HIV and AIDS
A Brief History

Davida Michaels
6/20/2020
## Contents

HIV and AIDS – A Brief History ........................................................................................................ 3
  Introduction........................................................................................................................................ 3
  What is HIV and AIDS ..................................................................................................................... 3
  Origins HIV / AIDS .......................................................................................................................... 4
  HIV/AIDS – Diagnosis ...................................................................................................................... 5
  Opportunistic Diseases Associated with AIDS .................................................................................. 5
    Kaposi’s Sarcoma ............................................................................................................................ 5
    Pneumocystis carinii pneumonia (PCP).......................................................................................... 5

Caring For Persons with HIV/AIDS .................................................................................................... 6
  Supportive Care - Stories ................................................................................................................ 6
  Ward 5 B ........................................................................................................................................... 7
  Ryan White ....................................................................................................................................... 8
  Donna Gallagher ............................................................................................................................. 8
    Diane Jones -How Does Stigma Complicate HIV/AIDS Care? ................................................. 8
  David Kirby ....................................................................................................................................... 9
  AIDS Quilt ......................................................................................................................................... 9

Antiretroviral Drug Discovery and Development............................................................................. 11
  Combination Therapy ..................................................................................................................... 12

Helpful Links ...................................................................................................................................... 12
  References....................................................................................................................................... 13
HIV and AIDS – A Brief History

Introduction

The June 5th 1981 issue of the U.S. Centers for Disease Control and Prevention (CDC) Morbidity and Mortality Weekly Report (MMWR), described cases of a rare lung infection, Pneumocystis Carinii Pneumonia (PCP), in five young, previously healthy, gay men in Los Angeles. This edition of the MMWR marked the first official reporting of the AIDS epidemic. CDC began to receive numerous reports of similar cases of PCP and other opportunistic infections among gay men—including reports of a cluster of cases of a rare, and unusually aggressive, cancer, Kaposi’s Sarcoma (KS), among a group of gay men in New York and California. In 1983, the Centers for Disease Control (CDC) in the United States listed the main at-risk groups, including partners of people with AIDS, people who inject drugs, hemophiliacs and people who have recently been to Haiti. At the time that cases of AIDS began to emerge in the USA, the absence of definitive information about HIV and its link to AIDS, inflated the panic and stigma surrounding the epidemic.

What is HIV and AIDS

Acquired immunodeficiency syndrome (AIDS) is a serious secondary immunodeficiency disorder caused by the retrovirus, human immunodeficiency virus (HIV). Both diseases are characterized by the progressive destruction of cell-mediated (T-cell) immunity with subsequent effects on humoral (B-cell) immunity because of the pivotal role of the CD4+ helper T cells in immune reactions. Immunodeficiency makes the patient susceptible to opportunistic infections, unusual cancers, and other abnormalities.iii

AIDS results from the infection of HIV which has two forms: HIV-1 and HIV-2. Both forms have the same model of transmission and similar opportunistic infections associated with AIDS, but studies indicate that HIV-2 develops more slowly and presents with milder symptoms than HIV-1. Transmission occurs through contact with infected blood or body fluids and is associated with identifiable high-risk behaviors.iv

Persons with HIV/AIDS have been found to fall into five general categories: (1) homosexual or bisexual men, (2) injection drug users, (3) recipients of infected blood or blood products, (4) heterosexual partners of a person with HIV infection, and (5) children born to an infected mother. The rate of infection is most rapidly increasing among minority women and is increasingly a disease of persons of color.v

https://www.youtube.com/watch?v=5g1ijpBI6Dk&t=302s (~ 10 minutes - You can Skip Ad)

You Tube Video: What are HIV & AIDS? HIV, or human immunodeficiency virus, is a type of virus that infects human immune cells. Over time, immune cells are lost, which weakens the immune system and allows patients to be infected by other viruses and develop several types of tumors.

Origins HIV / AIDS

The first verified case of HIV is from a blood sample taken in 1959 from a man living in what is now Kinshasa in the Democratic Republic of Congo. The sample was retrospectively analyzed and HIV detected.vi HIV is a type of lentivirus, which means it attacks the immune system. Research into the origins of HIV found that HIV is related to SIV and there are many similarities between the two viruses. HIV-1 is closely related to a strain of the Simian Immunodeficiency Virus (SIV) which attacks the immune systems of monkeys and apes.vii In 1999, researchers found a strain of SIV (called SIVcpz) in a chimpanzee that was almost identical to HIV in humans. The researchers who discovered this connection concluded that it proved chimpanzees were the source of HIV-1, and that the virus had at some point crossed species from chimps to humans – they believed the crossover to humans occurred through the butchering and consumption of monkey meat – the “Hunter” theory of transmission.viii
HIV/AIDS – Diagnosis

While there are symptoms associated with HIV/AIDS these symptoms can be associated with multiple other illnesses. The only way to know for sure if a person has HIV is to get tested.

