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ABSTRACT

This report examines the implications of the HIV (human immunodeficiency virus) epidemic for general professional education in medicine with a focus on the period of medical student education and the early years of residency training. Five sections are as follows: impact of the HIV epidemic on medical practice; issues for general professional education in medicine (basic values and attitudes, basic knowledge and skills, and HIV/AIDS knowledge and skills); resources needed for effective HIV/AIDS education (clinical and community resources and faculty resources); special issues (HIV/AIDS and the attractiveness of medicine as a profession, HIV/AIDS and the choice of specialty and residency program, and educational imbalances in clerkship and residency programs); and role of the Association of American Medical Colleges (AAMC). An appendix provides the AAMC statement on professional responsibility in treating AIDS patients, approved and endorsed by the AAMC Executive Council, February 25, 1988. (SM)

AAMC

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

# THE HIV EPIDEMIC AND MEDICAL EDUCATION

## A REPORT OF THE AAMC COMMITTEE ON AIDS AND THE ACADEMIC MEDICAL CENTER



ONE DUPONT CIRCLE, N.W., WASHINGTON, D.C. 20036

# The HIV Epidemic and Medical Education

A Report of the AAMC Committee on AIDS and the Academic Medical Center

February 1989

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# Preface

In September, 1987, the Association of American Medical Colleges (AAMC) appointed a Committee on AIDS and the Academic Medical Center, chaired by Jay Sanford, M.D., president and dean, Uniformed Services University of the Health Sciences. The Committee was charged with identifying and discussing issues raised by the human immunodeficiency virus (HIV) epidemic that have specific relevance for academic medicine and to recommend policy positions and program initiatives for the AAMC and its member institutions.

Under the able leadership of Dr. Sanford, the Committee has written this second full report, which examines the implications of the HIV epidemic for general professional education in medicine. The report was drafted by the Committee's subcommittee on medical education, chaired by Richard E. Behrman, M.D., vice-president and dean, Case Western Reserve University School of Medicine, and subsequently approved by the full Committee. On February 23, 1989, the Executive Council of the AAMC accepted the Committee report and approved its distribution to AAMC members and other interested publics.

The current report follows a previous one by the Committee, *Policy Guidelines for Addressing HIV Infection in the Academic Medical Community,* which was published by the AAMC in October, 1988. That report provides 17 recommendations for institutions in their development of policies for medical students, residents, and faculty/staff. Policy areas covered include the provision of information about HIV and access to testing facilities, administrative actions in response to those known to be HIV-infected, and considerations in the admission of HIV-infected applicants to medical school or residency programs. The Committee has also developed a statement, reprinted here, on the professional responsibility of medical students, residents and faculty to provide care to HIV-infected persons. That statement was endorsed by the AAMC Executive Council.

We are appreciative of the Committee's work and commend this report to you as a thoughtful reflection on the educational challenges posed by the HIV epidemic. All who are involved in medical education, especially those who are responsible for medical school curricula and for residency training programs, will find the educational objectives outlined by the Committee in this report useful to their program planning. We hope that the publication of this report will

encourage medical educators to review their programs in light of the HIV epidemic and to reaffirm their commitment to educating physicians with the values, attitudes, knowledge, and skills needed to assist in preventing the further spread of HIV infection and to provide care to the growing number of those infected.

Robert G. Petersdorf, M.D.
President
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## INTRODUCTION

The gravity of the human immunodeficiency virus (HIV) epidemic and its impact on the nation's medical and social institutions is difficult to overstate. The discovery of HIV and the acquired immunodeficiency syndrome (AIDS) has provided one of the major challenges to biomedical research in this century, while the consequences of HIV infection pose a problem of significant proportion to the nation's system of health care delivery and financing. The research and patient care missions of academic medical centers position them at the center of the nation's response to the epidemic. However, the educational mission of these institutions prescribe a further challenge: to educate physicians who are prepared to assist in preventing further spread of infection and provide care to those already infected.

