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Medicine Outside the Comfort Zone

Helping create "Wellness Warriors": Primary Care for remote Alaska Native Communities

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It was not clear if the young patient had been taking his diabetes medication, but as his blood sugar deteriorated and he became confused, we were not sure what was going on. With flights dependent on good weather and only scheduled back to the mainland three times a week, the "ordinary" suddenly escalated to high priority; should we or shouldn't we request a full medivac ?

There are two words that I never appreciated before coming to Alaska — ''remote" and "wilderness." The main population centre, Anchorage, is rather deceptive. It appears to be just another American city, with its Walmarts, McDonalds, strip malls and grid of straight roads. Yet, it is a little island of the familiar, surrounded by an unimaginably vast wilderness where, as Alaskans like to remind you, man is not the top predator.

Fig 1. Small plane travel forms the "life-line" for many outlying communities

The 49th U.S. state is famous for its bears, and is often referred to as the "Last Frontier." Its huge area (about seven times the size of the UK) is sparsely populated with only around 700,000 people, just under half of whom live in Anchorage. There are no connecting roads to the western part of the state, and only one leading north, so access to the interior majority of the state is typically by small bush plane.

Around 150,000 Alaska Native people belonging to separate ethnic groups with different languages and traditions have lived across the region for millennia. Many still follow subsistence lifestyles fine-tuned to their particular environments. There are many diverse cultures: Inupiat, St. Lawrence Island Yupik, Yup'ik/Cup'ik, Aleut/Alutiiq, Athabascan, Tlingit, Haida and Tsimshian. With English being a second language for some Alaska Native Elders, it is sometimes difficult to believe that this is indeed part of the USA.

Alaska has only been "westernised" for the last hundred years or so, and some of the population live in "villages" widely dispersed across the state. Life can be tough. More and more villages are gaining access to running water and sewerage systems, but often there is little food in the stores and what is available can be very expensive.

Within Anchorage, the ethnic mix is one of the greatest in the whole of the USA. Many people relocated to Alaska to work in the oil industry, which was also lucrative to the state and generated large financial reserves. Up until recently, the state has been replete with money and was a popular relocation destination with no state income tax or sales tax. However, the recent decline in global oil prices has had a negative impact.

I came to Anchorage with my geologist husband. I had previously worked in Houston, Texas, where I had completed all the requirements to work in the USA. After working as a General Practitioner partner and trainer in Surrey for about 10 years, this was a last chance to do something different. General practice had become routine. I knew and respected the local consultants. Emergency medicine was almost irrelevant with the local hospital just three minutes from the surgery. Additionally, I was becoming frustrated by endless paperwork and targets, but I knew that I was not ready to

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retire. Alaska seemed to be the perfect location where we could both work, but I was not sure I wanted to work in the private sector.

Anchorage is filled with modern medical facilities, most of which are privately owned and staffed by independent groups of doctors all working in their own office complexes. Care is expensive for patients even with health insurance. "Obama Care" has certainly not decreased premiums and last year, even with the best medical insurance, my family spent about $15,000 on health care.

Despite the emphasis on "for profit" health care, there are facilities which are partially supported by the federal government: The Veterans Administration, and the Alaska Native Medical Center, which includes a 150-bed hospital, a full range of medical specialties, and the primary care centre where I work, which is run by Southcentral Foundation (SCF), a tribal organisation.

Fig 2. Southcentral Foundation, Anchorage clinic

At SCF, we are grouped into clinics, and within the clinic are further divided into 4 person units. The unit I work with includes a "scheduler" who makes appointments, a medical assistant who brings patients into the consultation room, measures vital signs and does routine screening questionnaires and most wonderful of all, the "Nurse Case Manager" who is central to care co-ordination, chronic disease management, triage of patients and giving patients information about their laboratory results and medical conditions.

Also a behaviour health counsellor, dietician and pharmacist are within the clinic and are available to participate in clinical care. Complementary medicine and physiotherapy are in the next building. The hospital is on the same campus and shares the same electronic medical record so we always know what is happening with patients.

SCF has achieved international recognition for its "*Nuka*" health care system. (*Nuka* is a native concept meaning strong, giant living things). SCF's Nuka System of Care puts the *"client-provider relationship at the forefront. Instead of being objects with which medical services are provided, beneficiaries have become the essential partner; metaphorically, the managing director of a series of processes focused on attaining wellness rather than just treating illness. Patients have transformed into customer-owners"* [1] .

Fig 3. Comprehensive treatment includes traditional native practices

Throughout the year, people visit from around the world to view this award-winning health care system. The Kings Fund recently published a study on the system [2]. Through federal funding and occupational health insurance, SCF manages to provide accessible health care for the Alaska Native Community.

