Gretchen Roedde, 2018. Online Supplement e5. Flashes of Light in the Darkness: Rewards and Challenges of Rural Medicine. Arya & Piggott. Under-Served Book. (underserved.ca)

Flashes of Light in the Darkness: Rewards and Challenges of Rural Medicine

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LEARNING OBJECTIVES

After reading this chapter, you should be able to:

1. Discuss the challenges to health delivery in an underserved area including geography, transport, weather, and lack of professional health care workers.
2. Outline some examples of how an underserved area can achieve improved health outcomes in spite of systemic constraints (e.g. wait times in the emergency department to see a physician or to be admitted; outpatient diabetes management; cancer screening; in-patient infection rates)
3. List some examples of determinants of health identified in this chapter. (poverty, substandard housing, education levels, social supports, harsh weather, transportation availability, exposure to trauma, dealing with discriminatory social norms etc.)
4. Discuss some factors that enhance resilience in an underserved area.
5. Discuss how vulnerability to unemployment can allow injured workers to not seek redress and services to which they should be entitled.
6. Review the importance of inter-agency co-operation in achieving improved health outcomes in an underserved area.

I live and work in a 'Rural and Small Town' in Timiskaming District in northern Ontario. The district's public health unit serves 35,000 people over fourteen thousand square kilometres and there are three small hospitals, ours (Temiskaming Hospital, six hours north of Toronto) is the most southern in the district and the only one providing obstetrical/maternity services.

Sudbury, which provides specialized care (cardiology, cancer care, neurosurgery etc.), is three hours away and the nearest obstetrician almost two hours away in North Bay. We do not have enough

nurses to provide a service like dialysis in our local hospital three times a week to everyone who needs it. A patient here may need to have one treatment three hours away in Sudbury, another an hour north in Kirkland Lake, and only one treatment per week in Temiskaming Hospital [1]. The roads to the next level of care are frequently closed for hours at a time because of weather and accidents. If the road is not open, it means negotiating with the police that you need to drive on the closed highway at your own risk, to get to a dialysis treatment out of town or you will die of kidney failure.

And yet our hospital scores as well as the rest of Ontario for wait times to see a physician in the Emerg, and it is far better than the rest of the province in terms of wait times to be admitted from the Emergency Dept. The rates of in-hospital infection are about one quarter of the rate in the province as a whole, appropriateness and effectiveness in terms of readmissions to hospital are on par with the rest of the province and it is only low risk Caesarean sections that are higher, in part because we have no obstetrician (Canadian Institute for Health Information 2015).

A physician-dependent model of health care leadership would be more challenged by the fact that small northern Ontario communities such as ours have lower health worker to population ratios than urban areas, including fewer family doctors and only occasional access to specialists (Pong, DesMeules, Heng et al 2011). In 2005 over 20% of the Canadian population and less than 10% of family doctors lived in communities of 10,000 or less in the country (National Rural Health Strategy Society of Rural Physicians of Canada https://www.srpc.ca/PDF/nrhsB.pdf). About 6% of our population are Indigenous. One third of the population speaks both French and English. The level of education is lower than the rest of Ontario (one quarter of the population does not have high school compared to 13% for Ontario as a whole). (Timiskaming Health Unit 2012). There are very few professionals – engineers, doctors, lawyers, teachers, nurses. Most people are seasonal workers or live on social assistance. Some have jobs several hours away by car or plane, where they might work two weeks and two weeks home. Since these jobs are prized, many workers will allow the company to choose not to file Workers Compensation claims when they are injured, believing the Company's promise that they will be looked after. They, and I, get pretty upset when they are fired because with the damaged leg or missing finger from the crush injury, they are no longer valuable. This also means higher rates of chronic pain, PTSD and opiate use. In Ontario less than 1.5% of the population are on both chronic high dose opiates and benzodiazepines, in my practice it is double that. 14.5% of my patients have had short term courses of opiates, the provincial average is 7.3%. (Primary Care Report, Health Quality Ontario, 2017, Latchford Medical Clinic).

My patients tend to be poorer than the rest of Ontario and have more depression. In the same report, 55% of my patients are in the poorest income quintile, compared to 18% in the province. 25% of my patients have mental health problems compared to less than 20% of Ontarians.

Mental health is stigmatized but there is a stronger sense of community and this adds resilience (CIHI 2006; Kirby and LeBreton 2002). No one is homeless here. The extended family absorbs those who lost their job, or marriage, or mind. I have many patients who are raising their grandchildren (with autism, or fetal alcohol syndrome, or whose parents are busy either looking for work, or drugs, in another city.)

