INTRODUCTION

In the fall of 1999, a group of first-year Yale School of Medicine students approached their dean, Dr. David Kessler, about the possibility of initiating a student-run project in South Africa with the goal of assisting in the struggle against the HIV epidemic. Dr. Kessler responded by providing the necessary funds for the group, named the Yale Project for Health Action (YPHA), to travel to South Africa and explore possible directions for the project.

Having spent the summer of 2000 (June to August) examining and discussing different alternatives, the students decided that the main focus of the group would be to set up peer education programs about HIV and AIDS in the Limpopo Province. For the next three years, a new group of YPHA first-year medical students traveled to the Bushbuckridge area to continue these efforts. In the first year, 2001, the students taught a group from Lilydale High School. The following year, the students chose to teach at Eric Nxumalo High School in Thulamahashe, where they had developed a professional contact with a teacher at the school, Irene Mpangana. Continued communication between Ms. Mpangana and YPHA over the next year deepened the group's connection to Eric Nxumalo High School. After learning of the 2002 HIV/AIDS peer education program, three other schools in the Thulamahashe area approached Ms. Mpangana with an interest in participating in similar programs in the future. The project was therefore expanded in the summer of 2003 to include all four schools in the region.

PROJECT SUMMARY — 2003

In early June of 2003, we, as members of the YPHA group, traveled from the US to the Bushbuckridge area in South Africa. Through collaboration with Ms. Mpangana over the course of the 2002/2003 academic year, it was arranged for ten students from each of the four schools to attend a two-week workshop to be held over their winter holiday (June 30 to July 15). The participating schools were three high schools, Eric Nxulamo,
Mafemane, and Bombani, and one primary school, Mpiti. The age of the students ranged from 9 to 20 years old. Teaching students with such a large age discrepancy was challenging, as we will discuss in the “Results and Findings” section. In addition to the two YPHA members, two loveLife [Authors: Please provide a several-word description of this program] educators, and one person working for the local hospital’s HIV Outreach Program assisted in the teaching process.

The first week of the workshop was based on a curriculum developed by the YPHA students the previous year using material from similar projects in the United States and through consultation with local loveLife educators. The curriculum not only focuses on the medical and scientific aspects of HIV but also addresses some of the underlying social and cultural aspects that add to the complexity of the epidemic. More specifically, on the first day the students got to know each other and their teachers while discussing issues surrounding love and relationships. They completed activities that explored gender roles while being challenged to think about how sex and love intersect. The second day was devoted to learning about sex and sexuality. The students discussed reproductive anatomy, what it means to be “sex smart” (i.e., ways to be intimate without putting oneself at risk), and considered condoms as a means of preventing pregnancy and sexually transmitted infections. The third day was spent learning about HIV and AIDS. Topics included how the virus works, how it is transmitted, and which behaviors are risky in terms of contracting the disease. On day four, the students explored their own and their community’s attitudes about HIV and AIDS. A large portion of the day was spent listening to the stories of three HIV infected individuals and asking them questions. Finally, the last day of the first week centered on choices the students might face relating to different aspects of HIV and how to use the knowledge they had gained over the course of the week. Key topics included how to communicate clearly and effectively, and learning how to “stand your ground.”

The goal of the second week was to help the students acquire some of the tools necessary to become competent peer educators. The first day focused on the role and responsibilities of a peer educator and included a session on leadership skills. On the second day, the students worked on organizational skills and explored the importance of good communication. Day three dealt with potential career paths as well as presentation skills. The career exploration was included at the request of Irene Mpanganana in the hopes of giving the students further incentive to make healthy life choices. At the end of day three, each school was given a presentation assignment pertaining to what they had learned the previous week. The students were given the rest of that day and the following day to develop and practice their presentations. On the final day, students from each school delivered their presentation to students from the other three schools.

To enable students to better follow the workshop, each student was given a “Workshop Folder” at the beginning of Week One containing several key handouts. The initial set of handouts included an outline of the topics to be covered in the upcoming weeks and a glossary of terms for them to reference at any time. At the beginning of each day, additional handouts about the topics for that day were given out so that by the end of the workshop the students had a complete folder. These additional handouts included reproductive anatomy pictures, common HIV questions and answers, and an index of ways to be “sex smart.” Furthermore, each school was provided with two “Educational Folders” at the conclusion of the program, which contained all the educational activities used over the course of the two weeks in addition to all the material in the
“Workshop Folder.” Finally, all four schools also received two “Outreach Folders” that contained detailed 2-hour and five-hour peer education programs intended to aid the students in their efforts to teach their peers. It also contained a one-page handout that captured all of the key point of the HIV/AIDS workshop.

