

## Distance Learning at Northern Ontario School of Medicine

### Speaker

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Distance learning, which used to be limited to just a few medical schools, is becoming more common now. With the ongoing school expansions, many branch campuses are popping up all over the United States and Canada. There are three issues that drive schools to expand away from the mother ship:

- Political reasons, such as a mandate by the state legislature
- The schools may be unable to find clerkships in the immediate area
- Social accountability, that is, a school pledging to bring students into underserved areas

Dr. Hunt spent 20 years of his career focusing on distance learning, before becoming an LCME Secretary last September. For many years, he was an associate dean at the University of Washington School of Medicine, helping to run the WWAMI (Washington, Wyoming, Alaska, Montana and Idaho) program. Founded in 1970, WWAMI is considered the grandmother of all distance learning programs. From 2004 to 2007, Dr. Hunt was a campus dean for a new school, Northern Ontario School of Medicine, located in Thunder Bay and Sudbury. These are equal sized campuses, 618 miles apart, each in a city of roughly 100,000 people. Dr. Hunt was dean of the Thunder Bay campus, on the northern shore of Lake Superior. The province of Ontario is big, spanning the distance between Miami and New York City, but most of it is pretty empty. Across Canada, 90 percent of the population lives within 100 miles of the U.S. border.

The Northern Ontario School of Medicine is the first new medical school in Canada in 30 years, built in reaction to a desperate shortage of doctors. School literature states that faculty, staff, and students do not function in a traditional medical school building, and the “walls” of the school are the boundaries of Northern Ontario, an area the size of France. It is a desperately underserved area. It has three pediatricians and one dermatologist. The one rheumatologist flies up from Toronto for three days of practice every other week. The goal of the curriculum is to train physicians who are ready and willing to practice in these remote areas.

The course of study is integrated into five themes: Northern and rural health, personal and professional aspects of medical practice, social and population health, foundations of medicine, and clinical skills in health care. Cases are the traditional problem-based learning cases, but they are done in the context of the communities. The approach is patient-centered, focusing on people in their home, family, and community. The first two weeks of medical school are spent on the home campus with a concentrated orientation—whole group and laboratory sessions—which are difficult to deliver in community settings. Then there are 3 six-week integrated community experiences. For example, in the town of Marathon, population 5,000, a patient walks in with a heart attack. That may seem like the traditional problem-based learning situation, but Marathon does not have a physical therapist for cardiac rehabilitation. In managing the cardiac event, one has to decide at which level of disability would one expect the patient to drive four hours to the nearest physical therapist. Also, one would need to find out, for instance, if the high school coach actually has some modest physical therapy experience to assist in the rehabilitation effort. That’s how clinical practice is done in a town of 5,000 people.

Students study in these remote areas, using a high-quality IT system. When they are placed in small communities, the curriculum continues just as if they were in Thunder Bay and Sudbury. Through the IT system, they participate in small group discussions, lectures, and problem-based learning. During April of the first year, for example, students are placed in pairs in communities that are fly-in only, with an average population of about 800. Moosonee, along the James Bay Coast, is the largest,

with about 2,000 people. Muskrat Dam, with 350 people located in the bend of a river, is a two-hour float-plane ride to the nearest hospital. Two students study the musculoskeletal system while in the nursing station, watching diabetes management. One consequence of putting bright, highly motivated young medical students into these reserves is that they can inspire the kids there to become doctors.

In the second year, students continue their curriculum in this case-based way, but twice – in February and October – they are placed in communities that are road accessible and have up to 5,000 people. For example, students might work with the family physician in Marathon while doing their clinical skills training. Mentoring a medical student is a lot to ask physicians serving in shortage areas, but they enjoy the exposure and it's thought that the work improves their retention rates. Of course, the practitioners have to be provided lots of faculty development.

Year three takes the integrated approach, without a clerkship. The students are placed into 10 different communities with approximately 20,000 people each. A city where a third-year student is placed is defined by the amount of services provided. If an elective caesarean can be done there, then there are enough specialists for this level of training.

The fourth year is spent back in the home cities of Sudbury and Thunder Bay, where students see specialists and are more oriented to tertiary care.

There aren't any data yet on the school because the first class has not yet graduated. The school will have a major LCME site visit in September and its first graduation next June. Data from the WWAMI program shows an increased likelihood of graduates practicing in the underserved areas that the school encompasses, but it costs a great deal more to run a medical school with far-flung centers. The LCME has to be shown that these experiences are comparable to traditional medical education and that they have the same evaluation system. There needs to be extensive faculty development and a sophisticated IT system. When students are located at different places, the support systems for them are very challenging to run. Faculty can't just stay in their offices waiting for students to show up. Although this is an extreme form of distance learning, the general model may be useful in the United States. With the medical school expansions in this country, more students may be clerking in community hospitals in other sites, mostly because new slots can't be found near the medical school.

On the broader theme of medical school expansion, training more medical students is just part of the solution to changes in the health care market. Medical students are going to the upper end of the market while the lower end is being filled by non-MDs, such as doctors of clinical nursing, physician assistants and nurse practitioners. This is all economics. Less expensive products taking the lower part of the market is a disruptive innovation. To compete, it may be time for medical schools to consider creating a health care provider that doesn't take as long to train and is not as expensive.