The Association of American Medical Colleges (AAMC) Committee on AIDS and the Academic Medical Center has accepted as part of its responsibility an examination of the implications of the HIV epidemic for medical education. The Committee was charged to deliberate on issues raised by the HIV epidemic that were especially relevant for medical schools and teaching hospitals and to recommend policy positions and program initiatives for the AAMC and its member institutions. The Committee has issued a previous report which provides institutional policy guidelines for dealing with cases of HIV infection among medical students, residents, and faculty/staff.[1] It has also issued a statement, endorsed by the AAMC Executive Council, on the professional responsibility of medical students, residents, and faculty to provide care to HIV-infected persons.[2]

This report addresses the educational challenges posed by HIV/AIDS. Its focus is general professional education in medicine, the period of medical student education and the early years of residency training. The report is based on the Committee's examination of the likely impact of the epidemic on future medical practice, its review of medical school efforts to introduce HIV/AIDS education into the medical school curriculum, its judgement regarding the

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[1]Association of American Medical Colleges, *Policy Guidelines for Addressing HIV Infection in the Academic Medical Community*. October 1988.

[2]Association of American Medical Colleges, *Statement on Professional Responsibility in Treating AIDS Patients*, adopted by the AAMC Executive Council February 25, 1989.

knowledge, skills, and attitudes physicians need to care for HIV infected persons and to help in preventing further spread of infection, its conclusions as to the resources needed to achieve desired objectives, and its analysis of special issues for academic medicine. The Committee concludes its deliberations with specific recommendations on the role of the AAMC in assisting its member institutions to meet their responsibilities in these areas.

## IMPACT OF THE HIV EPIDEMIC ON MEDICAL PRACTICE

While the long-term impact of the HIV epidemic on medical practice is difficult to project, an understanding of the demands it places on medical educators must start with some shared understanding about the epidemiology of disease and future scientific and medical progress. The following are conclusions of the Committee with regard to HIV/AIDS that form the basis of judgements reached and recommendations made in this report.

1. *The spread of HIV infection has already reached epidemic proportion. The need for health care services even by those already infected will place extraordinary demands on physicians and other health care providers.*

Since the first cases of HIV infection were identified in 1981, over 87,000 Americans have been diagnosed with AIDS.[3] The Public Health Service projects a cumulative total of 365,000 diagnosed cases of AIDS, including 263,000 cumulative deaths, by the end of 1992. In 1992 alone, 80,000 cases of AIDS will be diagnosed, only slightly less than the cumulative total achieved during the 1981 1988 period.[4] The number of AIDS cases, however, reflects only in small part the magnitude of the HIV problem. It is estimated that between 1.0 and 1.5 million Americans are currently infected with HIV.[5] The incubation period from infection to clinical symptoms varies. However, experts generally agree that, given the current state of therapies, the majority of those who are infected, if not virtually all, will eventually progress to the clinical syndrome of AIDS. Even a massive, successful public education effort cannot reverse the demands that will be placed on health care providers and institutions in the short term.

2. *While initially concentrated in distinct geographic areas, HIV infection will become more dispersed and involve physicians in virtually all communities.*

By the end of 1988, 20 metropolitan areas accounted for over two thirds of the diagnosed cases of AIDS reported to the Centers for Disease Control (CDC). The New York city area alone reported 22 percent of the cases, followed by San Francisco and Los Angeles with eight and seven percent respectively.[6] However,

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[3]U.S. Centers for Disease Control, *AIDS Weekly Surveillance Report*, February 20, 1989.

[4]U.S. Centers for Disease Control, *Report to the White House Domestic Policy Council*, July 26, 1988.

[5]Ibidem

[6]U.S. Centers for Disease Control, *AIDS Weekly Surveillance Report*, February 20, 1989.

evidence of a gradual diffusion of AIDS cases away from the historic epicenters of the epidemic is clear. The 20 metropolitan areas in which the infection is concentrated accounted for 75 percent of AIDS cases reported before 1986 but only 62 percent of those cases reported in 1988.[7] New cases of AIDS are now being reported in every state. While certain metropolitan areas may remain with a disproportionate number of cases, the mobility among members of society preclude a geographic containment of HIV infection.

