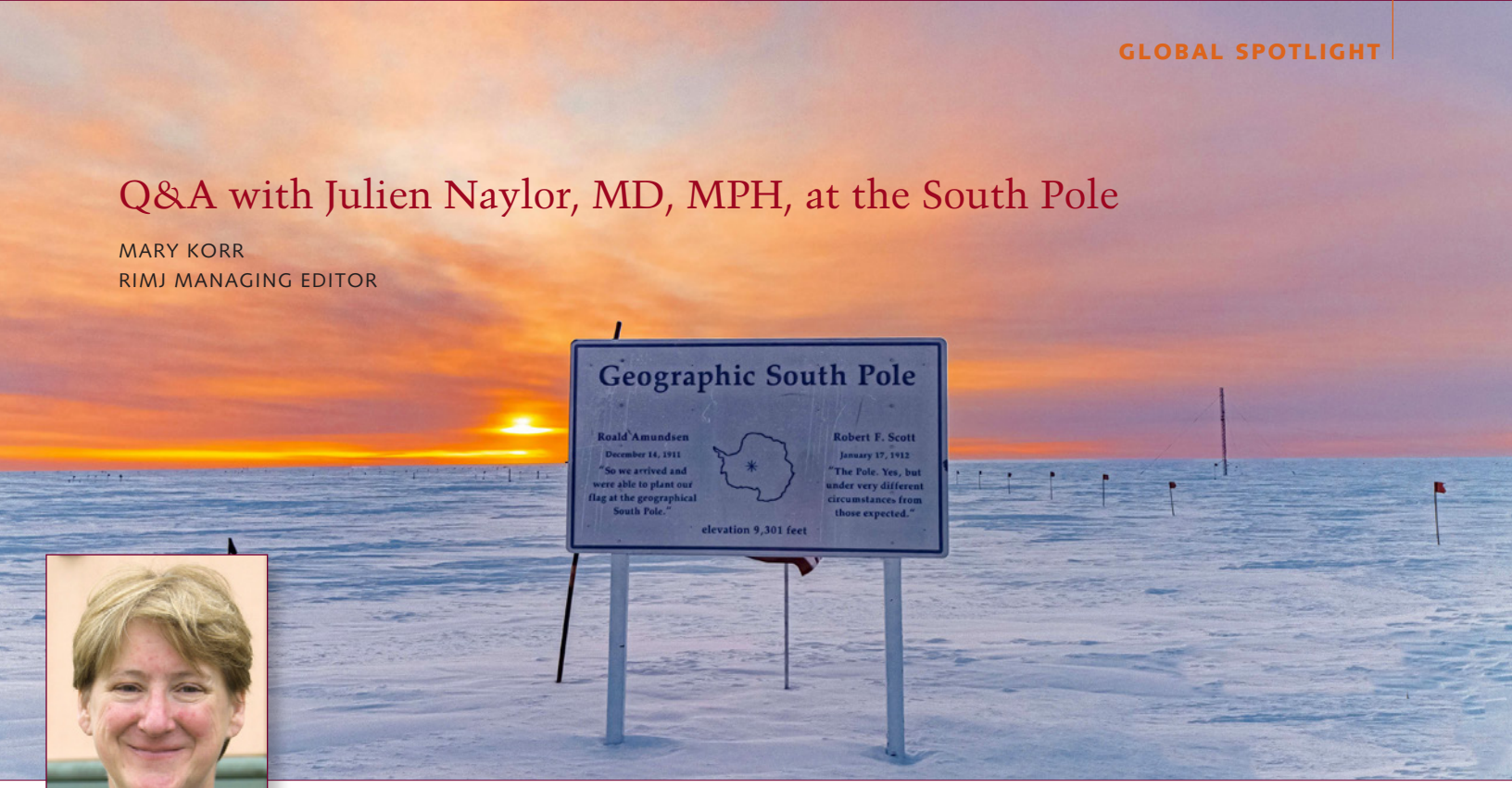


The sun hovers on the horizon a few days before it set for the next six months at Amundsen-Scott South Pole Station. The South Pole has one sunset and one sunrise every year. The sun will appear above the horizon again in late September. Photo taken March 15, 2020. [DANNY HAMPTON, NSF]

THE AUSTRAL WINTER in Antarctica extends from mid-February through October. **JULIEN NAYLOR, MD, MPH,** is currently serving as physician at the Amundsen-Scott South Pole Station, managed by the National Science Foundation (NSF) during this period of complete isolation, along with 42 other researchers, scientists, and supply and operational personnel. Currently Antarctica is the only continent on Earth without a confirmed case of COVID-19.

