STATEMENT OF PURPOSE

The purpose of this project is to provide family practice residents with a solid educational foundation for the prevention, diagnosis and treatment of HIV disease. Residents in 5 sites, 4 urban (University) and 1 rural (Rural), will be trained in a multidisciplinary approach, utilizing a variety of community and academic resources, yet retaining a family medicine orientation. The proposed program will enable residents to be an active participant in the co-management of persons with AIDS, responding to their needs in a culturally sensitive manner. Training will also bring together family physicians, infectious disease specialists, and psychologists specializing in sexuality and chemical dependency as an educational team. The ultimate goal is to bring HIV disease into the primary care arena, one among many health issues addressed and managed by family physicians.

SPECIFIC OBJECTIVES

1. To provide family practice residents in the two units with a basic and clinically applicable fund of knowledge regarding HIV disease in adults and children over the course of their three year training period.
2. To enable residents to provide adequate prevention, diagnosis, and treatment for HIV disease, with a focus towards comanagement with appropriate specialists
    ! a. To enable residents to address the needs of women with HIV, including pregnancy and contraception
    ! b. To enable residents to handle issues of sexuality and chemical dependency in relationship to the AIDS epidemic
    ! c. To enable residents to address the needs of underserved communities, urban and rural, in relationship to the AIDS epidemic
3. To provide interested residents with additional clinical and didactic training in the prevention and treatment of HIV disease
4. To provide opportunities for community education and research regarding prevention and treatment of HIV disease
5. To develop a multidisciplinary approach to resident education, involving a coordinated team of generalist and specialist physicians, academic professionals, public health officials, community organizations and patients

METHODOLOGY

Year One:

1. All residents in each site will participate in PHS= Sexual Attitude Reassessment Seminar (SAR), unless they have already participated as University of Minnesota medical students. PHS has been conducting two-day Sexual Attitude Reassessment (SAR) seminars for medical students and health-care professionals and the public since 1971. This is a required part of the curriculum in human sexuality at the University of Minnesota and at many (but not all) other medical schools. The seminars are designed to promote in residents increased understanding of their own sexuality and attitudes and to help them be comfortable in addressing the sexual concerns and issues of others, especially patients. The seminar uses lectures, media and small-group discussions to accomplish its goals and objects. Lectures describe sexual issues that are encountered throughout a person's lifetime, including HIV prevention, communication, sexual variations, sexual life-styles, values, sexual identity, sex roles, abuse and victimization, sexuality education, disabilities and aging. The seminar leaders discuss the ways sexual problems develop, as well as provide information about how sex education and/or therapy can overcome these problems.

The SAR methodology is a prerequisite for this course to ensure that all residents are trained to be comfortable in addressing sexual concerns of patients, and to place both HIV prevention and transmission risk within the real life context of people's sexualities, sexual lives and behaviors. In the course of this program, residents will learn how to perform HIV risk assessment and initiate prevention strategies with patients.

Coordinator--Eli Coleman, Ph.D., LP Program in Human Sexuality

2. Residents will participate in six teaching modules on HIV prevention, diagnosis and treatment. **Topics to be covered in the first year include: primary prevention strategies (general population), basic science of HIV infection, the initial work-up of the HIV positive patient (including natural history and staging), management of chemical dependency, utilization of information resources (informatics), and update on recent developments in HIV disease.**

Modules will be tailored to meet the structural needs of each residency unit, but the content will remain the same. The teaching formats for these modules will include:

a. One hour didactic lectures, utilizing family practice and specialist instructors. The emphasis will be on patient/community based learning

b. Half-day workshops involving instructors from multiple disciplines and utilizing small group discussions. The emphasis is again patient-based, with role-playing activities as appropriate.

c. Rural PG-1 residents, who train in the Twin Cities, will participate in didactics with other residents at the University site. Rural PG-2 and PG-3 residents will participate via a combination of teleconferencing, videotaped presentations and workshops at their own site in Waseca, Minnesota.

Coordinators-- Jamie Feldman, M.D., Ph.D. University unit
Carol Bailey, R.N., Rural unit.

