

# MY PERSONAL JOURNEY THROUGH LIFE, LEARNING, AND THE PURSUIT OF PANDEMICS

Gerald Friedland

## Introduction

Rather than starting in the beginning, chronologically, at my birth in Brooklyn, New York City, in 1938 and moving forwards or, conversely, backwards from the present, I am going to start my trajectory story in the middle and go backwards and forwards – or up and down – which is sort of how my trajectory feels, and perhaps how many of my colleagues have felt about theirs. This will be HIV/AIDS-centric, as this has been the most defining and central event of my career and intellectual trajectory and arguably the most devastating and important epidemic of the past and present centuries, until the recent arrival of the devastating SARS CoV-2 (COVID-19) pandemic. I wish to tell this not only as an intellectual trajectory – as I recognize that our intellect and its development and productive use shouldn't and can't be separated out from our total life experience. So this personal narrative will consist of an expression of my intellect within my total life experience. In doing so, I may mix and misrepresent facts to fit my story – or my story to fit the facts – but that is unintentional memory slipping, as most at my age and status are now familiar with, and perhaps also some understandable biases. Finally, although I'm not a psychiatrist, I am going to start my narrative with a dream – one that I had in the early 1980s and that thirty-five years later still appears and reappears.

My dream was set in the Bronx during the early years of the AIDS pandemic: I was walking toward Jerome Avenue in the Bronx at midday. Jerome Avenue was a major shopping and commercial avenue close to the hospital where I worked. The neighborhood surrounding it had previously been one of Jewish immigrants and now was largely inhabited by Nuyoricans – U.S. citizens from Puerto Rico and living in New

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York City. It was a poor neighborhood, but Jerome Avenue was colorful, noisy, and filled with music. People of many generations crowded the streets – sidewalk hawkers, older men playing dominoes, and mothers strolling and shopping with their children in tow. The cars were double- and triple-parked, greengrocers' and other food and clothing stalls lined the sidewalk, and the No. 4 elevated subway train roared overhead.

In my dream, I walked along a side street, walled in on both sides by tall apartment houses, and which opened onto Jerome Avenue. I felt the vibration of the overhead No. 4 train, but there was no sound. Buses maneuvered through the lines of parked cars, and greengrocer stands pushed onto the sidewalk with bins of tropical fruit, but there was no color. The scene was stark and in black and white. Even so, everything looked right and as it should have been, but there were no people; the silent, stealthy, and deadly epidemic of AIDS, still then of unknown etiology, had carried them all away. I've long since stopped having this full dream, but flashes of its images sometimes break into my consciousness, even now, thirty-five years later.

I returned in the summer of 1981 to live in New York City after a thirteen-year absence and to work in the Bronx as an academic physician/educator at Montefiore Medical Center and on the faculty of the Albert Einstein College of Medicine. Prior to that, I had attended college and medical school at Columbia and NYU, respectively, and had been an intern at Bellevue Hospital. I lived in Nigeria for two years as a Peace Corps physician and learned about and treated patients with arrays of exotic tropical infections; and I lived among Bedouins in the Negev Desert in Israel, where I worked in a subsequent decade. I had completed training in internal medicine, infectious diseases, and public health in Boston; and having studied, lived, and worked in these fields in New York, Boston, Africa, and the Middle East, I thought that I was experienced and sophisticated and had seen and cared for just about every type of infectious disease.

In July 1981, I saw the first three patients with what we now so routinely call AIDS (acquired immunodeficiency syndrome). Within the next three months, there were fourteen; and by the end of a year, fifty new patients with an AIDS diagnosis were admitted. The hospital wards began to fill with young men and women, and almost all would die. In the ensuing decades, AIDS became the leading cause of death in young people in the United States and globally. During this time, the Bronx, the poorest urban county in the United States, became one of the epicenters of the pandemic.

Now, more than thirty-five years later, and with many hundreds of colleagues in the United States and abroad, I have directly or indirectly cared for thousands of people living with and dying of HIV disease. I have had the opportunity to use my training in both expected and completely unexpected ways, learn from and be taught by the pandemic itself, work to create new knowledge about the complex nature of the disease and how to prevent it and care for and treat people with it, and now, remarkably and miraculously, to participate in their survival and restoration to good health and even aspirational discussions of ending the epidemic and curing AIDS. But I can

still remember the mixture of feelings surrounding those first cases – great personal distress at the terrible suffering and seemingly inevitable premature deaths of those early and young patients. I remember too a personal and professional desire to be involved with and care for patients and populations who were underserved, stigmatized, and underrepresented, as well as a sense of excitement about an unusual and challenging cluster of cases and a new clinical and epidemiologic puzzle to solve. But also, I remember, very definitely, as the numbers of new cases and deaths grew, a deep and clear sense of denial, disbelief, fear, foreboding, and despair. I knew from the beginning that something very different, devastating, and destructive was occurring. If one can attribute character to a disease, I felt that something previously unknown, cruel, and malevolent had now appeared.

But rather than being repelled away, along with many others, I was attracted toward it. I have thought a lot about why this was so. I have used the opportunity of this trajectory story to assemble a list of prior events and circumstances in my life, both deeply personal and also intellectual, that taken together had attracted me, prepared and provided me with the tools to confront the AIDS epidemic. The list is quite long, but I will distill it down to six pre-AIDS biographic pieces.

## **Pre-AIDS**

### ***1. Brooklyn, N.Y.***

I was born in Brooklyn, New York, in 1938. My parents were both Jewish immigrants from Belarus. My father's family were tenant farmers, not allowed to own land in the Pale of Settlement. My father arrived in the United States in 1910, as a ten-year-old boy, chased by the Russian pogroms and attracted to the golden glow and promise of America. Sneaking across several borders, bribing border guards, and in the company of an uncle, who was portrayed as his father on various forged immigration papers, he made the long Atlantic Ocean crossing in steerage and arrived in New York City. In a sense, I am a "Dreamer," born in the United States as the son of a likely undocumented immigrant, not unlike those currently threatened by deportation. My mother arrived in the United States with her mother in 1921, having lived through the series of pogroms, World War I, and the Bolshevik revolution, and just under the closing door of immigration from Eastern Europe. The Emergency Quota Act of 1921 was the first federal law in U.S. history to limit the immigration of Europeans. It reflected the growing belief and fear that people from Eastern and Southern Europe were alien, dirty, and dangerous, and that they threatened the purity of the American population. How history repeats itself! In fact, in 1924 this law was amended as the even more restrictive Johnson-Reed Act. So, in this year, the golden door for immigration to the United States from Southern Europe and Eastern Europe was essentially closed.

