Hermes Monato, Jr. Memorial Essay
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Rural Health Systems: Healthcare and Education

Meeting the healthcare needs of rural Americans presents unique challenges, often unfamiliar in scope and nature when contrasted with the provision of healthcare in more urbanized settings. Sparse population density and limited resources in the rural areas are just two of the factors that challenge healthcare leaders as they strive to help their rural neighbors attain and maintain their highest level of health. I was raised in a small town in Wisconsin, as were my parents. As a Junior at the University of Wisconsin –Madison, I strive for experiences that will help me to better understand people with various backgrounds and cultures. My mother is a registered nurse and a nursing instructor. Discussion of healthcare issues is a frequent topic of conversation in my home. As such, I was excited to enroll in Pathology 210: HIV: Sex, Society, and Science during the Fall of 2008. As I studied the course materials throughout the semester, I often pondered the state of my own knowledge level regarding sexually transmitted diseases, including my knowledge of the transmission and pathophysiology of human immunodeficiency virus and acquired immunodeficiency syndrome (HIV/AIDS). It became clear, very quickly, that my knowledge base regarding the subject was inadequate in helping me to make evidence-based decisions to protect my health and the health of others.

I thought back to my middle school and high school classmates and came to the conclusion that I was not likely the least informed person in the group. Not only was I concerned about the level of knowledge these cohorts possessed, I was also concerned about the level of risk-taking behavior that was reported by friends and classmates. The reported behaviors seem to reinforce the hypothesis that students do not possess the knowledge they need in order to make informed decisions and to protect themselves from disease and disability.

In my middle and high school health education courses we briefly discussed the basic concepts of HIV/AIDS. It was a topic that was explored in the section of the course addressing sexually transmitted diseases. We learned that HIV affected the immune system and that transmission mechanisms included: inoculation directly into the blood stream, inoculation of the mucous membrane, and vertical transmission from an infected mother to an infant. We also watched videos regarding Ryan White, a young man with hemophilia who died of AIDS in 1990. The videos deepened students' perspective on the discrimination those suffering from the disease experience, but the videos did not contain information regarding how the disease is spread and how to protect oneself and others. Having such minimal discussion on the subject regarding HIV/AIDS threatens our children in many ways. A lack of exposure to the topic maintains the stereotypes of the disease in peoples' minds and those stereotypes can continue into their lives as adults. This creates an uninformed population who are more likely to contract the disease and spread it to others.

I thought about this problem a lot. I thought about my classmates and about their parents. Most of these parents believe strongly in doing everything possible to assure their children have scientifically-based information regarding health so that the students can make healthful decisions. I came to the realization, however, that I had many classmates whose parents do not support the teaching of sexually-related content by school staff. I believe that if my school tried to broaden its content regarding HIV/AIDS, school officials would be met with resistance.

According to a study done with the Illinois public school-based sex education program, “Teachers themselves give poor quality ratings to the coverage of many of these topics and a substantial number [...] feel uncomfortable teaching sex education” (Lindau, Tetteh, Kasza, Gilliam 2008). To have an effective conversation on HIV/AIDS it is essential that the teacher feel comfortable discussing the subject material. If the teacher is uncomfortable it puts the students ill-at-ease and more unlikely to participate in group discussions and fully understand the material. In addition to feeling uncomfortable, teachers also omitted HIV/AIDS and other STD education from their curriculum because they believed that they were “covered later” (Lindau et al. 2008).

As research shows the HIV/AIDS rate is increasing both within the United States and Wisconsin. With this increase it is unacceptable to have a substandard HIV/AIDS lesson plan. In 2007 there were 407 new cases of HIV infection reported in Wisconsin (lecture notes 9/22). 9,929 cases have been reported in Wisconsin since 1983 and the estimated prevalence rate for adults and adolescents living with HIV infection in 2006 was 50.0 per 100,000 people (lecture notes 9/22). 3,635 person reported with HIV infection in Wisconsin are known to have died and 6,294 person with HIV infection were presumed to be alive at the end of 2007 (lecture notes 9/22). Statistics for Wisconsin also show that a disproportionate number of HIV cases are in Wisconsin are in men who have sex with other men (MSM).

It is alarming that this disease is still growing but improving the quality of our HIV/AIDS curriculum in middle and high school health classes could help to open discussion on the disease and get the facts to Wisconsin’s youth population. According to the Illinois public school study “Nearly one in three sex education teachers were not trained. Obstetrician-gynecologists caring for adolescents may need to fill gaps in adolescent knowledge and skills due to deficits in content, quality, and teacher training in sex education” (Lindau et al. 2008). This study also stated that in addition to nearly a third of the sex education teachers not receiving proper training, “...half reported 7 or fewer years of experience teaching sex education” (Lindau et al. 2008). Skilled professionals do need to step in and provide potentially life saving information to the adolescent population but I think we should go one step further and that doctors, nurses, and public health officials who have studied HIV/AIDS or have experience treating the disease should come into schools and teach the students themselves. Accurate information could change the behavior of the students as teenagers and adults, ultimately decreasing the prevalence of the disease.