CDC’s definition of AIDS includes:

- Less than 200 CD4+ T cells per cubic millimeter of blood, compared with about 1,000 CD4+ T cells for healthy people. CD4+ T cells are white blood cells that play an important role in the body's immune system. These cells are destroyed by HIV. Even when a HIV-positive person feels well and is not experiencing any symptoms of the disease, CD4+ T cells are being infected by HIV.
- CD4+ T cells accounting for less than 14 percent of all lymphocytes, a type of white blood cell and one or more opportunistic diseases or illnesses commonly associated with HIV/AIDS

Opportunistic Diseases Associated with AIDS

Kaposi’s Sarcoma
Kaposi’s Sarcoma is a type of cancer that forms in the lining of blood and lymph vessels. The tumors (lesions) of Kaposi’s sarcoma typically appear as painless purplish spots on the legs, feet or face. Lesions can also appear in the genital area, mouth or lymph nodes. In severe Kaposi’s sarcoma, lesions may develop in the digestive tract and lungs.

Treatments may include surgery to remove the skin lesions; chemotherapy, which may be delivered throughout the body or injected directly into the lesions; radiation therapy; and biological therapy, which helps the body's immune system fight the cancer. Also, for patients who are HIV positive, HIV drugs can slow the lesions' growth or even reverse the condition. ix

Pneumocystis carinii pneumonia (PCP) is a life-threatening lung infection that can affect people with weakened immune systems, such as those infected with HIV, the virus that causes AIDS.
PCP is **diagnosed** using a sample from a patient's lungs. The sample is usually mucus that is either coughed up by the patient (called sputum) or collected by a procedure called bronchoalveolar lavage. Sometimes, a small sample of lung tissue (a biopsy) is used to **diagnose** PCP.

Other illnesses include— but are not limited to:

- Wasting syndrome caused by HIV infection
- Cytomegalovirus disease outside of the liver, spleen or lymph nodes
- Cytomegalovirus retinitis that occurs with vision loss

**Caring For Persons with HIV/AIDS**

In the early 1980’s, young men began coming into hospitals with Kaposi’s Sarcoma, rare form of skin cancer. As this form of a rare cancer was seen in multiple young, gay men, doctors began to speculate whether this form of cancer was contagious. Along with other medical conditions such as PCP (Pneumocystis Carinii Pneumonia), the patients had ‘depleted’ immune systems. The medical community began calling the condition Acquired Immune Deficiency Syndrome, or “AIDS.” Before the virus was identified, people often referred to HIV/AIDS as the “gay cancer” because the main population initially affected by the disease were gay men—patients were stigmatized. As no one knew exactly how the disease was transmitted, health care workers were instructed to use full isolation procedures—masks, gowns, gloves and patients were placed in isolation which left patients alone for long except for health care caregivers, garbed like aliens, to deal with an illness considered a terminal along with the perceived stigma of being gay. Depending on the health care facility rules, their significant other—considered not family—may not be able to visit and provide support.

**Supportive Care - Stories**

In the early years of the epidemic, nurses filled the vacuum with humanity, compassion and skill where no biomedical treatment or cure existed:

- “**Nursing’s legacy centered around the heart of what nurses do**—we provide unconditional comfort, guidance, advocacy, and education…. looking beyond the labels that were put upon people and recognizing that underneath everything was a person who needed to be cared for....”

- “…**It was precisely our distinctive philosophies, attributes, and ways of being as nurses that had the greatest impact. Biomedicine was of no use, rather our approach to holism, palliation and support were**” (Karen Daley)
Ward 5B

In 1983, Cliff Morrison, CNS RN, the then 31-year-old opened Ward 5B, the first dedicated AIDS unit in the country—one that emphasized treating patients with care and compassion at a time when little was known about how the disease was transmitted. At San Francisco General Hospital, Ward 5B was nurse-led and largely avoided the traditional physician-over-nurse hierarchy. XI Unusually for the time, Morrison insisted on an all-RN nursing staff, rather than a mix of RNs, LVNs and nursing assistants. His vision was to use a primary nursing model: each patient would have an RN who would be involved in all aspects of care, a concept that was just beginning to gain traction in hospitals. The model helped nursing begin to play the central role in care coordination and management it has today.