3. *A vaccine for HIV is not likely to be available in the near term. The prevention of additional infections will depend upon people learning how to avoid exposure and modifying behaviors and lifestyles to bring them in concert with such knowledge.*

Optimism that a vaccine could be quickly developed, once HIV was identified as the causative, etiologic agent of AIDS, has faded. Much more needs to be learned about the nature of the immune response that is generated on exposure to HIV and how it can be manipulated. The genomic diversity of HIV isolates is an additional major obstacle. Most experts do not expect an effective vaccine to be developed within the next decade.

However, since the main routes of HIV transmission are known, additional infections can be prevented. This knowledge needs to be used in the development of effective education and counseling programs targeted particularly to those most at risk.

4. *State of the art care of individuals with HIV infection or HIV-related disease will require close collaboration with and the involvement of specialists who devote a considerable amount of their professional time to this particular disease syndrome. However, it is unlikely that the medical care needs of the large number of infected persons in this country can be provided for solely by a small number of HIV specialists. Primary care physicians will need to assume greater responsibility for the ongoing care of HIV infected patients, in consultation with specialists, as appropriate. Primary care physicians must also assume a major role in the prevention of the spread of infection.*

The HIV epidemic imposes a new set of demands on the medical manpower system. The growing caseload of patients with tumors and opportunistic infections will strain the current supply of oncologists and infectious disease specialists. Moreover, the protean manifestations of HIV/AIDS and the heavy requirements for patient support, education, and ambulatory and long-term management will significantly extend the dimensions of care. Tumor and infectious disease specialists may have to take on these elements of primary care or, at least, organize their work in networks of primary care physicians and other health professionals.

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[7]Ibidem

The pervasiveness of HIV infection in many parts of the country will make it necessary for primary care physicians—general internists and family practitioners, in particular, but also obstetricians/gynecologists and child and adolescent specialists—to assume greater responsibility for the care of HIV-infected patients, in consultation with specialists, as appropriate. Primary care physicians will be increasingly involved in the diagnosis, treatment, and management of HIV infection, in addition to education and prevention. Primary care physicians are in an ideal position to provide information, education, counseling about prevention, and early diagnosis of HIV infection and should be adept at recruiting and organizing the home health care resources and support needed by HIV-infected patients.

## ISSUES FOR GENERAL PROFESSIONAL EDUCATION IN MEDICINE

The preceding suggests that the HIV epidemic will have a major impact on the professional careers of today's medical students and residents. For some, HIV/AIDS may define their professional lives. The dimensions of the challenge posed to medical educators, who are currently coping with increasing demands on curriculum time from various quarters, are apparent. The needs for multidisciplinary education related to HIV/AIDS cannot be addressed simply by adding another course but require an institutional strategy to integrate HIV/AIDS-specific subject matter and skill development opportunities into existing courses, clerkships, and other training experiences.

The implications of the HIV epidemic for curriculum are not limited, however, to the introduction of HIV/AIDS-specific content and skills. The epidemic focuses attention on certain values, attitudes, knowledge, and skills that are fundamental to medical practice. To the extent that these areas currently receive inadequate curriculum time and resources, the focus provided by HIV/AIDS may have a salutary effect on general professional education in medicine. A renewed emphasis on these basic areas, in particular those which prepare physicians for their responsibilities in health promotion and disease prevention, is likely to have the most direct impact on the epidemic.

### Basic Values and Attitudes

The development of professional responsibility by medical students and residents for the care of HIV-infected persons is a basic educational objective that must be at the cornerstone of any plan to address HIV/AIDS within the medical education program. The provision of care in the context of HIV/AIDS has several different facets, each of which relates more generally to the ideals of physician practice. First is the understanding and acceptance of personal risk in the practice of medicine, second is the need to overcome prejudicial attitudes that impede high quality care, and third is the development of skills in coping with the psychological demands of certain types of care.

## Accepting personal risk

The gravity of becoming infected with HIV, a disease with no known cure and which is believed to lead inevitably to death, has raised a consciousness of personal risk in medicine that had been largely dormant. Survey studies and reports have documented the anxieties and fears of medical students and residents in caring for HIV-infected persons, anxieties about their personal safety and by extension the safety of their spouses and families.[8] Reports of physicians who have refused to care for HIV-infected patients have heightened the controversy surrounding this issue.