The main goals of the workshop were: 1) Employ a mode of teaching that would allow and encourage the students to be as involved as possible in the learning process. To achieve this, the curriculum was set up with a focus on interactivity and small group discussions. Lectures were limited to 45 minutes in length and compromised less than one quarter of in-class workshop time. 2) Increase the students’ baseline scientific knowledge about HIV and AIDS. 3) Challenge the students to think about their own as well as their community’s attitudes about the disease including a broad exploration of their community’s social constructs. 4) Help empower the students to use their new knowledge to make healthy decisions in their own lives. And, 5) Give the students the tools to be successful peer educators and help set up an environment that will facilitate and support their efforts to peer educate.

**FINDINGS AND DISCUSSION**

For organizational purposes, the discussion will follow the goals as outlined above. With respect to the first goal of maximizing interactive learning, we felt we were partly successful in that most sessions were highly interactive and a fair number of students were eager to share their thoughts and ideas. We did encounter several difficulties, though, of which we shall discuss the most important ones. Firstly, there were language barriers as most of the teaching and discussion took place in English rather than in the students’ native Shangane. This meant that students frequently spent more time searching for the proper words in English rather than expressing how they felt about a topic. Some students were too timid to contribute at all simply because they lacked confidence in their English skills, but not in their ability or desire to contribute their opinions. The three local teachers certainly made the situation better as they were able to transition discussions into Shangane whenever necessary. This facilitated student participation by decreasing inhibition. Secondly, there was a high degree of “foreign elements” for the students: they had never met the teachers before or many of the students from the other schools. This added even more anxiety for the students and made them even less inclined to participate actively. As the workshop progressed and people got to know each other better, the magnitude of this problem decreased. It seemed, however, that many of the students never became sufficiently comfortable to engage freely in the discussions. A potential positive effect of the above dynamics was that most students paid close attention whenever the teachers or other students were talking. Third, the wide age gap among the students (who ranged from 9 to 20 years old) also posed a challenge, especially because we had expected the students to be 15 to 18 years old. This caused difficulties largely because the younger kids felt intimidated by the older students, who, for their part, got somewhat disengaged at times by having the younger ones present. To get around this problem, the primary school students were separated for certain activities with the hope that this would boost discussion. This was successful to some degree, however we lacked a pre-formulated curriculum for the younger students and thus had to make one up as we went. As a result, their activities were not optimally planned and thus probably not optimally effective. Fourth, we experienced a difference in participation levels between males and females. Most discussions ended up being male-dominated,
even though there were by far more females than males in the group. This
dynamic made gender related discussions particularly challenging and made it hard
to empower the females when they struggled to have a voice even within the workshop. Lastly, the schools differed significantly in terms of the extent to which their students engaged in the discussions. While this is not too surprising in the case of the primary school, it is certainly worth noting for the high schools. While there are always some students who are more engaged than others, it was very interesting to note the dramatic differences between schools.

The second goal — increasing the students’ baseline scientific knowledge — is an important one, because we expect increased knowledge and awareness to be critical components in preceding changes in attitudes and behavior. We decided to use pre- and post- surveys that test key concepts and ideas in order to assess the extent to which the students increased their knowledge base. We did, however, encounter a couple of problems in doing so: first, the post-workshop survey was administered immediately following the completion of the workshop, when it is expected that students would show an increase in knowledge because the pertinent material was fresh in their minds. One could probably get a much better idea of how much the students learned if the test were administered at a later stage. Second, the surveys were in English rather than Shangane which again caused language complications. Although the local teachers were available to help translate whenever necessary, we were not sure if all students felt comfortable enough to ask for help when they did not understand a question. Third, the whole concept of a survey seemed to be a little foreign to some of the students, which became evident as they eagerly turned to their neighbors for the “correct” answer. These problems, taken together with a comparative analysis of the pre- and post-survey answers, made us rather cautious in terms of the reliability and validity of the survey results. We feel that an improvement in survey design is necessary in order to produce a more scientifically sound result. Two general findings are worth noting: one, we realized over the course of the workshop that many students were relatively skilled at “repeating back” the information that was given to them, but without necessarily being able to understand it. We often found that students answered questions in phrases very similar to those of the teachers, or of the written material, but that the students had problems when asked to explain themselves in their own words. We feel that this might have created a biased picture of the students’ knowledge. In other words, the students were able to answer questions correctly, but not necessarily because they had an understanding of the topic, probably because they remembered certain phrases used by the teachers or found in the teaching material. This is quite critical in light of the fact that knowledge about HIV and AIDS is important primarily to the extent that it leads to behavioral changes, that is, the extent to which it is internalized and acted on. The problem of influencing or altering the behavior of young South Africans, and not only increasing their basic knowledge and awareness about HIV/AIDS, is certainly not new in the HIV struggle. We believe that this dichotomy between the ability to repeat back information and true understanding may significantly contribute to the findings that HIV education has limited efficacy in relation to behavior modification. Second, having spent two weeks with the students, we feel that there is a definite need for increased overall knowledge about the epidemic. A high proportion of the students showed a lack of knowledge in several of the basic aspects of the disease and they were very eager
and grateful to attain that knowledge. We believe that there is still a vast and acute need for effective knowledge dissemination among this population of young people. It appears unlikely that behavioral change will ever take place unless there is first a broad increase in the knowledge base, especially among the young. One must be careful in concluding too easily that because some research points at the failure of increased knowledge translating into altered behavior, increasing knowledge about HIV should be less of a priority. Lack of knowledge breeds misunderstanding and fears, which contributes significantly to the creation and sustainment of unhealthy attitudes and stigma about the disease. We feel it is very hard to alter these kinds of attitudes without first increasing knowledge.