3. Appropriate HIV-related material will be gradually incorporated into existing Family Practice teaching topics. Examples include death and dying issues, hospice, chronic pain management, tuberculosis, and occupational health (needle stick injuries). Lecturers and workshop coordinators, when relevant, will be asked to incorporate HIV-related material into their programs.

Coordinator--as per 3, above.

4. Interested PG-3's from all units begin a four week block clinical elective. This consists of two components.

a.Two **(or three)** 1/2 days per week providing supervised patient care at the Delaware Street. At present, the Delaware St. Clinic operates three 1/2 days per week, with Tuesday morning set aside for the Family HIV Clinic (described above). Wednesday mornings clinics are focused on adult patients only, while Thursday clinics are specifically set aside as a teaching clinic, with approximately ten to twelve patients per afternoon. This clinic session is expected to grow to twenty-five patients within the next twelve months. Clinic specialists, including infectious disease fellows, and affiliated primary care physicians will provide supervision at the Delaware St. Clinic. In addition, the Thursday clinic session would include a didactic lecture and a review of all the patients seen that day to discuss management issues.

Coordinator--Timothy Schacker, M.D., Director of Delaware Street Clinic

b. Three 1/2 days per week providing supervised psychosocial care at PHS. On the AHIV clinic afternoons each resident starts by meeting with Drs. Coleman, Rosser, or Robinson for a 30-minute case review of the afternoon's clients. The residents will then sit in with the therapists doing 3 1-hour therapy sessions focused on people living with HIV/AIDS, HIV/STD risk reduction and prevention education for clients at high risk. Additionally, the resident will observe a 2-hour psychotherapy group either for persons living with HIV/AIDS or cofacilitate a new 2-hour group treating unsafe sexual behavior. On one week of their rotation, the resident will sit in with the psychiatrist providing psychiatric medication for persons living with HIV/AIDS, and whenever possible, the resident will be assigned three HIV-related mental health intake/assessment during the rotation. In this way, each resident will have up to 20 hours direct patient contact related to HIV health and risk reduction. Residents will participate in counseling both HIV positive and at-risk clients, with integrated training in behavior modification, chemical dependency, and sexuality issues. The PHS faculty will provide supervision.

Coordinator--Simon Rosser Ph.D., LP PHS

c. Rural PG-3's will participate in the clinical elective in the same fashion as other Family Practice residents. The rural site of Waseca is approximately 1 1/2 to 2 hours away from the Twin Cities via highway driving. To improve accessibility, rural residents may be able to participate in a longitudinal version of the same elective, with 2 1/2 day sessions per month (one at PHS, one at Delaware St. Clinic) over a twelve-month year.

5. Interested PG-2 and PG-3 residents begin elective research or community service projects. A list of ongoing projects (at the University and in the community) will be made available to all residents at the beginning of the year. Each resident can join an existing project, or design their own, with assistance from appropriate family practice or specialist faculty. Depending on the needs and interests of the residents, this elective may be done as a longitudinal or block rotation. Flexibility and feasibility will be key aspects of this elective.

. Resident assessment will be performed at the beginning and end of the year. Resident feedback will be elicited throughout the year, with a formal evaluation of the curriculum by the residents at the end of the year. The curriculum evaluation plan will be discussed in detail in section I.

Year Two:
1. SAR training for new residents. Refer to Year One above for details.
2. Six teaching modules, as described in Year One. **The topics for the second year will include: primary prevention focusing on special needs populations (minority, women, gay/transgender men and women, rural, chemically dependent persons), pharmacology and antiretroviral therapy, HIV and women, case management of HIV disease, psychological adaptation in living with AIDS, yearly update.**
3. Continue to incorporate HIV disease into appropriate family medicine curricula. See Year One for details.
4. Continuation of longitudinal clinical elective, incorporating new PG-3's. See Year One for details.
5. Continuation of research/community service elective, incorporating new PG-2's and PG-3's. See Year One for details.
6. Resident evaluation and feedback. See Year One and Section I for details.