My parents came from a background of poverty, socialism, and learning, and I was raised among all three. My father was sensitive and gentle; but as a consequence of the Depression and unemployment, he lived out his adult life as a window cleaner,

washing storefront windows in the Bay Ridge section of Brooklyn. He loved music and poetry and liked to say, “every window is a pain.” I learned to wash windows with him, and I did this with him on weekends and school holidays through high school, college, and even medical school. It was humbling work, but honest, and I also learned from him that if that was to be your lot, then you must work hard, not cut corners, and aspire to be the best window cleaner that you can be. After filling our pails in the basement of a local delicatessen, he would assign several stores to me to clean and arrange to meet up at a certain time afterward. I did the work as he had taught me. It was unpleasant but routine. The windows were dirty, sometimes sprinkled and splotched with spit and sputum, and the vestibules of the stores often smelled of urine. I would muse about washing the windows only for them to become dirty again so that they could be washed again so that they would get dirty – a precursor of my later encounter with Sisyphus – and from that a living could be made and a family fed and children raised. I fancied myself as a good window cleaner, gracefully wielding the brush and squeegee and chamois like my father and leaving sparkling windows behind. What else could you do, under these circumstances, but be the best window cleaner that you could be?

My mother, though not formally educated and only 4 feet 10 inches high, was a powerhouse raising funds and donations for various progressive causes; and apart from her family, that was her *raison d'être*. My parents provided me with educational and cultural activities and summer respite through the Henry Street Settlement, a progressive immigrant service organization located in the Lower East Side of Manhattan, the neighborhood where they lived when first arriving in America. I attended the Henry Street Settlement Summer Camp, Camp Henry, located fifty miles north of New York City. There I joined with other children of Jewish immigrants from Russia but also kids and counselors from the Caribbean, the U.S. South, Italy, Poland, and Ireland. My favorite counselor was Austin Buff-Hall, a gentle man and musician from Barbados; and my favorite camp staff member was LamosaKenHatarehre, Chief Red Thunder Cloud, a Catawba Native American, who taught us native songs and dances and how to walk stealthily and silently in the surrounding forest. Needless to say, the joys of diversity were easily imbibed. In subsequent summers I worked as a busboy and waiter at adult summer camps of the Farband – the Labor Zionist Order – Unser (Our) Camp and at the Arbeiter Ring (Workmen’s Circle) Camp. As good socialists, we pooled and equally shared all tips. The work was arduous, but being out of the hot summer city and among loads of teenagers in a communal work environment was wonderful. My father and I, as window cleaners back in the city, belonged to the Building Service Employees International Union (BSEIU). Although largely secular in my upbringing, I was nevertheless imbued with the Hebrew Talmudic teaching of *Tikkun Olam* – to repair the world – a responsibility not only for one’s own moral, spiritual, and material welfare, but also for the welfare of others and of society at large.

I was fortunate to attend a great neighborhood New York City public high school, Erasmus Hall High School. There, I was exposed to the joys and challenges of learning and adolescence and the special nature of teacher-student mentoring. My favorite was Mr. Walter Balletto, a gay man, who was rigorous and demanding but would joyously read Shakespeare aloud to the class, spend time with each student, and convey to us his love of literature. Oh yes, of course growing up in Brooklyn in that era, I loved the Brooklyn Dodgers and admired and cherished and celebrated the great skill and courage and pioneer racial struggles of my most important childhood hero, Jackie Robinson.

In this humble immigrant firstborn bubbling stew, personally and through these exposures, I believe that I learned and imbibed a strong sense of social justice and responsibility to address inequities (Tikkun Olam, to repair the world); comfort with and appreciation of racial and ethnic and personal identity diversity; a very strong work ethic; a solid public education; and from my parents, love of and longing for learning and education, passed on to me, as a baton, from my father, and, from my mother, a powerful activist streak. In retrospect, all of these would inform my later attraction to AIDS.

## **2. Columbia College**

I was also fortunate to be accepted at and able to attend Columbia College on scholarships and many part-time jobs. It was there that my intellectual and academic interests and world grew exponentially. I learned critical thinking and about organized fact seeking, assembling thoughts and scholarship – and how to write a declarative sentence. I was particularly entranced by study of history and sociology and avoided scientific courses. But I was very uncertain of my career direction and was leaning toward graduate school in sociology or history, somehow linking these to my early childhood and continuing deep interest in social justice.

There were many great teachers at Columbia – role models for me – including Walter Metzger, Fritz Stern, C. Wright Mills, Mark Van Doren, and James Shenton. Among the most important, though, was a young faculty member in his first academic appointment who had just returned from Ghana, where he studied and received his Ph.D. based on the role of labor unions in African Liberation movements. His name was Immanuel Wallerstein, later to be a distinguished professor and senior research scholar at Yale and who has just recently died. He brought a unique perspective to the classroom at Columbia, having worked and lived in the developing and emerging new postcolonial African democracies, and subsequently became a major figure in social thought and creator of an integrated system of global development, “world systems analysis.” I believe this was the only course with this contemporary global subject matter offered to undergraduates at Columbia at that time. There were only four students in the seminar over the course of a year. The merging of sociology and developing postcolonial nations in Africa and Asia into a comprehensive systematic approach fit my maturing yearnings and developing world view.

The second was William Casey, professor of sociology. I was excited about social movements and historical forces but did not know how to assemble these into a career. He was particularly attentive to and accessible to students, and I discussed my career choices with him. He advised, “Mr. Friedland” – he was very formal – “my recommendation to you is that you need a strong frame around your passions and social beliefs and fine intellect, and rather than a career as an academic, should consider a career in medicine.” He explained that could better provide me with opportunities to express myself and my urge toward activism but also provide socially valued technical skills that would enable me to do so. He was very tactful about my not too promising future in academics.

Then there was a third teacher, not generally characterized as such – Albert Camus. Somewhere in the midst of college requirements, I read Albert Camus’s *Myth of Sisyphus* and related it to my own life experience in window cleaning, the seemingly endless washing of store windows in some ways not unlike pushing a boulder again and again up a mythical hill. *The Stranger* raised difficult questions of moral and racial content; and, of course, *The Plague* was most important. I was taken by Camus’s exploring not just the plague itself, but the attendant isolation it creates and, centrally, the response of those who found themselves in its path. I saw Dr. Rieux, Camus’s antihero hero, as another role model – in his persona as a humble doctor, directly confronting and not retreating from the epidemic, the plague, because it was the responsible and decent thing to do. I deeply identified with Camus’s concluding in the last page of the book that “What we learn in a time of Plague is that there are more things to admire in men than to despise.”