There may be: not enough doctors, too much disease, too low income, too much smoking, too poor housing – (Kulig and Williams 2012) - so we could focus on adversity or deficits; but I believe it is more important to celebrate the opportunities and glimmers of light presented by living on the margins. Because again even in this rural practice, the Ontario statistics show better than average management of diabetes, cancer screening (pap tests, mammograms and colorectal cancer), follow

up from emergency room visits, less emergency room visits for non-urgent cases, and lower rates of readmission to hospital than the provincial averages. This can be achieved with close communication between home care providers, emergency physicians, general practitioners, and their office managers.

Flashes of light in the darkness – Culturally sensitive improvisation

> The power had been out for twelve hours. Over ten thousand people affected. In my house the Amish couple who were labouring were cheerful, they were used to no electricity, had brought their own headlamp. The obstetric (OB) nurse who was the second birth attendant told us how eerie it was, driving through the darkened towns after sunset and her day shift at the hospital to my home, while great flashes of sheet lightning illuminated Lake Temiskaming which borders our town. She remembered holding a flashlight for a night delivery at the hospital another time we had a power failure. I laughed as I held a solar light from my garden and the midwife checked the strong fetal heart and mom's vitals at 2AM while the labouring woman (in her late thirties, in her sixth pregnancy) had now reached 5 centimetres dilatation. We had three other solar lights, two camping lanterns and two headlamps, otherwise it was very dark on my second floor where we had a birthing room, beds for the labouring couple, midwife, and two OB nurses in alternating shifts. After thirty-three hours in my home, we carefully explained about the need for intravenous antibiotics as it had been over twenty hours since the artificial rupturing of the membranes in the birthing room. The couple agreed to go to hospital where they would be charged $1200 per day or any period up to twenty-four hours for mom and baby, including medications such as the antibiotics and oxytocin to augment the stalled labour, and deliver a healthy baby.

The midwives in Temiskaming Hospital had responded to the wishes of their Amish patients for home births by creating a 'maternity waiting home/birthing centre' at my house ten minutes from the hospital, instead of an hour and a half away in the Amish community with no electricity. The Amish believe in 'self-pay' and do not accept government subsidized health care financed from taxes. They will access salaried midwives. The larger Amish community helps offset costs of individual's medical bills. This still means that decisions about which services to purchase such as ultrasounds, Group B Strep swabs, blood work, and hospital births are carefully made and most of the patients we see have not had these done. The decision to transfer to hospital is made by the Amish patients after their health professionals have explained the risks so that an informed choice can be made. Amish women do not believe in contraception and many women have a ninth or tenth delivery. (Adams and Leverland, 1986).

Pete - Who leads the health-care team?

> It was the home oxygen provider, Suzanne who first came to my office in Latchford, just south of Cobalt, to ask what we were going to do about Pete's house. Shack really. "Have you been there? I don't think we can get home oxygen in, not when there are so many fire hazards."

I lined up Meals on Wheels for him when he appeared chronically malnourished. Of course, he did have Crohn's. And COPD. And chronic pain. And lots of meds I just kept renewing and when he would come in, I kept some Boost samples for him. And then he fell. Since he could not get up to answer the door, the Meals on Wheels could not be delivered. He lay there with broken ribs on the floor for a couple of days. A neighbour called to say he was in a bad way. Hadn't eaten. Bad pain in his ribs. I told the neighbour to get him to hospital, faxed the requisitions to get an Xray, recheck his oxygen to make sure he still qualified for home oxygen. And then I visited him at home for the first time.

Turns out Meals on Wheels, like Home Care, has rules about how clean the house must be. His cat and his dog defecated freely. And Pete also wore diapers for his incontinence. He had not bathed in many months. And now I saw the fire hazards as well, empty boxes, his smoking which was not confined far enough away from where the oxygen would be, the woodstove his only source of heat. We have cold winters here. 40 degrees below zero. He mentioned he had a daughter, "She is one of your patients. Haven't talked to her for a long while."

I gave the daughter a call. She said she had given up. It was his drinking. Her hopes that kept being broken. I asked if she could please call him again? She did. So when his woodstove went out, in the middle of the night, and his feet froze to the floor, he called her back. And she organized the ambulance which came, and he was admitted to our local hospital with frostbite. He was one of my four patients who developed frostbite that winter. One Indigenous man, from over on the other side of the Quebec border. The rest Caucasian, northern Ontario residents in my practice. Winters just too cold, houses just too bad.