The HIV/AIDS class I completed this past semester took my knowledge of HIV/AIDS to another level and is a good example of a comprehensive, relevant HIV/AIDS curriculum. We began the semester discussing the discovery of HIV/AIDs. This included the recognition of AIDS, approaches to investigating a new disease, discovery and isolation of HIV, benefits of

HIV discovery and characterization of the disease spectrum. We then learned about the life cycle and evolution of HIV. In terms of evolution we discussed how HIV experiences frequent mutations, making it a highly varied virus for which a vaccination cure is very difficult to create and implement. It is important in every subject studied to start with the basics and that is what this course did. It did not start with an obscure concept but instead began with the origins of the disease, explaining what it was and its life cycle. We then discussed HAART therapy and Anti-retrovirals (ARV's). When talking about these drugs/drug treatments negative and positive aspects were presented. The drug regimes had a positive impact on HIV/AIDS because they no longer made contracting HIV a death sentence. Doctors and researchers were finally able to focus on curing the disease and treating the patient instead of watching them slowly waste away. On the negative side however, without a proper education, people can believe these drug regimes to be the ultimate cure, which can increase their risky behaviors. By receiving proper education students learn that ARV's and HAART prolong an infected person's life but they are by no means easy to take. There must be strict adherence to the drug regimen or the persons' immune system may become resistant to the drug and treatment will again become more difficult.

Next, we discussed the successes and challenges of managing HIV disease in the United States followed by a discussion on the spread of HIV in developing countries and HV treatment and prevention programs in developing countries. After that discussion we talked about combatting AIDS in resource poor settings, disparities of HIV care in the United Sates and humanitarian intervention and international AIDS programs. We finished up the semester discussing T-cells, vaccine trials, interventions to reduce spread of HIV (including male circumcision, microbicides, and pre-exposure prophylaxis). The main reason the course was so effective was because for each section of the class we had guest lecturers, professors, and health care workers come into the classroom and share their expertise with us. This was a wonderful experience because students were able to see how passionate each individual was about their field of expertise. It was also beneficial in asking questions because they were more knowledgeable on a subject than a generalist would have been. Because of this we were able to receive current and accurate information on all aspects of the disease.

It is clear that the class consisted of a comprehensive program that was easily understood by all grade levels and ages. This is also important in middle and high school health classes in rural Wisconsin. It is possible to teach a proactive and comprehensible HIV/AIDS program to students without getting bogged down into difficult scientific details. It is important to look at the large picture when developing a lesson plan about HIV/AIDS for adolescent students. It is not necessary to weigh the students down with the level of scientific research meant for medical or doctorate school. Teachers need to be comfortable and well informed on the material being taught and I do not think that this is feasible. I think that efforts to bring important information regarding HIV/AIDS to our high school and middle school students may need to come from a source other than schools.

In the small town I grew up in, our community hospital, public health department, and physicians are perceived as sources of leadership. In rural areas, in particular, people seem to have a great deal of respect for their physicians and health care providers. I began to wonder if these centers have the resources and the will to address the urgent needs of our rural teenagers for information that can save their lives and their health. A campaign to educate parents about the importance of

evidence-based educational practices would be one way to begin such a process. If parents are involved in crafting a solution, it would seem they would be more likely to champion a cause and to take steps to assure the success of the initiative. Reviewing content with parent and community leaders prior to presentations is one strategy that could result in greater levels of acceptance and participation by families and students. Sexual education in our schools has become highly politicized. Healthcare education is a function of health. We trust our healthcare providers to promote our health. They may hold the power to assure our young people make sound choices in protecting their own health.

Would such an initiative be easy? Certainly not. Healthcare leaders may be hesitant to take on a project that has the potential to be controversial. Rural health systems have made great strides in recent years, constructing and remodeling buildings and attracting the most professional and caring staff members. They organize fund raising walks and food drives. They offer charity care to the poor and indigent. Rural health care has been very good at doing what it does. Is there room to grow and evolve from the current roles? Can our rural health systems become true leaders in both healthcare and education?

I believe that implementing a more advanced and comprehensive HIV/AIDS lesson plan in middle and high schools throughout rural Wisconsin is imperative to our community as a whole. The goal of creating a more comprehensive HIV/AIDs education can be achieved through utilizing knowledgeable rural health employees, including doctors, nurses, and public health officials. This pool of health employees is a great asset because they have experience treating the disease and have seen how it affects individuals. Ultimately, we need to ask ourselves if we can afford not to address the health education needs of our young people. Epidemics have a way of sweeping many people into the void. When we think that we are not at risk because we do not engage in dangerous behaviors, we turn a blind eye to true public health. The need for evidence-based education regarding HIV/AIDS and other sexually transmitted disease is real and urgent. Our rural schools cannot adequately address this need. Our parents do not possess the information they need to help students make the best choices. Who will step up and lead?