My Columbia years stimulated academic interests, illuminated the role of mentors, and provided me with more formed but still nascent appreciation of health and human rights and a medical role model in literature who represented my personal values and beliefs. The connection of this to AIDS is obvious but still to come.

### **3. Medical School and Bellevue Hospital**

I decided to apply to medical school. It was my intention from the outset to gain and use my medical skills in the service of underrepresented individuals and populations and to serve as an instrument or to provide a frame, as Professor Casey described, to address social injustice and inequities.

I spent an extra year taking the requisite science qualifying courses for medical school. I was fascinated by organic chemistry and zoology and was admitted to and entered NYU School of Medicine. I found the courses to be exciting, the human body full of wonder, but I really didn’t gain my stride until the third year of medical school and interaction with patients. This was at storied Bellevue Hospital, the great medical and social safety net of New York City fame, with waves of immigrants and disenfranchised and impoverished populations in New York City and the repository of the history of medicine from colonial America to the present, as is Yale, in New Haven. The training was mostly with inpatients on the Bellevue wards but included some

clinic time and scheduled home visits to homebound patients in Bellevue ambulances. I truly loved that part and remember the single-room-occupancy hotels (SROs) and other places I had never before known to have existed. In each setting, most of the patients were poor, disadvantaged, and challenging, with high rates of intravenous drug use and excessive alcohol use, and often African American or Latino/a with limited English and many infectious diseases, including, most interesting to me, tuberculosis. I found them individually and in aggregate to be wonderful and interesting people, poor but proud, idiosyncratic, smart and limited, challenging, troubled and self-destructive, but also appreciative, articulate, and resilient. I loved to learn their life stories and was grateful for their allowing me the privilege to practice and learn the skills of diagnosis and treatment. Bellevue was woefully and dangerously understaffed and under-resourced but exciting and rewarding. Working there required stamina, intelligence, self-reliance, empathy, and a heavy dose of the absurd. There were plenty of faculty role models – but I learned most from my patients.

My Bellevue experience and doctoring for underserved individuals and populations as student and later intern and resident prepared me for the then unknown and unimagined AIDS pandemic.

#### ***4. My Father's Death***

In the second year of medical school, my father was diagnosed with amyotrophic lateral sclerosis (ALS); by the beginning of the third year, he was paralyzed and hospitalized; and during my final year of medical school, he died, at night, alone in a hospital bed in “The Home for Incurables” in Brooklyn. I took the final exam in internal medicine that afternoon, right after being notified of his death. Of course, I failed, both the exam and in appreciating the ongoing and final impact of his dying and death. The poor understanding of his needs, my struggle with and denial of my own feelings and the needs of my family, were compounded by well-meaning but not fully aware doctors. This did not serve him or us well – a common occurrence in the face of both dying patients and struggling families. In retrospect, it taught me that even in times of death and dying, there was always something that you could do. It highlighted and reinforced the medical ethos of caring, not just curing. Even in the face of death, it was essential to relieve physical and emotional suffering and to provide “a decent death.” I took his illness and death with me into my encounter and confrontation with AIDS, as one of my most important life lessons.

#### ***5. Nigeria***

I remained at Bellevue for my internship after graduation from medical school. The internship was brutal and exhausting. It required working all day and every other night and other weekend for most of the year. The Vietnam War was becoming more active, vicious, and destructive, and doctors were being drafted. I saw the war as an immoral, unjustifiable, neocolonial catastrophe and had decided that I would oppose it and refuse to serve in the military. I sought meaningful, conscionable, and honorable alternatives.

I learned that joining the Peace Corps and enlisting in the Public Health Service would serve those purposes. My interest in Africa and the continent's recent successful struggles to end British and French colonial rule in West Africa had been started and stoked at Columbia in Immanuel Wallerstein's seminar. The opportunity to live and work in that environment was terrifically attractive. Added, as a white American, was a desire to live in an all-black society with an intact cultural heritage and, naively, to become color-blind, race neutral. One of my Bellevue medical residents with whom I worked closely, Albert Okonkwo, was an encouraging Nigerian colleague – "Jerry, why don't you just come with me back to Nigeria" – and all of this led to applying, choosing, and receiving a position as a Peace Corps doctor in Yorùbà-speaking Ibadan in Western Nigeria.

This was a wonderful – unmatched – personal and intellectual dramatic twisting of the curve in my career trajectory. I provided or arranged for care for Peace Corps volunteers, performed a survey of health care facilities in Western Nigeria, and found work in two departments at the University of Ibadan School of Medicine: pathology and public health. I taught medical students in the former and did my first research study, published in the *West African Journal of Medicine*, on the prevalence of *Schistosoma haematobium* infection in schoolchildren in Western Nigeria. This is a parasitic worm that lives in snails and people and is transmitted in water. The study screened large numbers of Nigerian schoolchildren for the presence of the parasite with a simple urine sample to detect the presence of the worm eggs. It was complemented by my sitting at the banks of streams and observing how these were used by children and adults. We were able to demonstrate high prevalence of infection, approaching 100 percent in some areas, and greater among young boys than girls. I learned firsthand about the fascinating and complex interrelationships between environment, culture, behavior, biology, and disease. Interestingly, this was somehow easier to appreciate in this exotic environment than in my own culture, since I was without preconceived beliefs or bias. This was critically important in preparing me to approach and understand the similarly exotic, complex, and new AIDS epidemic.

I also learned, as with patients in Bellevue, that there were great strengths and beauty and resilience in exotic, nonfamiliar, and "less advanced" cultures and less formally educated persons. I deepened my sense of tolerance and joy in diversity. I came to appreciate the beauty, complexity, and sophistication of Yorùbà culture and language. I still do. I learned to hold hands through the duration of a conversation with friends and patients, not just at the beginning or the end. And I learned the Yorùbà language and the Yorùbà word *bella-o*, which roughly translated means, I see and feel your pain, or suffering, and I identify with you. I am empathic. I learned about and saw remaining traces of the traditional walled African city of Ibadan, with a royal palace and lineage still intact, and I also experienced firsthand the complexities and damaging legacy of colonial rule, as I had first learned about in Immanuel Wallerstein's seminar. I also saw and experienced the pre- and postcolonial tribal animosities and stereotypes

that would blunt and sabotage the future success of Nigeria's independence. I visited Ghana several times and several other African countries during the course of my stay and saw and felt the different styles and features of colonial legacy in the former British and French colonies and understood them as reflections of their separate European identities.