The third goal was to challenge the students to think about their own, as well as their community’s attitudes, about HIV and its social context. Realizing that one of the major challenges in the struggle against HIV and AIDS is to alter mistaken attitudes and stigma, we devoted an entire day of the workshop to this topic. Furthermore, the topic was a constant theme throughout the workshop as we repeatedly challenged the students to explain and expand on their points of view, thereby putting their attitudes under the microscope as well. Although hard to measure scientifically, we feel that this was one of the goals that achieved the greatest amount of success. Inevitably, by constantly encouraging student discussion, students were forced to become aware of their own attitudes, as well as learn about those of others. We noted a significant attitude gap between the boys and the girls with respect to their opinions and expectations regarding relationships. Much of this seemed to be rooted in a traditional gender role dynamic in which the male assumes a more dominant and controlling role in a relationship. The most extreme example of the above was the relatively widely accepted view among the boys that it was acceptable for a boy to force a girl to have sex if they were dating, as sex is viewed as a necessary and integral part of a “romantic” relationship. In dealing with specific attitudes about HIV-infected individuals, there was much more consistency between the attitudes of the males and females. Rather, we experienced a variety of attitudes without any gender patterns: a few students did not want to have anything to do with HIV positive individuals, at least not at the outset of the workshop, whereas most students said they would be friends with and support someone with HIV. In general, the majority of the students did not display overtly negative attitudes towards a hypothetical person with HIV (hypothetical because they claimed to not actually know anyone with the virus). An important question becomes to what extent the attitudes that the students expressed to us can be understood as truthful or honest, as a claim can be far removed from action based on that attitude when faced with a real life challenge. We know from the literature that negative attitudes towards HIV infected individuals are widespread, a fact which seems incongruous with the generally positive attitudes the students expressed. As a key component in exploring the students’ attitudes, we arranged for three HIV infected individuals to assist in the teaching process on the day devoted to attitudes, who only revealed their HIV status at the end of the day. Overall, the students were quiet, focused and seemed very interested and involved throughout the whole session and, at the end, were very eager to ask questions and probe into the lives of the infected individuals. The idea behind this activity was to break down the intellectual and emotional distance separating the students from the disease, with the goal of eliciting reactions that would be more reflective of the true attitudes of the stu-
dents, and possibly forcing them to critically examine any discrepancies between apparent and underlying attitudes. We felt this was a highly valuable experience as many of the students claimed not to have ever met anyone with HIV.

The fourth goal of the workshop was to empower the students to use their new knowledge to make healthy decisions in their own lives. Evaluating this goal is obviously quite difficult, and will not be attempted by us, as that would be premature. In order to provide a scientifically sound answer to whether an educational workshop like ours has a lasting effect on the participants' behavior, one must employ a rigorous survey and interview design which is beyond the scope of this research project. We did, however, receive several comments from the students on how the information in the workshop had changed the way they conducted their daily lives. But, whereas this information was gratifying to hear on a personal level, it carries little scientific weight. In truth, it might highlight one of the key problems, namely the distance between reported and actual behavior. It seems as if one of the greatest challenges is to figure out how to empower individuals so that they feel comfortable and strong enough to behave in manners which they know are consistent with safe and healthy behavior. For example, the majority of the students knew that a condom greatly reduces the risk of contracting the virus or that having multiple partners can increase risk of infection, yet it appears that they do not manage to apply this knowledge in the real world - be it because of peer pressure, community attitudes, or other social dynamics. These facts not only highlight the difficulties of education but also demonstrate the absolute necessity of approaching the HIV/AIDS epidemic from many different angles, of which education is only one.