Contact with the outside world is mostly limited to about nine hours a day when communications satellites are visible, allowing Internet and telephone connectivity. Iridium telephone is available for use 24-hours a day. There is no television or radio reception, other than that available via the Internet. Through the NSF, RIMJ was able to reach out to Dr. Naylor, to ask her about her experiences thus far wintering-over at the South Pole.

RIMJ: What drew you to work in Antarctica and how long is the usual tenure?

DR. NAYLOR: I had considered applying for the job soon after finishing residency but was not an American citizen, so I was unable to do so. Now well into my medical career as an internist, I was asked by my family nurse practitioner (FNP) friend/colleague if I would be interested in wintering with her at the South Pole: a 10-month commitment. I initially hesitated, given the length of the commitment; however, after careful consideration and discussion with my husband, I decided to apply. I have worked during my career in Alaska with the Alaska Native population and always enjoyed the challenges of rural practice. I was intrigued by the idea of work in the most isolated practice under USA management.

RIMJ: Describe your typical daily/weekly schedule.

DR. NAYLOR: The South Pole Station has a crew of 42 relatively healthy people who have been screened carefully before being allowed to spend the winter at the station. Once the station closes to any outside traffic in mid-February, we become self-sufficient. The medical clinic – myself and an FNP – provide day-to-day general medical care to the crew. We see a very small number of patients during the week. Despite the low-patient census, we are tasked with making sure that the clinic is prepared to deal with an emergency that might happen. We train our Emergency Medical Team (a volunteer group) to assist in emergencies and be able to provide basic first aid support if needed.

Inside the South Pole Station medical clinic. [USAP, NSF]

A newborn seal pup bonds with its mother. The seal pup will stay with its mother for a little over a month until it learns to swim and is weaned from its mother's milk. [MIKE LUCIBELLA, NSF]

RIMJ: What is the spectrum of medical conditions, illnesses and injuries seen at the medical facility there?

DR. NAYLOR: Most of our visits are related to sports injuries, insomnia, headaches, GI issues, and dermatologic conditions. Due to the closed station, we have no viral illness.

RIMJ: What is the capability to respond to emergencies such as appendectomy or acute MI?

The clinic's two-bed in-patient area. [NSF, USAP]

DR. NAYLOR: We are fully prepared to respond to most emergencies and have distance support from the University of Texas Medical Branch (UTMB) as needed. We have the capacity to "admit" a patient who might need medical observation/in-patient care. Our clinic has a 2-bed in-patient area. We can manage a critically ill patient with intubation and cardiac issues. Performing a surgery would be a huge challenge as this winter's staff (me and the FNP) has no surgical experience. We do have the capability to set up an emergency OR area.