Institutions should state unambiguously their expectations that medical students and residents have a professional responsibility to provide care to HIV-infected patients to which they are assigned. Simply stating the facts of the low risk of occupational acquisition of HIV infection is not sufficient to deal with the perceived risk and associated fears. The acculturation of medical students and residents to the norms and obligations of the profession pertaining to the acceptance of personal risk is a process that occurs over the continuum of their medical education. The example set by faculty is critical to this process. Medical educators must also recognize the importance of providing information, education, and counseling to assist medical students and residents to accept this responsibility and of providing training to minimize personal risk.[9]

## Overcoming biases and prejudices

At this stage in the evolution of the epidemic in this country, the large majority of those with HIV infection has acquired the virus as a result of specific behaviors and lifestyles that tend to be viewed with less than complete acceptance by society, such as homosexuality, or with outright disapproval, such as intravenous drug use. In addition, a disproportionate number of those infected are racial minorities who remain the victims of discrimination. Medical students and residents are not exempt from the biases and prejudices that pervade society. Their attitudes towards various social groups are a concern to

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[8]For example:

Link R.N., Feingold A.R., Charap M.H., et al. Concerns of Medical and Pediatric House Officers About Acquiring AIDS from Their Patients. *Amer. J. of Pub. Health.* 78(1988):455-459;

Cooke M. Housestaff Attitudes Toward the Acquired Immunodeficiency Syndrome. *AIDS Pub. Policy J.* 3(1988):59-60;

Imperato P.J., Feldman J.G., Nayeri K., DeHovitz J.A. Medical Students' Attitudes Towards Caring for Patients with AIDS in a High Incidence Area. *N.Y. State J. Med.* 88(1988):223-227;

Whalen J.P. Participation of Medical Students in the Care of Patients with AIDS. *J. Med. Educ.* 62(1987):53-54.

[9]An expanded statement on professional responsibility in this context, issued by the Committee early in its deliberations, is included as an appendix to this report.

medical educators when such attitudes are incompatible with the values and ideals of the medical profession. Medical educators should help medical students and residents to examine and to overcome attitudinal barriers that prevent them from establishing caring and supportive relationships with their patients and from providing medical care of the highest quality.

### Coping with the emotional demands of patient care

HIV/AIDS provides a reminder of the psychological demands associated with many areas of physician practice. The care of patients with AIDS may be for many medical students and residents a first encounter with death and dying in their professional career. The experience is intensified by the fact that many of those who are infected are young adults, quite often of the same generation as the students and residents, or are infants and children. Medical educators should recognize the emotional intensity associated with certain patient care experiences and provide counseling and support for medical students and residents.

## Basic Knowledge and Skills

### Training in infection control

HIV/AIDS prompts a renewed emphasis on the training of all health care workers in infection control procedures and in monitoring compliance with them. The behavior of faculty and practicing physicians is a critical reinforcer of good infection control practices and is essential to ingrain what is learned into practice behavior. Studies have documented a low but finite risk to a health care worker exposed to the blood of an HIV-infected patient. Of critical significance, however, is the finding that many of the cases of exposure could have been prevented by strict adherence to recommended procedures, especially those which reduce the number of needlestick injuries.[10]

Training in infection control procedures, which include universal precautions with blood and body fluids, should be an essential element of the medical education program. Medical educators should ensure that the orientation to the clinical setting includes express written procedures and demonstrations in infection control practices. Knowledge of these procedures should be a prerequisite for entry to the clinical setting.