He signed himself out from the first admission. I knew that if Meals on Wheels could not enter his house, there was little chance of Home Care for the dressing changes on his feet. So when he called the office to say I needed to see him at home, he was doing poorly, I went with Julianne, my medical student. She had been a nurse before she started training as a doctor. She was not the first medical student I had brought to his home. He at first refused to go back to hospital. Julianne was distressed. "Dr. Roedde, he has to go back to hospital. He needs care!"

Julianne knew the nurse practitioner who worked with the Canadian Mental Health Association (CMHA). She made some calls. So this time, when he went to hospital it was all lined up. CMHA. The addictions program at the health unit. A special program to get him better housing at an affordable rate. And he was discharged to his new apartment, his new and expanded support system, his family that no longer felt overwhelmed. He always had a merry grin, he always made the best of his adversity, and he sure is pleased to show me the pictures on his wall from his grandkids who now visit him, at his home.

Pete faced challenges in key determinants of health: poor housing, social exclusion, food insecurity and a weakened social safety net (Raphael, 2009; Mikkonen and Raphael 2010). But informal interdisciplinary working relationships can offset these barriers to bring the relative strengths of home oxygen providers, hospital respirology technologists, mental health and addiction services, medical students, hospital based social workers, nurses and physicians to support communities. In this model the physician is part of a network of support, and not 'the leader'.

When I see Pete now, it is to visit him in his subsidized apartment, the scooter parked outside, and he can recount his most recent visit from the occupational therapist from the Canadian Mental Health Association, or how his last meeting at AA went, or to show me the pictures drawn by his grandkids. He continues to get support from the addiction worker at our local health unit, and has access to subsidized transport.

Donnie – Community engagement

> By the time I met him he had been sick, and had been treated, for over a decade by his excellent GP I was now replacing. But the Cancer Centre in Sudbury said, 'nothing more can be done for him'. His colorectal cancer had spread to lung, and liver, and bone. He came in, with his wife, and his cheery grin. "Just keep me fishing and hunting". He was 50 years old.
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> We had pain relief to organize. At first Donnie said, let's go with the Fentanyl patches. After two trips out Lady Evelyn Lake to go fishing, he thought he would try the pump. "Why didn't I try this before!" Home Care was quickly responsive. Catheterize at midnight on a Saturday? No problem! But that had meant he had lost feeling in his lower body, so when I made the house call on Sunday, I faxed a referral to the Sudbury Cancer Centre. Who faxed back, no problem, palliative radiation for the cancer which had spread to his lower spine could be set up - and he was there having radiation on Monday. Bit of a problem there, ambulances cannot take someone with a pain pump, so the family brought him in the truck, and home again after three days in hospital having radiation.
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> His whole support system did an outstanding job. The community brought Donnie food, took him on outings, shared shifts so the family would have a break, took his wife Marie dancing when he no longer could. Marie's extended family lived in a trailer home in the driveway, alternating shifts of her sisters and kids and grandkids. Home Care did everything we needed. It was only after a whole year, a year full of many hunting and fishing trips, a year full of many fine moments with family and in-laws, that he went into rapid decline and died.
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> I came to meet the pastoral minister at the house. He too was a patient of mine. We had sent out the call that we needed a man to help Donnie and his family at the end. At the funeral he praised Donnie's doctor, now out west, and me, filling in. And the family and community for all they had given. Sadly, joyfully, we left. The honour guard that took the urn of his ashes wore camouflage clothing. Orange caps. There was a moose on the urn. Most of the flower arrangements had bears, wolves, birch trees, fish, moose.

People in northeastern Ontario have higher rates of colorectal and other cancers than southern Ontario (Cancer Care Ontario 2012). Canadian rural populations have higher mortality rates of cancer than their urban counterparts. (CIHI 2006) But the stronger sense of community (Kulig and Williams 2012) helps to offset this burden. Similarly, roles and responsibilities between formal and informal care providers are different in rural areas (Kaasalainen, Brazil et al 2011; Brazil and Kaasalainen et al 2013; Wilson, Justice et al 2006; Robinson, Pesut et al 2009; Crooks and Schuurman 2008; Kelly, Sletmoen et al 2011; Donovan and Williams 2012). Family members carry more of the burden, and again, the role of the physicians and nurses becomes one of support. But my memory of Donnie's life and death is joyful, and filled with the life and laughter of kids running around his hospital bed at home. The services we 'don't have' in rural and more marginalized communities, are frequently offset by the warmth of a caring family and community. It is during the

time of passing, particularly in the Indigenous communities where I have worked, that I am most reminded that caring for the dying and carrying the body to rest, has little to do with medicine and everything to do with life.