TRADITIONAL HEALING

Traditional healing practices are also included alongside day-to-day westernised medicine. They are provided in an outpatient setting in conjunction with the other services offered at SCF.

Tribal doctors assist people of all ages with practices such as: healing hands, culturally-sensitive supportive counseling, cleansing, Healing Touch, talking circles, prayer, songs, dances and consultations with Elders. In addition, there is an Alaska Native Traditional Healing Garden. These plants are native to Alaska, and are cherished for their nutritional and medicinal value.

Alaska Native people have gone through tremendous cultural changes in recent times and in common with other indigenous cultures, suffer from high rates of alcohol and drug abuse as well as domestic violence. Before SCF partnered with the Native Community to transform health care, the Alaska Native population had a health care system with long waiting lists, low satisfaction for both employees and patients, high staff turnover, and poor health outcomes. Direct involvement of the community has certainly improved things.

One of SCF's approaches to address the problems of domestic violence, abuse, and neglect is a program called the ***Family Wellness Warriors Initiative*** (FWWI). *"Its purpose is to equip organizations families and individuals to effectively address the spiritual, emotional, mental, and physical effects of domestic violence, abuse, and neglect. It is our desire to encourage wellness in each of these areas in the individual, the family, the community, and the world in which we live"* [3].

Benefits of participating in FWWI include*: "eliminating the shame and guilt of people harmed by domestic violence, child sexual abuse and child neglect; re-establishing the roles of parents as protectors of families; making one's own story coherent; and using spiritual beliefs to re-establish moral and ethical direction. Participants who attend trainings demonstrate a greater sense of family satisfaction, less stress and conflict within the family"* [3,4].

MY ROLE

In addition to working in the main facility in Anchorage, I help provide services to two island villages in the Bering Sea. These windswept, volcanic islands are about 750 miles away from Anchorage and the nearest hospital and 350 miles from the mainland. I act as a consultant to the permanent staff on a daily basis and make a field visit to each of the islands twice a year.

Nothing excites me more than catching a plane to work. However, I am always filled with nervous anticipation as I wait at the gate for the PenAir flight to the Pribilof Islands of St. Paul and St. George. Although St. George has a resident population of only about 70, and St. Paul around 400, the waiting room is usually filled with an incredible mix of people: fishermen wearing wellington boots, hunters in camouflage gear, locals returning home and the occasional "birder" tourist usually with binoculars around their neck. Most will be going to the bigger island of St. Paul.

It is never certain whether the plane is actually going to fly. Once I waited all day at the airport on a weather hold, only to be told after seven hours that the flight had been cancelled. My food box had to be unloaded and the frozen food unpacked, in the hope that you may have better luck on the next flight. If you do make it out, there is always a sigh of relief when the captain announces that all the luggage has made the flight as well.

The islands are somewhat similar to the Galapagos being located beside upwelling, nutrient-rich cold water currents. These support dense populations of sea birds and marine mammals. They used to be home to the world's largest northern fur seal population.

Fig 4. Male Northern Fur Seal and harem

Fur seals were hunted for their pelts until 1986 when the plants were closed down leaving some inhabitants without work. Leaving the islands would mean that they would be leaving their Aleut language, family and way of life behind. People have tried to adapt, but change is hard. There is no agriculture, the fishing is usually based out of Seattle and tourism is scarce due to the remoteness of the location.

Arriving at St. George's airport is an experience. Fog tends to circulate the high cliffs, and if it is too dense, the pilot may just turn around and head the four hours back to Anchorage. On occasion, the plane has not been able to land for about three weeks. When luck is on my side and I do arrive, I am always greeted by name, and may be the only person getting off the 20-seat plane. St. George's airport terminal is not much more than a portacabin. An unpaved road heads back to "town," a tiny community challenged by many things.

Fig 5. St. George Island community

Satellite dishes bring American television into homes together with the hopes, expectations and aspirations of any other American town. Many people drive a four-wheeler despite fuel being expensive on the islands. The local "canteen" is in the city hall and has basic supplies. Shelves are often empty when the plane has not made it in. Fruit and vegetables are conspicuous by their absence. The Anchorage based dietician is always urging that these should be part of their diet, but availability and cost can be prohibitive.

When I arrive with a mixture of fresh fruit, vegetables and baked goods, the latter attracts the most attention. I am reminded that health delivery needs to be culturally appropriate and although these islands are American, their background is dependent on what the sea around can offer: seal meat, fish, gull eggs and sea urchins.