The last of the five goals was to provide the students with the tools to be successful peer educators and help set up an environment that would facilitate and support their efforts beyond the workshop. The background for this objective was the suspicion that unless the students were helped significantly in the process of implementing peer education programs at their schools, it was highly unlikely that such programs would materialize. This fear was confirmed through discussions with Ms. Mpangana as well as a survey conducted with the students who attended the training the previous year. This survey hinted at some interesting reasons as to why the educators from previous summers fell short of teaching their peers: First, the vast majority of the students reported that they lacked confidence — both as it related to mastering the material they were supposed to teach their peers and in terms of feeling uncomfortable talking to a large group of people. Second, and related to the first, many of the students reported that they were made fun of and harassed whenever they tried to teach, adding to the discomfort they already experienced in the first place. These two reasons taken together illuminate the fact that self-confidence, in addition to a fair grasp of the subject matter, is critical for anyone who wants to take on a role as a peer educator. This was clearly demonstrated to us when our students delivered their presentations at the end of the second week. Very few of the students displayed a convincing grasp of the material, and the vast majority felt quite uneasy in the presentation setting. This was highly evident, primarily through their timid voices, passive stances, and a general reluctance to present at all. Third, last year's students had a hard time conducting productive meetings once school had started again, making it very difficult to plan and carry out the necessary steps in order for them to peer educate. They reported that several of the members of the group showed little interest in the planning process, and actually ended up sabotaging the rest of the group's efforts by creating a
negative and unproductive atmosphere. Fourth, the students reported that they had difficulties finding the necessary time to peer educate in the midst of studying for exams and non-school related activities. Furthermore, there was no official school time put aside for peer education on a regular basis, meaning that students were responsible not only for the actual teaching, but also for arranging the setup in which such a training program could take place. Based on the responses in the survey as well as on our own experience, we believe that if the majority of the workload is put on the students — that is, if the students have to teach, arrange for a time and place to teach, and recruit new students — there is a high probability that the momentum will be lost somewhere along the line, and peer education will not be carried out. This belief provided the backdrop against which we employed, as a key strategy, the idea of "covering all the gaps." That is, we attempted to identify any steps in the process between receiving the training and continuously and successfully teaching their peers, which might be at risk of stalling. The result was that in addition to setting up and conducting the workshop, we focused our efforts on the following: first, to involve teachers from the four different schools. As mentioned, we already had a very productive and positive relationship with Ms. Mpangana at Eric Nxumalo High School, and she played a major role in contacting and communicating with the teachers at the other schools. The idea was that the students would have one or two teachers with whom they could collaborate once school started, thereby strengthening the organizational aspect of the peer education program at each school, as well as creating a better link between students and the school administration. We hoped this might make it easier for students to arrange peer education sessions, perhaps even being allocated "official school time" in which to conduct these sessions, and that it might also add weight and legitimacy to the peer education efforts. We need to mention that The University of the Witswatersrand was implementing a pilot project at the same time, creating so-called "Teddy Bear Teachers" at different schools in the area. These "Teddy Bear Teachers" were supposed to oversee student groups and support activities such as peer education programs. We therefore had the advantage of using a pre-arranged structure which made our job easier. That said, we left Bushbuckridge feeling somewhat uneasy about the level of commitment of the teachers, and not comfortable that we had done enough to ensure that a viable setting was in place to sustain the peer education efforts. Second, we wanted to be sure that each student group had all of the materials they needed to effectively peer educate. To this end, we made sure that each school not only had a copy of all the material which was used during the two-week workshop ("Educator Folder"), but also a suggested two- and five-hour curriculum to be used by the peer educators when they went back to teach their peers ("Outreach Folder"). Again, the idea was that by providing the students with a detailed plan as to how they could go about arranging a peer education session, there would be one less challenge for the students to overcome. At the same time, the session outlines were only one of the resources, so that the students could use them in conjunction with the other materials to build their own curriculum. Thus, we hoped to provide some structure while leaving them with the ability to expand and gain ownership of their end-product education program. Third, at the initiative of the local hospital, we arranged for the person from the hospital's outreach clinic who assisted us in the teaching process to take on a central role in the planning and carrying out of the peer education program once the schools started again. More specifically, he is to meet with the teachers and students at each school on a regular basis in
order to discuss problems that might arise, thereby serving as an important communication channel between the schools. He also plans to help the students in the teaching process, possibly by accompanying them while they teach, as well as be one of our key contacts, which would make it possible for us to follow the progress of the project and offer advice or assistance if necessary and when desirable. The degree to which he will able to successfully accomplish these tasks remains to be seen.