I lived and worked in Nigeria for two years – the first in Ibadan, as described, and the second in Lagos, a vast, sprawling, chaotic city of several million people, which, as a New Yorker, I found enormously exciting and exasperating. Such was my Nigerian experience that after my wife, Gail, and I met on the wards of the Bellevue TB Chest Service after my return from Nigeria (she was the strong and competent head nurse) and married five years later, we spent a six-week honeymoon retracing steps and meeting people and places in Ghana and Nigeria. Ironically, that included a secretly arranged meeting with my Bellevue resident, Albert Okonkwo, an Igbo, who had been imprisoned as one of the leaders of the Biafran civil war. I presented Albert with a copy of *Harrison's Principles of Internal Medicine*, which I had lugged with me from the United States, to soften his imprisonment and keep him close to medicine. Albert was freed in a general amnesty seven years after the end of the war, returned briefly to New York, and visited me in the Bronx in beautiful Nigerian chief's robes during the early days of the AIDS epidemic.

Nigeria and the Peace Corps were another important learning and life-changing experience in my coming to AIDS. I vowed upon returning home to complete training in medicine and infectious diseases and public health and return to Africa. But I got sidetracked from carrying out that plan to return for thirty years.

### **6. Boston, Infectious Diseases, Vietnam, and Community Medicine**

I returned to Bellevue to finish my residency in internal medicine and moved to Boston to a fellowship in infectious diseases and study at the Harvard School of Public Health in preparation for returning to Africa. I found the more academic environment at Harvard stimulating and the exposure and learning of the methods and strategies of epidemiology and biostatistics (very superficially) broadening and useful to that end. Learning in more depth and breadth about infectious diseases at an individual patient care level cemented my interest in clinical infectious diseases consulting and teaching as a strong component of my future career in medicine.

After training I stayed on as an assistant professor of medicine at Harvard involved in clinical consultation and hospital epidemiology, teaching, and research, and began to develop academic focus, perform studies, and publish papers in medical journals. I also became active in anti-Vietnam War activities, including the Medical Committee for Human Rights (MCHR) and the community health care movement. I helped to organize, co-lead, and provide clinic care in three community health centers in Roxbury, the African American community in Boston: the Dimock Community Health Center, the Mary Eliza Mahoney Family Life Center, and the Black Panther Party Franklin K. Lynch People's Free Health Center. This was an exciting, heady time

of political work, activism, and medicine in an underserved, poor, and segregated community just across Columbus Avenue from the Harvard Medical School and four major world-class teaching hospitals. The Panthers, contrary to popular and media portrayal, were exciting, intelligent, and committed young men and women. My Black Panther Party colleague and counterpart Mary Bassett was a wonderful, gifted African American Radcliffe dropout who eventually returned to finish her education, go on to medical school, live and work in Zimbabwe, return to the United States, and rise to be the commissioner of health for New York City. The People's Free Health Center co-director Donna Howell was a committed and remarkably mature nineteen-year-old high school graduate from the Roxbury community served by the clinic. Donna went on to a career as a progressive public health administrator in Oakland, California. I have happily and admiringly remained in close contact with both of these former colleagues.

This was a perfect balance for me of diverse career intellectual, clinical, and personal/political interests. It was further immeasurably enriched by my wife, Gail, originally met on the wards of Bellevue, who joined me in Boston, and our adoption of two children from Colombia, South America, and with the addition of a third biologic child—the children arriving all within a year of one another, so that we had a challenging and marvelous mix of three children under the age of three.

What I tried to portray in this retrospective look back before AIDS is what I see and feel as my personal, professional, intellectual, and political preparation for confronting this new event in human history—the HIV/AIDS pandemic.

Medical academic life bent my career trajectory in another and unanticipated direction in 1981. A new chief of medicine was appointed at the hospital where I was employed and brought his own infectious disease faculty with him. I was abruptly without a job, angry, distraught, and humiliated. Not much job security in those days! I chose with much regret to leave Boston, but was offered an interesting position and returned to New York City. The professional and family disruption was difficult, but unexpected or anticipated challenges and opportunities lay ahead. I started in July 1981 as a physician/teacher at Montefiore Medical Center and on the faculty of the Albert Einstein College of Medicine, at the same time as the first recognition of the yet to be named AIDS epidemic.

As I mentioned earlier, I was knowledgeable, experienced, and sophisticated in my specialty, infectious diseases. I had worked in both the United States and abroad in exotic settings as a clinician and academician and felt that I had seen and cared for just about everything in infectious diseases, if not medicine and public health more broadly. But there was nothing like this new disease and event in human history—AIDS.

### **Encountering AIDS: The Bronx and the Early Years, 1981–1991**

The first three patients in July 1981 were men. Each was intubated and on breathing machines in the intensive care unit and dying of respiratory failure resulting from

infection with *Pneumocystis carinii pneumoniae* (PCP), an unusual fungal infection, soon to become a hallmark of and leading cause of AIDS deaths. It was so for these three men and for the rapidly increasing numbers soon to fill the intensive care unit and to occupy large numbers of the hospital's beds. I had never seen a patient with PCP and only rarely some of the other AIDS-related infections that became common daily clinical challenges. It had become relatively uncommon in the United States (but not where I had worked in Nigeria) to see treatable and fatal infections in young and seemingly healthy men, and in a geometrically growing epidemic onslaught. There was no name for the apparent new disease and seemingly no opportunity to prepare for this new event.

There were no assigned staff or resources and no way of following the portion of patients who survived hospitalization and needed to be seen in follow-up. We were aware of similar cases occurring in other NYC hospitals and reports from the West Coast as well. These were described as among white men who had sex with men, and the term "Gay-Related Immunodeficiency" (GRID) was already being discussed and adopted. But there was something very different about the population we were seeing in the Bronx. When questioned, they denied having had sex with other men, and they were visited in hospital by wives or girlfriends, and children, parents, and other family members. Most were poor, Latino or African American, and many had limited or no health insurance. We soon learned that most had previously or were currently using intravenous drugs – heroin and/or cocaine. This already multiply stigmatized population now rapidly became additionally stigmatized by this new, unknown, rapidly fatal disease. There was an ensuing overall response of denial, fear, and despair.