Deathwatch –mental health care challenges

> Too many of my patients have killed themselves. They have been old, and young. Hanging is preferred for males, though one teenager killed himself with a crossbow through his skull. The women often prefer pills. Many of the patients that I have lost have been adolescents. Each death leaves the aftermath of increased risk of suicide for other family members.

We know that rural Canadians have higher rates of depression and suicide (CIHI 2006) and that there is potential for prevention (Stice, Shaw et al 2009). In my community there are not enough services to help these people. The risk factors of family violence, sexual abuse, lack of prevention programs, unresponsive educational systems which do not respond to the needs of learning disabled adolescents, bullying, intolerance to different sexual preferences, drug and alcohol addiction, and the greater stigma of mental health problems in rural areas makes intervention difficult. I have started to borrow a social worker from the Canadian Mental Health Association two days a month. I just started to ask around, as I was not in a family health team, who could help. Again, in a more informal setting such as a rural marginalized community with personal relationships between agencies, it is easier to think outside the box and try to innovate when ongoing crises demands it.

Emma – Patient-centred care

> Last year Emma, a lovely Amish woman, delivered in my home, and this year she was in her sixth pregnancy. None of her births have been in hospital. She was breech, so no one here would deliver her vaginally. The midwife did an external cephalic version. In our area, we have a seamless birthing team, two midwives, family docs who do obstetrics, one family doc who does Caesarean sections, two other general practitioners who do anesthesia. But at her last prenatal visit the head seemed to be moving and the midwife feared the baby would move back into the breech position. So she ruptured the membranes and labour started, but stalled. Emma spent several hours in my house but recognized that this time, she would need to go to hospital as it had been eighteen hours since her membranes had been ruptured and she needed antibiotics and oxytocin. The midwife drove her to hospital, the OB doc on call gave the order for the IV penicillin and oxytocin drip (but did not see the patient), the OB nurse monitored the drip and vitals, and then the midwife did a vaginal cephalic delivery. The baby was delivered just hours before our GP who does C-sections went off duty with no replacement coverage, necessary back-up for augmented labour, so all the interventions were extremely timely as the alternative would have been to send the patient to Timmins to a more expensive obstetrician for a surgical birth.

In our rural and remote community, living on the margins has helped foster creative solutions to model a global best practice for skilled attendance at delivery, task shifting, and availability of comprehensive emergency obstetric care. While access to maternity care is decreasing in both southern and northern Ontario and health outcomes are adversely affected by this (DesMeules and Pong 2006, Hutten-Czapski 1999), the potential exists more easily in a smaller more informal setting with fewer territorial boundaries between physicians, nurses, and midwives – to really create a patient-centred model of culturally supportive maternity care.

During the last year I have had six Amish families here in my 'less remote' home for a hoped-for home birth. In rural medicine you often open your home, as you open your heart to your patients.

Having the midwives and the Amish in my home, caring for the dying in their own homes, seeing someone like Pete turn his life around, being able to access a mental health worker in my clinic, sharing my practice with medical students many of whom are choosing to practice rural family medicine – these are great flashes of light in the darkness.

In underserved areas of Canada, the communities themselves can be one of the strongest parts of the health care team. As a physician who has been working in northern Ontario since the late 1970s, I have seen how local communities play a major role in responding to illness, birth, and death, making each more meaningful and bearable. This redefines the physician as a member of the community as much as families themselves are part of the health care team. It also breaks down barriers between professionals, paraprofessionals, and volunteers to build a more resilient health system and overcome the gaps that face underserviced areas.

CRITICAL THINKING QUESTIONS

1. Outline some opportunities in an underserved area to create new systems improvements. (GPs working to do C-sections, respiratory technologists doing community outreach, or task-shifting; stronger roles for home care nurses; closer relationships between midwives, OB nurses, GPs, respiratory technologists for neonatal resuscitation).
2. Can labelling people as underserved, marginalized or vulnerable stigmatize and limit patient-centred care?
3. Can physicians be part of the community just as communities are part of the health-care system and how can boundaries be protected?
4. Is cultural integrity in an underserved group (Indigenous, Amish, French Canadian etc.) part of resilience?
5. How can student health workers help health care providers, as well as build health systems improvements?

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Notes:

[1] Both spellings of Timiskaming/Temiskaming are in use, the Ojibwa word for Deep Water.