### Physician-patient communication skills

The sensitivities surrounding the ways in which HIV is transmitted and the current role of education and counseling in reducing risk of infection emphasize the importance of physician patient communication skills. Developing skills in

[10]Marcus R., CDC Cooperative Needlestick Surveillance Group. Surveillance of Health Care Workers Exposed to Blood from Patients Infected with the Human Immunodeficiency Virus. *N. Engl. J. Med.* 319(1988):1118-23.

patient interviewing, history-taking, and counseling are established elements of the medical education program. HIV/AIDS prompts particular attention by medical educators to specific aspects of these skills, including the following:

taking a comprehensive and thorough sexual history,

eliciting a history of substance abuse;

counseling about the meaning of medical information and test results;

eliciting patient preferences regarding different levels of life support;

counseling and providing emotional support to patients suffering from disease and to their families; and

counseling to effect behavioral and lifestyle changes necessary for good health.

Effective physician-patient communication in emotionally sensitive areas depends as much on the personal comfort and emotional development of the physician as knowledge of and experience with specific interviewing and counseling techniques. Programs which provide opportunities for medical students and residents to explore their feelings about various aspects of patient care, such as human sexual behavior, death and dying, or patient characteristics and lifestyles different from their own, are important to the development of communication skills.

### Public health/epidemiology

Risk assessment for HIV infection and counseling for risk reduction highlights the value and importance of training in public health and epidemiology in general professional education. Attention in educational programs to the risk factors associated with various diseases and accidents will enable medical students and residents to be more effective in preventing illness and disability through their professional practices. In addition, the role of the physician as a partner with official public health agencies, for example, in the reporting of disease, collaborating in partner notification, and educating the public, should be well developed at a basic level and reinforced throughout training.

### Psychosocial aspects of disease

HIV/AIDS draws attention to the need of medical students and residents to understand the links among poverty, minority status, access to health care, and disease and death. It reinforces the importance of understanding the role of family, social, and community networks in coping with illness and disability. Medical students and residents should learn how to enlist family, social, and community resources in helping patients with non-acute medical problems and in providing psychological support and assistance with the needs of daily living.

### Medical ethics

HIV/AIDS provides a new dimension and complexity to traditional ethical issues in medical practice. Some examples of issues are patient confidentiality, informed consent, duty to warn, the use of unrelated decision making surrogates for incompetent patients, and issues associated with the conduct of clinical research trials. The epidemic also highlights the difficulties involved in decisions to initiate or terminate life-support systems. Medical students and residents need to become versed in the ethical traditions within medicine, to develop skills in thinking through complex ethical dilemmas, and to become comfortable with the ethical uncertainties that they will confront as physicians.

### Human sexuality

HIV/AIDS underscores the importance of the study of human sexuality as a part of general professional education in medicine. Medical educators should not limit instruction to the biological aspects of reproduction but should give specific consideration to the psychological and social aspects of human sexuality and its expression in modern society, including an understanding of homosexuality and bisexuality as well as heterosexuality, and should increase the level of comfort and competence of medical students and residents in obtaining a sexual history.

### Substance abuse

The association of HIV infection with intravenous drug abuse is a reminder of the latter as a major medical and social problem. Medical educators should ensure that medical students and residents understand the psychological and social determinants of substance abuse, in addition to its medical consequences, and develop skills in recognizing, counseling, and treating substance abusers.

### Multidisciplinary team approach to care

HIV/AIDS highlights the value of the multidisciplinary team approach to health care delivery. The total care of the HIV-infected person over the course of the disease often requires the contributions of nurses, physician assistants, social workers, mental health workers, and others in addition to physicians, and the use of ancillary care systems, for example, home health care, visiting nurse care, hospice care, family counseling, in which these professionals are expert. Medical students and residents should understand the special services and expertise provided by other members of the health care team and the pivotal role of the physician in assisting the patient to gain access to needed ancillary services.

## HIV/AIDS Knowledge and Skills

Medical students and residents should also gain fundamental knowledge and skills in areas specific to HIV/AIDS. Educational objectives that should be

incorporated into the medical education program at appropriate stages include the following aspects of HIV infection:

1) basic science – an understanding of the basic features of retroviruses, the pathogenesis of immunodeficiency associated with HIV infection, and the immunologic consequences of such infection.

2) epidemiology – an understanding of the mechanisms of viral transmission and recognition of the types of behavior identified as risk factors for spread of infection.