Year Three:
1. SAR training for new residents. Refer to Year One above for details.
2. Six teaching modules, as described in Year One. **The topics for the third year will include primary prevention in adolescents, opportunistic infections (prophylaxis and treatment), ethical, economic and legal issues in HIV disease (continued risky behavior, housing, employment), alternative therapies, pediatric HIV disease, AIDS and the family, yearly update.**
3. Continue to incorporate HIV disease into appropriate family medicine curricula. See Year One for details.
4. Continuation of longitudinal clinical elective, incorporating new PG-3's. See Year One for details.
5. Continuation of research/community service elective, incorporating new PG-2's and PG-3's. See Year One for details.
6. Resident evaluation and feedback. See Year One and Section I for details.

EDUCATIONAL STRATEGIES

AIDS is rapidly changing field. Longitudinal approaches, such as the three year curriculum, may be significantly more useful than a single intensive course or workshop. This strategy is also helpful in moderate prevalence areas such as Minnesota, as residents infrequently encounter patients in the regular course of their training. Finally, longitudinal teaching provides continuous, updated reinforcement of objectives.

The following strategies will be incorporated into the curriculum:

1.Traditional style lectures will be used to be used in imparting basic science, some clinical, pharmacological information. Lectures will utilize appropriate AV materials: slides, transparencies, computer assisted graphics.

2. Case based learning involves orienting material around one or a few clinically appropriate cases. These may be real or fictional, but must be relevant to what a family physician is likely to encounter in a moderate prevalence setting. This strategy will be used for most clinical, prevention, and psychosocial material. Case based learning will utilize appropriate AV materials: slides, transparencies, video, computer assisted graphics.

3. Role-playing strategies enable residents to practice interactive skills in prevention, patient and community education, psychosocial encounters, and end of life issues. Residents will play both parts (physician and patient), with modeling and guidance by faculty. This approach also allows resident to develop understanding of the patient's perspective. Role-playing will utilize appropriate AV materials: written scripts, videotaping.

4. Small group discussions can accompany case-based instruction, and are also useful in exploring economic, legal and ethical issues in HIV/AIDS.

5. Incorporating HIV disease in other areas of the family practice curriculum will decrease the number of lectures devoted only to HIV, while covering the same material over the course of each resident's training. The approach treats AIDS as a multidisciplinary, multi-organ system disease. Placing AIDS next to diabetes, coronary artery disease, and cancer, will reinforce the concept that AIDS is one among many diseases diagnosed and treated by family physicians.

6. Use of information systems will incorporated into all aspects of the curriculum, including a module devoted strictly to informatics and AIDS. Each University of Minnesota family practice resident has ready access to computers, including E-mail, Medline, and the Internet

(including the World Wide Web).

EVALUATION PLAN

The evaluation plan is designed to measure the achievement of the five objectives outlined earlier in this proposal. As such, evaluation activities will include assessments of knowledge, assessment of the delivery of activities, assessment of attendance and participation in activities, and assessment of skill acquisition.

Objective 1: Provide the resident with a basic and clinically applicable fund of knowledge regarding HIV disease in adults and children.

Assessment of this objective includes three parts. First, are activities provided to impart this knowledge, do residents attend these activities, and finally, do residents gain the knowledge? Assessment of the activities will be done by monitoring the content of didactic information offered to all residents during each year of the grant. In addition, resident attendance will be monitored at each of these activities. In this manner, we will be able to ascertain whether we have delivered the interventions we planned and whether residents have attended these activities.

Resident knowledge in HIV/AIDS will be assessed annually. A knowledge test will administered in the beginning of the first year of residency and at the end of each year. The test will assess knowledge that is expected to be gained through the entire longitudinal curriculum, thus as a resident moves through their three year program, scores on this test should increase. Initially, test scores will be analyzed using an analysis of variance with residency year as the independent variable. After the second administration of the test, in June 1998, analysis of these data will be performed using repeated measures of analysis of variance, with the goal of assessing longitudinal knowledge gain.

Objective 2: Enable the resident to provide adequate prevention, diagnosis and treatment for HIV disease, with a focus towards comanagement with appropriate specialists.