### ***Provision of Care and Treatment***

First, what was needed was to immediately provide care and treatment for individuals and the Bronx population. As the numbers grew exponentially, an informal group of concerned and committed health care workers – doctors, nurses, social workers, and others – self-identified and formed what seemed like a small guerrilla band, desperately trying to assemble and mount a response. We were not just observers but participants, determined to act on what was needed and necessary as the responsible and decent thing to do. This brought back memory of Dr. Rieux's band of colleagues in a past era in Camus's *The Plague* and of others resisting the Vietnam War and racism. We learned quickly that HIV, as an entity, uncovered all the flaws in the health care system. There was no organized system of care for patients with such a stigmatized disease, so we set out to try to build one. And there was also in this instance an opportunity to repair the uncompleted story and the healing of my own blunted response to my father's illness and death by providing a decent death for all these young men and women dying painfully and cruelly of AIDS. Montefiore recognized that it was in the path of the epidemic, and although ambivalent, unlike other institutions it mostly welcomed this activity and effort and saw it as a strength and part of the history of the institution – as a "social instrument" serving the community of the Bronx. We found

space and assembled resources and began inpatient, outpatient, and collaborative community programs, including work with drug treatment programs, religious/spiritual services, children's and hospice care, and even funeral directors (who were initially reluctant to bury AIDS patients). Lawyers and ethicists were needed and joined our ranks. Over the ensuing decade, we built a model program of care and treatment for this population, which has been replicated around the country. We published extensively about care and treatment, and our program was the subject of a pioneering full issue article in *Newsweek* in July 1986.

We elaborated a checklist of principles – nine C's, later expanded to ten – to represent the model of care.

**1. Compassion** Those attracted to work with AIDS brought this with them. To me it also echoed the Yorúbà word, learned in Nigeria – *bella-o* – a personal communication of empathy and recognition of and desire to alleviate suffering. *Bella-o* was certainly critical, but not sufficient.

**2. Competence** was second as it was essential. One was expected not only to be compassionate, but also to provide care and treatment with the best available expertise and clinical skill. We learned how to effectively diagnose and successfully treat and prevent the many novel and life-threatening complications of HIV-induced immunodeficiency and trained others to do so as well.

**3. Comprehensiveness** was needed, as HIV was complicated not only as a technical medical disease, but also as it involved and affected all aspects of human existence. Recognizing and addressing the situational context surrounding our patients – people, places, and structures – was critical. In this context, the team consisted of social workers, mental health professionals, lawyers, ethicists, and clergy who recognized and addressed the personal, concrete, and spiritual needs of our patients with a fatal and stigmatized disease. Mental illness, substance abuse, and spiritual needs required particular attention. Carrying sin or retribution or even expecting to be going to hell was a very important component of many patients' lives before and with AIDS. Disengagement from family and loved ones because of drug use or sexual orientation required healing and reconciliation for both patients and families. And the future of their children weighed most heavily on young mothers dying of AIDS and needing planning and legal protection. And much more.

**4. Continuity** entailed creating and providing care in the hospital setting, but extending and connecting it for patients to the clinic and into the community. Although it was the norm for most of our patients, episodic, unconnected care was not acceptable for a fatal disease of young men and women and children. There needed to be a place for continuing care after hospital discharge and safe and secure places in the community to address not only continuing care of HIV and its medical complications but also substance use, mental illness, spiritual needs, and death and dying.

**5. Courage** was a necessary component and was needed by both patients and our team. Many patients were courageous and resilient, and that helped sustain and prolong their lives. Many were not, and their remaining strengths, whether consisting of continuing struggle or of acceptance, were to be identified and honored. So too for the staff, who would be affected by the wave of loss and suffering that they encountered and witnessed. In addition, there was both conscious and submerged fear for their own health and own risk of occupational acquisition of HIV. Courage was needed, as well, to raise and discuss end-of-life issues and prepare patients for an inevitable but decent death. Here, the memory of my father's death was a constant reminder and motivation.

**6. Creating new knowledge** was felt as both an opportunity and a responsibility. This was a new disease and historical event of enormous consequence, yet so little was known. It was critical to learn as much as possible and as quickly as we could. This became a central part of our program and work at many levels and was a sustaining and exciting enterprise.

We worked in multiple areas to define the disease epidemiology, etiology, and clinical characteristics to inform and focus care, treatment, and prevention and influence responsible public policy, while others focused on trying to determine the biologic etiology and destructive nature of this new pathogen. I helped organize and lead a group that, with many, many others, included colleagues Bob Klein, Peter Selwyn, Ellie Schoenbaum, Carol Harris, Cathy Small, and Brian Saltzman. (Our group also included Stan Vermund, who was then acquiring a degree in epidemiology and is currently the dean of the School of Public Health at Yale). We worked together under great stress but collegially and with urgency in those difficult early years of the AIDS epidemic in the Bronx at Einstein and Montefiore. We identified and defined the epidemiology of Human Immunodeficiency Virus (HIV) infection and disease in people who inject drugs and others and the natural history of HIV disease in this population, as we recognized early that this was the stigmatized and underappreciated motor driving the epidemic in the Bronx and many other urban centers. We defined the complexity of behaviors and social context associated with transmission risk. We also defined the intertwined relationship between TB and HIV; and because the population included women and children, we were the first in the United States to describe heterosexual HIV transmission from men to women and women to men. (There isn't a sexually transmitted disease that's only transmitted among gay men or only from men to women, but there was tremendous resistance to accepting that, requiring evidence, which we were able to provide.) We were also among the first to report perinatal transmission and issues of maternal and child care. This early and continuing work carried with it a strong sense of social justice and identification with individuals and a community that was oppressed and disenfranchised. Our work was published in high-impact journals (*New England Journal of Medicine*, *Journal of the American Medical Association*, etc.) and received widespread recognition and dissemination. To do this

work, it was clear that it would be necessary and proper to go into the community and work in drug treatment programs, methadone clinics, and other community sites in the Bronx – lessons previously learned in Bellevue, Nigeria, Roxbury, and Boston.

AIDS was initially known as the “Gay Plague,” and despite providing clear and convincing evidence that the HIV virus was transmitted by exposure to blood through needle sharing, sex (heterosexual and same sex), and birth, there remained limited information on how HIV was *not* spread. The fear of transmission from already stigmatized populations to the public and health care workers was great and real. This contributed to stigma and the slow response by government agencies and national leaders and health care workers themselves. It resulted in human rights abuses aimed at people with or suspected of HIV infection, picketing by schoolchildren, dismissal from employment, and subtle and overt refusal by health care workers to care for people with HIV/AIDS. It was critically important to know if there was indeed risk of HIV transmission by means other than those already documented and confirmed.