3) clinical manifestations – an understanding of the clinical features of HIV infection, including the natural history of HIV infection, characteristic opportunistic infections, malignancies and neurologic manifestations of disease, and recognition of the different characteristics of the disease in children.

4) diagnosis - an understanding of the tests that are used for establishing the presence of HIV infection, including the limitations of serologic diagnosis and recognition of other means of establishing the diagnosis by identification of the virus, viral proteins, or viral nucleic acid.

5) treatment – an understanding of the indications, use, and toxicity of anti-retroviral agents and other modes of therapy that may be developed and an understanding of the treatment and prophylactic approaches used for opportunistic infections and malignancies.

## RESOURCES NEEDED FOR EFFECTIVE HIV/AIDS EDUCATION

Any discussion of the requirements for developing effective education programs to prepare medical students and residents to address the challenges of the HIV epidemic must include a candid appraisal of resource needs.

### Clinical and Community Resources

The opportunities for medical students and residents to develop clinical skills in the care and treatment of HIV infected persons and patients with AIDS vary, according to the geographic distribution of cases. As the epidemic evolves, responsibilities for the care of HIV-infected persons will become more widely dispersed. Certain medical education programs, however, will have to consider developing or acquiring alternative teaching materials, for example, simulated patients or videotapes. Institutions that have developed model patient care and educational programs for HIV infection should consider making short-term training opportunities widely available.

Most of the current patient care experiences with HIV provided by medical school and residency programs occur in the inpatient hospital setting. Ambulatory clinical training is necessary to achieve a broader perspective of the disease and

its various stages. The range of patient experiences ideally would extend from seronegative persons engaged in behaviors putting them at high risk for the disease to persons with AIDS, suffering from extreme immunosuppression and with one or more opportunistic infections. To offer this range will require extending medical education programs to community clinics, centers for the treatment of sexually transmitted diseases, substance abuse treatment centers, and other community health care programs and official public health agencies. Ambulatory care training in HIV infection should be under the direction of faculty and attending physicians in model programs offering continuity of care with links to community support services.

The psychosocial, ethical, and legal aspects of HIV infection underline the special importance of community resources in managing the epidemic and in caring for the growing numbers of infected persons. Medical educators should enlist the participation of community volunteer support groups organized around HIV/AIDS in their training programs, as well as social and public health agencies.

### Faculty Resources

Faculty who can address the educational needs of medical students and residents in the areas related to HIV/AIDS will be needed. Fortunately, faculty expertise specific to HIV infection is developing rapidly, particularly at institutions located in the geographic epicenters of the epidemic. Nevertheless, faculty development and training grants and fellowships are needed, particularly in primary care, with additional positions earmarked for HIV infection.

Of particular importance are faculty resources and expertise in those psychological, social, behavioral, and ethical/legal aspects of medical care on which HIV/AIDS has focused attention in the education of physicians. These include interviewing and communication skills, psychosocial aspects of disease, mental illness and substance abuse, epidemiology and preventive medicine, psychological and social aspects of human sexuality, ethics and law, home health care, death and dying, and community support agencies and services, to name a few. The integration of these topics into the medical education program rests heavily on the contributions of other disciplines, for example, nursing, social work, psychology, sociology, ethics, and law. Medical educators should be encouraged to call on these disciplines in the development of training programs.

## SPECIAL ISSUES

In addition to the demands placed on the medical school curriculum and residency training programs by HIV/AIDS, the Committee has addressed its attention to three special issues of concern. Two deal with questions concerning the impact of HIV/AIDS on career choices. first, has HIV/AIDS contributed to the decline in the attractiveness of medicine as a profession, and second, has

HIV/AIDS contributed to the decline of interest in internal medicine and/or is it influencing the choice of residency program. A third issue concerns whether the increasing numbers of AIDS patients in major teaching hospitals and affiliated programs are creating a distorted educational experience for medical students and residents. While data on each of these questions are limited, some preliminary observations may be made.