There are three aspects to evaluating this objective. In order for residents to provide adequate care they must feel confident in their ability in the area (self-efficacy), have the requisite skills, and have adequate numbers of patients. Evaluation of this objective will proceed by measuring residents' comfort and confidence in working with HIV positive patients through a self assessment completed at the end of the first resident year after grant funding. This assessment will query confidence in working with patients with HIV disease, comfort with the comanagement role, and perceived ability to perform the tasks necessary to provide prevention, diagnosis and treatment services to patients with HIV disease.

The skills necessary will be assessed using simulated patients in conjunction with a soon to be implemented behavioral medicine curriculum. At the beginning of each year, residents will be videotaped and assessed interacting with patients who present with at risk behavior, with newly diagnosed HIV disease, or with advanced stage AIDS. The assessment procedure will address the resident's ability to ask appropriate questions, present the findings of diagnostic procedures to the patient, determine appropriate medical interventions, and make appropriate referrals to specialists. The videotaping will begin with the 1997 incoming first-year residents only. Present PG-2 and PG-3 residents will not be videotaped.

The final aspect of the evaluation of this objective is to assess the changes in the number of HIV positive patients that are managed in each Family Practice Clinic. As residents gain more knowledge and comfort, patients with HIV disease will be more likely to remain in the care of residents in the clinics.

Objective 2a: Enable the resident to address the needs of women with HIV disease, including pregnancy and contraception.

Again, this objective includes both knowledge and skills. As part of evaluating the didactic curriculum, questions assessing knowledge unique to women and HIV will be included in the annual test. Secondly, precepting of residents in the Family Practice Clinic will include assessment of the degree to which they assess risky behavior, HIV status, and issues of contraception when working with women in the clinic. Precepting of residents during prenatal patient visits will include assessment of the degree to which they offer and provide counseling on HIV testing to pregnant women. Additionally, residents will be observed during gynecological visits to assess whether discussions of contraception include discussions of risky sexual behavior and methods for reducing exposure to HIV transmission.

Objective 2b: Provide residents with additional training in sexuality and chemical dependency in relationship to the AIDS epidemic.

The sexuality training will be conducted within the context of PHS= Sexual Attitude Reassessment Seminar (SAR). The SAR has an intact evaluation component, the instrumentation for which is available upon request. In addition to this evaluation, the adequacy of sexuality education will be assessed by determining the number of residents who have completed a SAR, either during residency, or during medical school. It is expected that all residents graduating from our programs will have completed a SAR by the end of this grant cycle.

Chemical dependency education will also be assessed by determining that such training is offered, by attendance of the residents, and by resident evaluation of the quality of the experience (see attached evaluation form). Knowledge in both these areas will be assessed annually, as described above.

Objective 2c: Enable residents to address the needs of underserved communities, urban and rural, in relationship to the AIDS epidemic.
This objective will be evaluated by assessing the involvement of residents in activities aimed at underserved communities. This will include the proportion of such patients served by residents in each family practice clinic and participation of residents in community outreach programs.

Objective 3: Provide interested residents with additional clinical and didactic training in the treatment of HIV disease.
This objective will be evaluated by monitoring the number of residents that take the clinical elective at the Delaware St. Clinic and PHS. These two sites will provide residents with opportunities for additional clinical and didactic experiences. Additionally, resident performance on this elective rotation will be evaluated using standard formats and the residents will evaluate the quality of the experiences offered, also using standard forms (both available upon request).

Objective 4: Provide opportunities for community service and research regarding prevention and treatment of HIV disease.
This objective will be evaluated by monitoring the existence of such activities within the DFPCH and by ascertaining whether residents have been given access to such activities. Access will be measured through an annual survey of department residents to determine whether they have participated in community service or research activities, whether they are aware of the existence of such activities, and the barriers, if any, they perceive to participation.

Objective 5: Develop a multidisciplinary approach to resident education, involving a coordinated team of generalist and specialist physicians, academic professionals, public health officials, community organizations and patients.
Evaluation of this objective is a management function. It involves being aware of who is participating in resident education and where residents are getting practical experience. This objective is central to the accomplishment of all other aspects of the project.