We conceived, developed, and implemented a study to determine if HIV was transmitted by close and prolonged household contact. I feel that this is the most important contribution that I’ve made in the history of this terrible epidemic. Our team approached hospitalized patients with newly diagnosed AIDS and asked if it would be possible to meet their families and screen them to see if they had been exposed. It was pertinent and possible because our patients, who were mostly former or present drug users, lived in poor, multigenerational crowded households in the Bronx rather than the less traditional living settings for many gay men. We screened large numbers of household members, excluding known sexual partners and people with whom they shared drugs. Over two hundred parents, children, siblings, uncles, aunts, and cousins living in the household were included. We very carefully and precisely defined the types and quantitated the amount of personal interaction that took place, including sharing dishes and glasses, taking baths, using the same toilet facilities, sleeping in the same bed, using the same combs, hugging, kissing – the things that are common and happen among close family members. We obtained blood samples from those individuals, which were sent to the Centers for Disease Control in Atlanta to be tested for the presence of the HIV/AIDS virus because the test that was then used to diagnose HIV/AIDS was new and not yet commercially available. To not bias the laboratory results, we also sent specimens from patients with AIDS. All samples were coded and were not identifiable by person or by disease status.

We waited three months until the results came back because there was a long queue of populations being tested who were being identified with HIV/AIDS. I remember it was a Friday afternoon, as these things usually happen, when the results came back and a group of us sat with our study nurse, Pat Kohl. Pat was probably most responsible for the study success. We looked at the sheet of results from the CDC, matched samples and whether they were a household contact or an AIDS-positive patient, calling out loud and matching codes: negative, household contact; negative, household contact; positive, AIDS patient; negative, household contact; etc. And it turned out that all the

positives were AIDS patients and all the negatives, household contacts. We all looked at each other and sighed deeply and said, thank God. Can you imagine if HIV had been transmitted by close interpersonal contact, by the kinds of activities I described in the household setting? As terrible as HIV/AIDS has been, affecting an estimated seventy million people and killing over thirty million (thirty-seven million are currently living with HIV), it would have been an unimaginable catastrophe. The results of the study were published in the *New England Journal of Medicine*, received great attention in the lay and medical press, and made a major contribution in supporting sane, humane, and evidence-based public health and clinical policy and practice and in destigmatizing people with HIV/AIDS.

**7. Colleagues** It became very clear very quickly that working with AIDS could not be done in isolation. From the outset the need for support from colleagues was essential to carry out the difficult work with people living and dying with HIV, to sustain staff and to avoid burnout. It was also necessary to generate, study, and implement creative programmatic and research projects to benefit patients and populations caught in the path of the epidemic. This would require a team devoted to this work and to each other.

**8. Combinations** Health care is organized in vertical silos, yet HIV/AIDS required integration and horizontal approaches. Integrated structures, staff, and approaches to disease were necessary. This would include integrating HIV and substance abuse therapy, TB and HIV, adult and pediatric care, and other co-morbid issues.

**9. Community activism** was a special and new accomplishment of AIDS and one that would be a component of our own program – advocacy. I believe this might have been the first, or certainly among the first times, that the community that was imperiled by an epidemic forcefully resisted the delays and the denial of government, established medical and pharmaceutical industry powers, and consciously and skillfully took matters into their own hands. Community activists, outraged and fearless, forced changes in attitudes, policies, practices, and resources and created enormous benefit for all people with AIDS and, subsequently, other diseases. The AIDS red ribbon symbolized this activism and has been adopted from AIDS as a symbol for similar work for many other diseases.

**10. Cost effectiveness** is a more recent add-on to our conceptualization of how to approach the HIV/AIDS global pandemic. Although necessary in a constrained resource environment, it also represents the increasing corporatization of medicine and often neglects or subverts issues of health as a human right and fundamental inequities in the health care system. Through advocacy and activism, and our and many others' clinical work and studies, the essential elements of AIDS prevention, care, and treatment have been convincingly shown to be cost-effective. It is important, as well, to consider what is often overlooked or avoided: the human and social cost of avoidance and an inadequate and politically motivated delayed non-response to evolving epidemics.

## **Yale and New Haven: The Middle Years, 1991–2000**

Despite these successes, or perhaps because of them, institutional life at Montefiore became problematic for me, and the push-pull of academic life resulted in my recruitment to Yale to develop an AIDS program, as was accomplished in the Bronx at Montefiore and Albert Einstein College of Medicine. I was fortunate to have Peter Selwyn, a gifted and committed HIV and substance abuse authority and former student and respected colleague at Montefiore, join me in the move to Yale.

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This was year ten of the AIDS epidemic, and New Haven was in the throes of a severe and brutal HIV/AIDS epidemic. Yale University, including the Schools of Medicine and Public Health, and Yale New Haven Hospital had done very little to confront and combat HIV/AIDS, and there was much to be done. The dean saw AIDS as a passing disturbance, and the head of Infectious Diseases sought to avoid HIV/AIDS care and even care of people who injected drugs. But there were others who were deeply committed and strong community programs to work with.

In many ways, New Haven contained the soil for the implantation of an epidemic like that in the Bronx. Poverty was severe and widespread within the city, resulting from a loss of its strong manufacturing base after World War II and, at the same time, but in reverse direction, the great migration of African Americans from the South seeking improved economic status and escape from Jim Crow. Inadequate health and human services, racial prejudice, and illicit intravenous substance abuse, encouraged by illicit drugs coming up I-95 from New York, brought HIV risk and a very early AIDS epidemic to New Haven. The population affected and cared for was quite diverse. All categories of risk were represented, but it was the social determinants as noted with poverty and resultant increase in illicit substance abuse that again was the motor that drove the epidemic in New Haven. Therefore, men and women and children were heavily impacted and infected. New Haven, as was the case for the Bronx, was one of the fifteen cities in the United States in which HIV/AIDS had become the leading cause of death, not just of young men, but also young women.