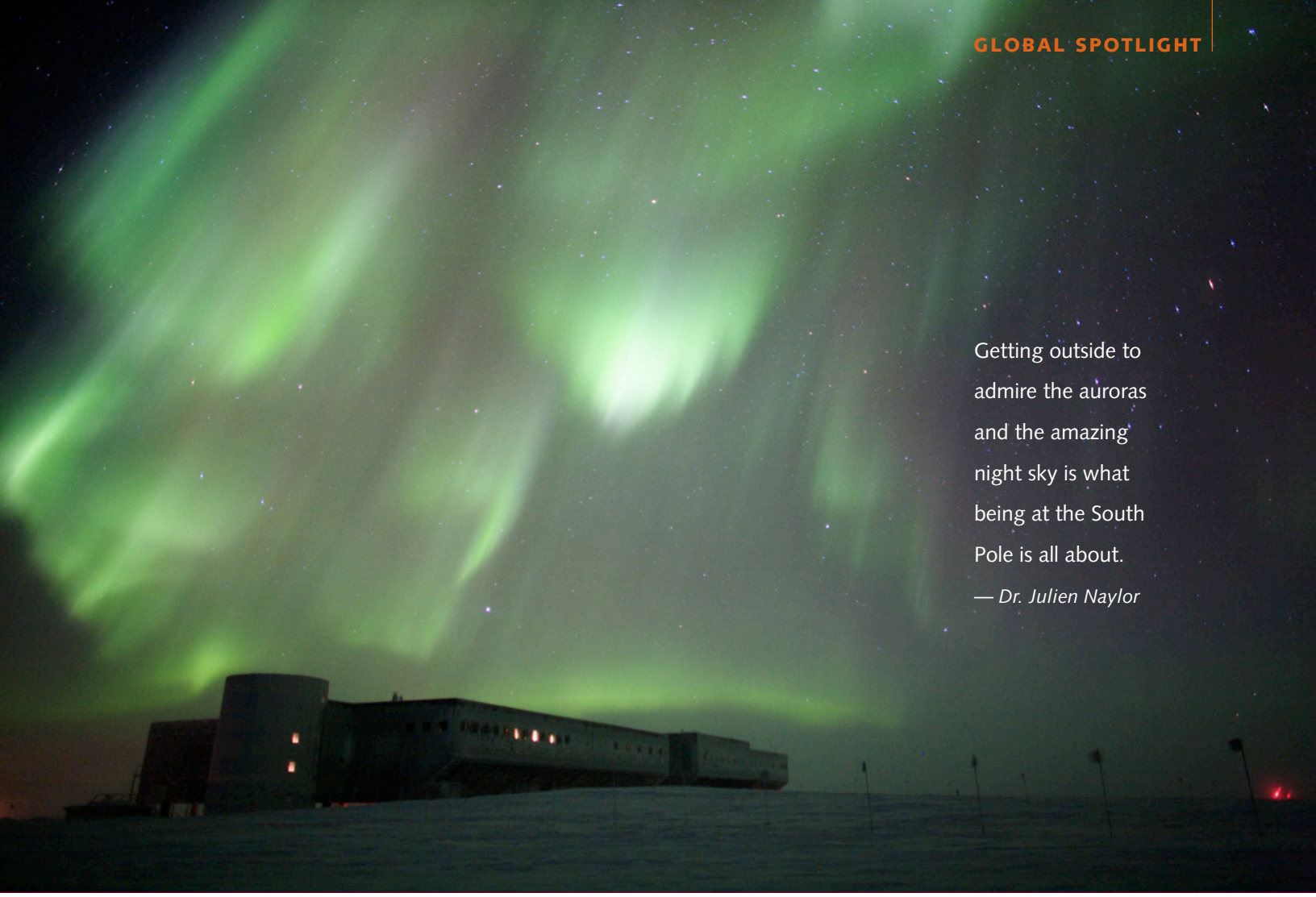
FAQs: U.S. Antarctic Program

The U.S. Antarctic Program is managed by the National Science Foundation. The program comprises research by scientists selected from universities and other research institutions and operations and support by a contractor and other agencies of the U.S. Government. The National Science Foundation (the U.S. Government agency that promotes the progress of science) funds and manages the program. Approximately 3,000 Americans are involved each year.

The program has three year-round research stations - McMurdo Station, Palmer Station, and Amundsen-Scott South Pole Station. Each facility has a medical clinic.

Link to program: https://www.nsf.gov/geo/opp/support/southp.jsp

The elevated station at Amundsen-Scott South Pole Station has lodging for 140 people, offices, a cafeteria, a gymnasium and a medical clinic. [COLIN WHITMORE, NSF]



Getting outside to admire the auroras and the amazing night sky is what being at the South Pole is all about.

— Dr. Julien Naylor

The aurora australis over Amundsen-Scott South Pole Station. [PATRICK CULLIS, NSF]

RIMJ: What are the diagnostic imaging capabilities at the Clinic?

DR. NAYLOR: We are able to do X-ray, ultrasound, and a wide variety of lab work.

RIMJ: How far are you from full-service back-up and what is the protocol to Medevac a patient? Are they transported to a vessel or flown to New Zealand? And how challenging is that, especially in winter?

DR. NAYLOR: At the South Pole Station, a Medevac is an almost impossible challenge due to the cold temperatures and the ability for a plane to land safely during the winter months. Faced with a critically ill patient who needed a higher level of care, a Medevac would be coordinated through consultation with NSF and UTMB. All crew who work at the South Pole during winter are aware that a critical medical illness does not guarantee that they will be moved to a higher level of care. They have signed statements of understanding. This is why UTMB/NSF screen potential crew vigorously during medical evaluation. However, we would do everything we could to move a patient to a higher level of care if needed.

RIMJ: Are there disaster preparedness drills that occur?

DR. NAYLOR: We have a drill every month testing the station's ability to deal with a disaster scenario. We have an Emergency Response Medical Team of nine non-medical crew members. Every week we have training sessions with them to help them develop basic skills – CPR, evaluating a victim, helping medical staff with patients in the clinic.

RIMJ: What do you do in your off time?

DR. NAYLOR: My time off is very busy! I have many interests – knitting, sewing, reading, watching movies, and catching up on all the great TV series that I have missed. Getting outside to admire the auroras and the amazing night sky is what being at the South Pole is all about. We have a young crew this year that is always coming up with fun activities – many are sports-related. We have a nice gym that is always busy. I volunteer in our hydroponic greenhouse to help put some fresh greens on the cafeteria menu. I help wash dishes five days a week for a couple of hours to help our steward. On my day off, I bake bread or make cookies for the crew. I have been doing an exercise challenge called Couch to 5K on the treadmill. There is no reason to be bored at the South Pole station. ❖