### HIV/AIDS and the Attractiveness of Medicine as a Profession

The number of applicants to the nation's medical schools peaked in 1974, when 42,624 individuals competed for 14,579 first-year positions. Since that time the applicant pool has steadily declined, to a point in 1988 when 26,721 persons applied to fill 15,969 seats.[11] Clearly, a large-scale trend such as this decline, which notably predates the HIV epidemic, has a complex etiology. Various factors have been posited to account for it. changing student values, lowered prestige of medicine and decreases in professional autonomy, rising medical school tuition and debts, and length of training program in comparison to other professions, to name just a few. In more recent years, a general disaffection for medicine has been exacerbated by simple demographic changes—fewer 22-year-olds in the population.

It is unlikely that HIV epidemic has been a significant proximate cause of declining interest in medicine as a profession. Undoubtedly, the specter of AIDS that pervades the popular media may be a factor in individual cases in dissuading young men and women from choosing a medical career. It is equally likely, however, that in other cases the epidemic has served as a motivating force for people to enter the profession. The image of medicine and its continued ability to attract the best and brightest to its ranks will be served by the profession's example of service in the face of the epidemic.

### HIV/AIDS and the Choice of Specialty and Residency Program

The decline of interest in residency programs in internal medicine, a specialty identified most with the ongoing care of patients with AIDS, has also been attributed in part to the HIV epidemic. Yet, the beginnings of this decline of interest predate the time at which AIDS entered the public consciousness. As with the decline in the medical school applicant pool, the trend in internal medicine appears to reflect a number of factors. dissatisfaction with technological growth in internal medicine practice, the emotional intensity associated with the care of current-day medical inpatients with cardiac problems, cancer, and other chronic conditions, and concerns about a relatively lower income potential in the face of rising educational debt. There is as yet no convincing evidence that HIV/AIDS has contributed significantly and directly to the trend away from internal medicine practice. To the contrary, the most recent data from the

[11]Source: AAMC Division of Student Services.

AAMC graduation questionnaire, distributed to all U.S. medical school graduates, show a recent upturn in interest in general internal medicine as well as in the subspecialty of infectious diseases.[12]

Evidence of a systematic avoidance by medical students of residency programs that have a high percentage of patients with AIDS, other than an occasional anecdotal report, is lacking. Fears of HIV transmission and concern about a distorted and skewed residency training experience may appear as logical bases on which to expect an effect on application patterns. Yet, no consistent trend has been demonstrated in the residency match success of programs known for their care of patients with AIDS or of those located in the epicenters of the epidemic.

The various factors that account for patterns of changes in career choices should be an ongoing concern of medical educators. The HIV epidemic is of a magnitude and significance that its potential impact on choice of specialty or of location of residency program deserves continued study.

## Educational Imbalances in Clerkship and Residency Programs

Regardless of whether the increasing number of patients with AIDS in certain teaching hospitals influences the career choices of medical students away from certain specialties or deters them from applying to particular residency programs, educational balance in clerkship and residency programs is a concern in its own right. The issue now is relevant to a number of urban teaching hospitals in epicenters of the epidemic, but it could in time extend to others.

Problems of educational imbalance in medical education are not specific to HIV/AIDS. They arise from an ongoing tension generated by attempting to meet both the service and educational missions of academic medical centers. The teaching hospital's attention to its patient care and community service missions is primary. Teaching hospitals should be leaders in fashioning the community response to the HIV epidemic and play a major role in that response Teaching hospitals require, however, a sufficient diversity of patients to support educational and research objectives. Medical schools and their faculties, on the other hand, must attend first to the educational needs of students and residents. Medical education programs need to provide a variety of clinical settings and experiences, including ambulatory as well as inpatient settings, to achieve educational objectives.

The issue of educational balance requires continual attention and management by medical school deans and hospital directors. Medical school deans and hospital directors, particularly in academic medical centers caring for a large number of HIV-infected patients, should address specifically the impact of HIV/AIDS on educational programs.

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[12]AAMC, *1988 Graduation Questionnaire Results*, 1988.

## ROLE OF THE AAMC

The response of medical education to the HIV epidemic, according to the suggestions made in this report, can be aided significantly by AAMC leadership. Specific responsibilities it should assume in fulfillment of this mission include the following:

1. The AAMC should serve as a clearinghouse for HIV curriculum materials and provide forums in which to discuss and disseminate information on innovative educational programs and methods.