RECOMMENDATIONS

Based on our experiences from setting up the two-week workshop as well as planning the subsequent peer education program, we would like to make a couple of recommendations which might be beneficial to anyone conducting a similar project. It appears to us that a critical element in setting up a successful peer education program is identifying and working with highly motivated and committed individuals. This applies to the teachers and students involved, as well as any other individuals playing a significant role - for example, in our case, the person from the local hospital's HIV outreach program.

It is obviously a great advantage to work with motivated students in any teaching setting, especially one that aims to be interactive and empowering. Not only should the students be eager to learn, but it is also vital that they are willing to, and want to, assume the responsibilities that come with being a peer educator — at least if the success of the program hinges on the extent to which the information spreads beyond the peer educators. We mentioned earlier in the report that a major problem for the peer educators trained the previous year was that they did not feel comfortable teaching their peers because they lacked confidence as well as a sufficient grasp of the material and at times faced a rather unreceptive audience. It might be desirable, therefore, to select the peer educators with this in mind. That is, if the goal is to make sure that knowledge does indeed pass from the peer educators to their fellow students, it would be advantageous to select students who are confident and outgoing, and who are willing to put themselves in a somewhat vulnerable teaching situation — at least until the perceived negative and unwelcoming atmosphere in the general student body has receded. Furthermore, by attracting motivated students, one decreases the likelihood that uninterested students will interfere with the efforts of students with a genuine desire to become peer educators.

While the student's regular teachers were not present during our workshop (we felt their presence would make the students even more reserved when talking about sensitive subjects), their involvement and commitment is still critical. Through our own experience with Ms. Mpangana, it became quite clear to us that having a committed teacher involved in the process is very important. She was of great help in setting up the workshop - finding the students, obtaining parental permission, and communicating with the principal about practical issues relating to the teaching. She will also play a key role in the implementation of the peer education program once school starts. As mentioned, one of the problems encountered by last year's peer educators was that they found it difficult to get the school administration involved, meaning that the set-up of a peer education program was more or less entirely in their hands. Understandably, this is definitely overwhelming to these students. Having a committed teacher like Ms. Mpangana to assist in the process will certainly make that challenge more manageable. Furthermore, Ms. Mpangana also serves as an important coordinator of the efforts at the four different schools through which experiences and problems can be shared.
We feel it is hard to overestimate the importance of a teacher like Ms Mpangana in setting up a peer education program like ours.

Finally, our assistant from the local hospital’s HIV outreach program might also prove to be essential in setting up a successful peer education program at the schools. We feel that this depends to a large extent on his motivation and commitment to the program - yet also realizing that he has obligations at the hospital. While we can not yet assert his importance to the continuation of the peer education program, we hope that the commitment he displayed in the original teaching sessions will continue and contribute to the motivation of the students.

Looking back, we would have made a couple of changes with respect to how we conducted the actual workshop. We probably would not have included 40 students as we feel that was too many, leaving us unable to give each student sufficient attention. While we believe that all students were able to benefit from the workshop, we think our overarching goal of training students to become competent peer educators would have been better achieved had we worked with a smaller group. The great difference in age between the students was also less than ideal for reasons already discussed. Again, this does not mean that the nine year olds did not gain something from the workshop, but rather that both the younger and the older students would have benefited more from having separate workshops. Furthermore, having noted that discussions tended to be dominated by the males in the group even though they were a minority, it may be beneficial to separate the genders more frequently during discussions thereby facilitating more active involvement from the females. In general, we found that whenever we split the class into groups by gender and then joined them together again, the discussions were lively and had a high degree of participation. Lastly, further development of the portion of the workshop addressing presentation skills would be beneficial. This segment provided important confidence-boosting exercises and helped tease-out details of the material that the students had not confidently grasped. Further research should be done on the most effective way to run this segment of the curriculum.

CONCLUSION

The overarching goals of the project were first and foremost to be able to provide some sort of assistance in the struggle against HIV/AIDS in South Africa, of course realizing the minimal impact a project of this nature will have given the immense complexity and severity of the situation. We have already noted the many challenges we faced implementing our project, but nonetheless, we still feel very positive about our encounter with the forty students in Bushbuckridge. We hope that we made at least a small difference to these students, and that they left our workshop with an increased awareness and knowledge of HIV/AIDS that will help them make informed health decisions in their lives.

Second, the project was an incredible opportunity for medical students like us, who are training in a health care system characterized by extremely high standards and astronomical resources, to learn about a different world of health care. We feel that this summer project broadened our perspectives in a way in which few other experiences could have and which will help us in our future medical careers, whether we choose to practice in the United States or abroad.