The New Haven community had already developed a strong response to HIV/AIDS, and there were many innovative and strong programs. This included one of the first needle and syringe exchange programs in the country to reduce the likelihood of HIV transmission among the population using injection drugs, and the appearance of three community AIDS service organizations—AIDS Project New Haven, AIDS Interfaith Network, and Hispanos Unidas Contra el SIDA—and a Mayor's Task Force on AIDS, led by Alvin Novick, a Yale professor and openly gay man and activist. There was an important effort in the Pharmacology department at Yale to synthesize effective AIDS therapies; and later, Dr. William Prusoff was successful with D4T, an early and important AIDS drug. Individual clinicians had taken on responsibilities for caring for patients, including Warren Andiman, a dedicated pediatrician caring for both children and adults; faculty members John Booss and Peter McPhedran, both Koerner Center faculty; Infectious Diseases trainees Helena Brett-Smith and Frederick (Rick) Altice;

and Ann Williams at the School of Nursing. Social workers had stepped forward as well, including June Holmes. But there was no fully organized and functioning HIV care or research infrastructure.

With these mentioned individuals and others and the opportunity to recruit new faculty and trainees, and obtain resources through Yale New Haven Hospital, we developed a wonderful AIDS Program, based upon the principles elaborated above. These included the Nathan Smith Clinic, the first and largest HIV/AIDS clinic in Connecticut, and the Donaldson YNH inpatient service to focus and provide expert care and treatment for the thirty to fifty people hospitalized with HIV/AIDS at any time during those years. We supported and strengthened community connections and developed additional ones, including the HIV in Prisons Program and Community Health Care Van. We performed integrated and collaborative work with the Pediatric AIDS Program led by Warren Andiman and services at the Yale Child Study Center, including the Family Support Service (where my wife, Gail, provided supportive social work and counseling for mothers and children living with HIV).

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Further, we applied for and received substantial research grants from federal agencies and foundations and a long-term grant from the National Institutes of Health to develop and maintain an AIDS Clinical Trials Treatment Unit (ACTU) and a Community Program for Clinical Research in AIDS (CPCRA), enabling the performance of research on the development of new and exciting therapies for HIV/AIDS. We specialized further in targeting these for marginalized populations, particularly people who inject drugs and women, who were then excluded from or limited in participation in clinical trials. We learned and showed that it's possible to do clinical trials in people who inject drugs, but that it was necessary to adjust services to accommodate the needs and behaviors of this population. One just has to respect and listen to the patients, define their needs, be creative, and try harder. We mounted efforts to study pharmacokinetic interactions between antiretroviral therapies and substance abuse therapies and, under Peter Selwyn's and Rick Altice's leadership, how to treat HIV in incarcerated populations. We worked collaboratively with behavioral scientists on issues of adherence to medication, HIV risk behaviors, and prevention of HIV transmission. In all these areas, we presented our work at national and international meetings and contributed to the rapidly expanding AIDS literature.

In the 1990s and to the present, with colleagues and patients, I have participated in and witnessed the remarkable and unprecedented transformation of HIV/AIDS into a treatable disease. The availability of potent antiretrovirals has resulted in a remarkable, miraculous transformation of an almost invariably fatal, stigmatized, and cruel disease of young people to one more closely characterized as a chronic disease. Mortality has dramatically declined, and restoration of life among those already infected has occurred. By the end of the 1990s, it was apparent that the slow tsunami wave of the epidemic had passed over us in the United States, leaving behind wrecked and lost lives and residual scars and devastation. But like a tidal wave, the full force of the epidemic

had moved on globally, and its greatest strength was being felt in sub-Saharan Africa and was paired with the rising wave of a disastrous TB co-epidemic. The time of my long-postponed return to and work in Africa had arrived.

### **Return to Africa: South Africa, 2001–2020**

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I was serving on the Governing Council of the International AIDS Society and, with others, was able to move the annual International AIDS meeting in 2000 from Europe to Durban, South Africa. South Africa was already known to be the site of the world's worst and colliding HIV and TB epidemics. The meeting, extensively covered in the U.S. and global press, would make it inescapable for the world to not know of the catastrophe that was unfolding on the African continent.

I took advantage of one of Yale's great benefits and gifts and took a sabbatical and moved to and lived in Durban, South Africa, for six months in 2001 to work on the integration of HIV and TB care and the provision of antiretroviral therapy. Antiretroviral therapy was not provided in the public sector by the misguided, unfathomable, and criminal position of the post-apartheid, black African South African government, led by Nelson Mandela's appointed heir, Thabo Mbeki. My return to Africa took thirty years, but having grown up in an anti-apartheid, social justice-instilled household in Brooklyn, and having learned about other African struggles through Immanuel Wallerstein's seminar, working in newly apartheid-vanquished South Africa was a particular thrill. And now, armed with twenty years of experience in combatting AIDS, I felt that I could make an important contribution. There was initially some suspicion about my coming and what I was intending – a familiar suspicion resulting from colonial and past experiences with foreign visitors. The fact that I was there to stay for six months and not leaving was extremely important and harkened back to my Peace Corps experience in Nigeria. Gail and I arrived the day after the World Trade Center catastrophe in New York City on 9/11/2001. I joined and worked collaboratively with a group of colleagues at the Nelson Mandela School of Medicine at the University of KwaZuluNatal, including Salim and Quarraisha Abdool Karim and Umesh Laloo.

It's important to appreciate that the arrival of HIV and its rapid spread in South Africa, as well as the intertwined massive TB epidemic, rested on features that were eerily similar to the HIV and TB epidemics in New York City and New Haven. In the case of South Africa, the long history of colonialism, racism, and racial separation institutionalized in the planned national dehumanizing social and economic policy of apartheid, the resulting destruction of traditional societies, a migrant labor system to provide labor for mines and plantations, and the creation of rural African homelands and removal of urban African populations to rural and urban townships, all resulted in both rural and urban severe poverty and crowding. This occurred in the context of already high background rates of both latent and active TB and the presence of a weak and poorly functioning TB clinical and public health system. Once HIV entered the general population in the 1990s, there was an explosive rise in HIV with an associated

dramatic increase in TB incidence rates. The tragic delayed response to these convergent epidemics contributed greatly to their spread and severity.

Witnessing and participating again in the early days of the terrible devastation of the HIV epidemic and the ensuing dramatic growth of the TB epidemic was an incredible déjà vu experience – twenty years later and 8,000 miles distant. Most palpable was the familiar feeling of denial, despair, and stigma. Bringing with me an experience and familiarity with these feelings and subsequent strategies and experience in combatting HIV/AIDS in the United States over the previous two decades was indeed of particular value and satisfaction. I have focused in three main areas.