2. The AAMC should study the influence of HIV/AIDS on the choice of specialty and location of residency program, through its own analyses and in concert with other interested groups. It should also monitor the impact of HIV/AIDS on the clinical experiences of medical students and residents.

3. The AAMC should direct advocacy efforts to seek federal support for faculty development and training grants that will increase the qualifications of faculty to teach about HIV/AIDS and, in particular, the associated psychological, social, behavioral, and ethical/legal aspects of patient care.

4. The AAMC should encourage and cooperate with the American Board of Medical Specialties in studying the evolving impact of HIV/AIDS on the practices of specific medical specialties.

# Appendix A

## AAMC STATEMENT ON PROFESSIONAL RESPONSIBILITY IN TREATING AIDS PATIENTS

The following statement was adopted by the Executive Council of the AAMC February 25, 1988. The statement was drafted by the AAMC Committee on AIDS and the Academic Medical Center.

The acquired immunodeficiency syndrome (AIDS) has had an impact on the medical profession far beyond its pathophysiology. All fields of clinical practice have been dramatically altered by this disease. It has posed a significant challenge to the nation's health care system in providing for both the financing and delivery of care to those afflicted. Moreover, this epidemic, which is unparalleled in the latter half of the twentieth century, has confronted the medical profession with numerous moral and ethical issues. A central concern, to which this statement is directed, is the physician's responsibility to provide care to all patients.

The Association of American Medical Colleges (AAMC) has taken special note of the fears and concerns of medical professionals and those in training regarding the care of patients infected with the human immunodeficiency virus (HIV). Data indicate that a physician's occupational risk of acquiring HIV infection is small. However, because of the lethal nature of the disease, many physicians are concerned about transmission of infection, especially in settings where invasive procedures are performed such as the operating room or cardiac catheterization laboratory.

Personal risk to the physician in the practice of medicine is not a new phenomenon even within this century, as the history of tuberculosis, poliomyelitis, influenza, and syphilis demonstrates. But scientific advances, especially the development of vaccines and antibiotics, have tended to lower consciousness of these continuing risks for an entire generation of younger physicians, medical students, and residents. AIDS has brought this consciousness once again to the fore.

The AAMC's special concern is with those medical students and residents, now and in the future, whose preparation for entry into the profession is the responsibility of medical school faculties. Medical education cannot be narrowly conceived as simply the imparting of knowledge and skills. It has as its objective the development of professional men and women who are prepared to adhere to the highest standards of conduct and behavior asked of few members of our society. Entry into the medical profession is a privilege offered to those who are prepared for a lifetime of service to the ill.

The HIV epidemic must serve to remind us of these basic principles and the fundamental responsibilities of those who aspire to the practice of medicine and those charged with preparing them for it:

*Medical students, residents, and faculty have a fundamental responsibility to provide care to all patients assigned to them, regardless of*

*diagnosis. A failure to accept this responsibility violates a basic tenet of the medical profession – to place the patient's interest and welfare first.*

*Faculty members have a special responsibility to model the professional behavior and attitudes expected of physicians in training in their own willingness to provide competent, sensitive, and compassionate care to all patients.*

*Each medical school and teaching hospital must accept the responsibility to help medical students, residents, and faculty address and cope with their fears and prejudices in treating HIV-infected patients. This responsibility includes providing the following:*

- *an accurate portrayal to medical school applicants of the personal risks involved in medical practice;*
- *up-to-date information on the modes and risk of transmission of the virus;*
- *training in protective measures to be employed in the clinical setting, monitoring compliance with them, and defining procedures to be followed in the event of potential exposure;*
- *appropriate facilities, equipment, and personnel to avoid unnecessary risk;*
- *counseling to those who continue to express reluctance to participate in education and patient care programs with HIV infected individuals.*

*Further, each medical school and teaching hospital should articulate a clear policy emphasizing the physician's responsibility to provide care to patients without regard to the nature of their illness.*