The health facilities are modern and well-staffed. The larger island (St. Paul) has two permanent nurse practitioners or physician assistants, while the smaller island St. George has one. The clinics are well stocked. Basic X-rays can be done; full blood count and finger blood glucose can always be measured and sometime electrolytes. Medications are sourced from the "Pick Point" which is rather like a vending machine. Medicines are ordered through the medical record. The order is relayed to Anchorage for pharmacist review and approval, and then sent back to the island when a label is automatically printed and the medication "dropped," a system called telepharmacy.

Fig 6. Pick Point medicine vending machine

Regular flights bring medicines to re-stock the Pick Point machine. Sometimes these do not arrive, either due to bad weather or insufficient space on the plane. However, stocks of emergency drugs are available, but opiates are kept to a minimum to prevent diversion.

I have been more challenged working on these islands than I have ever been in my life. Life threatening conditions are still a four-hour flight away from specialist care once the "medivac" air ambulance plane reaches the islands. In the meantime, the patient has to be stabilised. Each emergency evacuation costs about $80,000, and just to get a second opinion requires patients to be sent on a scheduled flight to Anchorage, which costs $1,000. While most of the islands inhabitants are Aleut people who are covered by treaty agreements through the Indian Health Service funding (eligible for care at SCF's Nuka System of Care), there are a few non-Native people who are covered through the Community Health Center grant or have to pay their own way.

Despite these issues, day-to-day clinics do not seem that different from working in the NHS. The electronic medical records are linked through to Anchorage and the main hospital. Recent improvements in internet connectivity have enabled video conferencing and tele-medicine link-ups with the team in Anchorage. When this works, it is truly impressive, but there can still be internet blackouts. It is very frustrating when the system goes down part way through detailed data entry into a remote system.

Fig 7. Telemedicine systems for transmission of patient data to Anchorage hospital

There has been a recent outbreak of tuberculosis. We have had to test everyone on the islands. The state has been involved with teams of staff going out to screen, rescreen and determine the type of TB. We had one young adult who was diagnosed while they were away from home. The patient was unable to fly back home and had to stay in his hotel room for a month with his meals and medications left on his doorstep until his sputum sample came back clear.

On another occasion, a patient had been seizing for nearly two

hours despite treatment with maximal doses of lorazepeam, diazepam and phenobarbitone. We were running out of medication. Our supplies had been diminished, as the mail had not made it in. I mentally play through the list of all the terrible things that could happen including brain death and stoke. Advice has been given over the phone. The air ambulance has been called, but it is still hours away. Are there any treatable causes? Has one forgotten anything? Textbooks are pretty useless: admit to intensive care, intubate, call the anaesthetist on call etc. Medical school and junior hospital jobs seem like a long way away and not very useful. Most relevant was a wilderness first aid course I did aimed at outdoor enthusiasts. You do what you can and look at the vitals - heart rate, respiration and mental status. This medicine is far more challenging than anything I have ever done in my life.

Then a young previously healthy patient, presented with the "worst headache of their life" which was waking them nightly. High blood pressure was newly diagnosed and uncontrolled at 205/110 despite repeated readings. They had unilateral blurred vision and photophobia. Advice is reassuring for the patient, but there is still the anxiety that this might be an intracranial tumour or malignant hypertension. When should I arrange for an urgent transfer? The weather is closing in. The wind has increased to 40 mph with a forecast of stronger to follow; the local high cliffs are no longer visible.

During my time in Alaska, I have had more moments of self-doubt than ever before. I find the tools I learned in my NHS appraisal feedback very useful. I think of my "Puns and Dens." I work through Significant Event analysis with the team. I read the small print of the textbooks. I think of all the obscure diagnoses.

It is difficult not to think about the ethics surrounding care for people living in such remote places with serious medical conditions. What can be done if someone is unlikely to survive a relatively trivial emergency? Should we live so far from modern medical care?

This is a country that provides some of the best health care in the world for the insured. Here, I am working with insured people, but care that is provided in more densely populated areas simply cannot be matched due to access, distance and the elements.

As I walk along the cliffs admiring the rare seabirds, the red-footed kittiwakes, I remember that these are the reasons people live far from cities and medical facilities. There is a richness and abundance of life that is immediate and vibrant in a way that cities can never offer. For most individuals, there is also family, heritage, and the deep sense of belonging to a place. Yes, it does come with trade-offs and one of those is the lack of immediate access to some dimensions of modern medicine…. But what IS offered on site and through telemedicine is actually pretty remarkable. It is a privilege to be allowed to walk with this community on their medical and health journey….and when I feel like I have reached the limits of what I can offer as a doctor nearly 1,000 miles away….and I wish for more….I work to remember that there are choices with consequences to living here – with both wonderful and, at times, challenging implications.

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