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### ***1. Integrating HIV and TB Treatment***

With wonderful South African colleagues, in both urban and rural settings, I was able to assist in initiating research resulting in the development and implementation of the first studies of TB/HIV treatment integration and antiretroviral treatment initiation and have continued in this work to the present. These studies confirm the life-prolonging and saving value of both antiretrovirals and TB/HIV integration and have influenced national and international guidelines, but many implementation challenges remain.

Much of this work has been in rural Tugela Ferry, a traditional apartheid-era Zulu homeland area of 200,000 people in KwaZuluNatal and one with the highest rates of TB and HIV in the country. Unbeknownst to me at the outset, this area was the poorest subdistrict in South Africa, duplicating the Bronx in those HIV/AIDS early days, the poorest urban county in the United States. I joined a remarkably gifted and committed South African, Tony Moll, in this work and have been joined by many Yale colleagues and trainees and students in both research and clinical projects. Initially, with Tony, we tested the TB/HIV integration strategy in this remote under-resourced area and showed its life-saving effectiveness. This work was supported by grants from Mrs. Irene Diamond, Director of the Irene Diamond Fund, and the Yale President's Fund.

Based on this early experience with the successful use of antiretrovirals, Tugela Ferry was chosen by the South African Department of Health as the first site in the country to roll out the overlong-awaited public sector antiretroviral program. Of note, South Africa now has the largest antiretroviral program in the world – a spectacular about-turn from just over a decade ago, when South African activists went to court to force the South African government to implement a national antiretroviral prevention of mother-to-child transmission program. Since the country's national antiretroviral therapy program was rolled out in 2004, life expectancy has risen by nearly ten years – from 53.4 in 2004 to 62.5 in 2015 – and the antiretroviral therapy program is credited for that success.

### ***2. Uncovering XDR-TB***

During this TB/HIV integration research in rural Tugela Ferry, our group uncovered yet another unexpected tragedy, the then largest known global epidemic of extensively

drug resistant tuberculosis (XDR TB) – mostly in HIV co-infected individuals. Both XDR and multiple resistant (MDR) TB carry very high rates of mortality and are a major cause of death and suffering among HIV/TB co-infected patients. Our work focuses specifically on the prevention, diagnosis, treatment, and reduction of transmission of HIV and XDR and MDR TB in HIV co-infected patients in South Africa and globally. These studies have consisted of innovative development and implementation of integrated community-based strategies to screen for and link to care and treatment for those with one or both diseases.

My colleagues' and my studies in HIV and drug-susceptible and drug-resistant TB have demonstrated that late presentation to care and lack of HIV/TB integration and social support are associated with increased mortality and treatment failure and likely continued epidemic propagation. We believe that community-based activities are a critical component of successful control of TB, HIV, and drug-resistant TB. Having worked among people who use drugs in the United States and in impoverished, remote, rural and urban populations in KwaZuluNatal, I appreciate the complexity and myriad of challenges in this work and have focused on developing novel and creative community-based social support implementation strategies to address them along the entire care cascade.

The origin of this work can be traced back to my sitting by streams in Nigeria, working in the Black Panther Party and other community-based clinics and in methadone programs in the Bronx, and promoting and supporting the community health care van circulating in the streets of the poorest neighborhoods in New Haven.

### ***3. Clinical and Research Training***

In addition to the research carried out in Durban and Tugela Ferry with South African colleagues, we have developed and provided global health training for Yale medical students, residents, and infectious diseases trainees and South African colleagues. During the past fifteen years, an annual average of fifteen such Yale and other trainees have spent six weeks to one year learning to provide clinical care in resource-deprived settings, strengthening infrastructure and increasing capacity, and participating in operational, implementation, and biomedical research projects.

This portfolio of HIV and tuberculosis research and clinical and research training has been supported by the U.S. CDC, PEPFAR, the NIH, and by several U.S. charitable foundations. This has been a mutually enriching partnership and has encouraged a next generation of young colleagues interested in careers in global health to carry this work forward. This work in South Africa has been developed with and is now led by my Yale colleague Dr. Sheela Sheno.

### **The Future**

The success story to this point is that HIV/AIDS has been at the front of a great event in history – confronting and beating back the HIV/AIDS epidemic in resourced nations

like the United States and the shifting of unbalanced resources from rich nations of the world to the developing world to combat this epidemic disease.

Great and continuing advances in treatment and prevention have resulted in an aspirational belief in the future end to the global HIV pandemic. It may well be possible – not the eradication of the virus itself (smallpox is the only infectious disease that has ever been eradicated), but the end of AIDS as a global public health threat. We need to all stick around for a few more decades and we may be there. Sobering, however, is the fact that TB has now become the leading infectious disease cause of death, surpassing HIV/AIDS – and TB is treatable, curable, and preventable. We are reminded that technical medical advances are not sufficient and that the structural and social determinants of health and disease remain at the root of both TB and HIV epidemics – and future epidemics – and with the lack of leadership are even more challenging barriers impeding the success of their elimination.

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Nevertheless, what has been achieved is one of the great accomplishments in the history of public health and our nation, and we can agree with Camus that what we learn in a time of pestilence is that there are more things to admire in men (and women) than to despise. It's not widely known that Camus used the imagined plague in Oran as a metaphor for the Nazi occupation of Paris, and even more broadly, for totalitarianism. As Oran celebrated the lifting of the plague and Europe celebrated the vanquishing of Nazism, he cautioned that even when the plague appears to be extinguished, the plague bacillus can lie dormant in cellars and bookshelves and “for the bane and enlightenment of men, rouse up its rats and send them forth to die in a happy city.”

Now, in the current era, we must relearn what we learn in a time of plague. The feelings of denial, disbelief, and despair are not only associated with epidemics of infectious diseases like the newly arrived and spreading SARS-2 COVID-19, but are also engendered by our political culture, increasing inequalities, and failed and dangerous national leadership. Structural and leadership failures could imperil every American and global inhabitant, and the greatest danger from our present and future epidemics will fall on the most vulnerable because of historic and continuing economic, racial, social, and health status inequities. The extent of present and future damage caused by new pathogens in a changing world, climate change, and the state of our society and lack of preparedness are connected. This must be combated and resisted by working individually and collectively to confront the current epidemic of cruelty, ignorance, racism, and destructive retrogressive policies; to halt and reverse growing social and economic inequalities; and to preserve and strengthen social justice, decency, and the values and the institutions that we cherish – to continue to work to heal the world.