“I’m proud that we took AIDS out of the shadows and made it human,” Morrison says. The nurses in San Francisco General Hospital’s HIV/AIDS Ward 5B defied convention, found an innovative way to improve care and treated AIDS patients with compassion.

“Ultimately, the compassionate care first practiced in Ward 5B changed the way healthcare professionals and the world approached caring for HIV/AIDS patients. Nurses showed that you didn’t have to hide behind heavy clinical gear while treating AIDS patients or burn their beds when they passed away. Ward 5B pioneered a humane way to care for HIV/AIDS patients long before antiretrovirals and other treatments became widely available. By pushing back against stigma, the Ward 5B nurses showed the world the power of compassionate care and exemplified the profound impact nurses have on transforming human health.” Xii

Cliff Morrison, CNS, RN 1984 and 2019
**Ryan White**

Ryan White was diagnosed at age 13 with AIDS following a blood transfusion in December 1984. He was one of the first hemophiliacs to come down with AIDS, and it was definitely a time where there was no education and there was hardly any information on AIDS at the time. Ryan White rallied for his right to attend school - gaining national attention - and became the face of public education about his disease. Surprising his doctors, Ryan White lived five years longer than predicted. He died in April 1990, one month before his high school graduation and only months before Congress passed the legislation bearing his name in August 1990 - the Ryan White Comprehensive AIDS Resources Emergency (CARE) Act.

**Donna Gallagher**

“‘What’s a nice nurse like you doing in AIDS care working with ‘those’ people?’” That was the response Donna Gallagher first received when transitioning from Oncology to AIDS care. She says, “It was as if I had moved from an honorable sector of nursing to the ‘dirty’ part of health care.”

In 1982, Donna was a nurse practitioner in Boston, Massachusetts when the AIDS epidemic began. “I was in the Fenway area, which was heavily populated with gay men. I saw the need for my services and quickly became an AIDS nurse,” Donna states. “There was a pretty significant stigma at the time,” she recalls. “Nurses would often walk up and yell at me for bringing this disease to the hospital and putting them at risk. At the time, there wasn’t even a name for the virus, but that didn’t diminish the fear that surrounded it.”

Read Donna’s Story:  [https://hab.hrsa.gov/livinghistory/voices/gallagher.htm](https://hab.hrsa.gov/livinghistory/voices/gallagher.htm)

**Diane Jones - How Does Stigma Complicate HIV/AIDS Care?**
[https://www.youtube.com/watch?time_continue=86&v=wH9xo2Kingc&feature=emb_logo](https://www.youtube.com/watch?time_continue=86&v=wH9xo2Kingc&feature=emb_logo)

Stigma has burdened people living with HIV/AIDS since the very beginning of the epidemic, and in many ways, we have not adequately addressed it. Socially stigmatized HIV/AIDS continues to fuel the disease in the United States and worldwide. It keeps people from getting tested, it prevents people from disclosing their status, it keeps people out of care, it makes treatment more difficult, and for far too many people living with HIV, it adds undue stress to their daily lives. In this video, **Diane Jones** discusses how stigma continues unabated in many ways today -- and how that is apparent when people are first diagnosed with HIV. Despite the advent of highly effective, lifesaving antiretroviral therapy and other advances, people today face many of the same psychological burdens as people diagnosed years ago,
In November 1990 LIFE magazine published a photograph of a young man named David Kirby his body wasted by AIDS, his gaze locked on something beyond this world surrounded by anguished family members as he took his last breaths. The haunting image of Kirby on his death bed, taken by a journalism student named Therese Frare, quickly became the one photograph most powerfully identified with the HIV/AIDS epidemic that, by then, had seen millions of people infected (many of them unknowingly) around the globe.

AIDS Quilt (Ann Harringan was a 7 month old who contacted HIV thru a transfusion)
Twenty-five years ago a group of friends gathered in a San Francisco apartment to memorialize companions who had died of AIDS. They used one of the oldest techniques around to honor their loved ones: they made a quilt, the now-famous AIDS Memorial Quilt, with unique panels for each person felled by the disease. Now including some 48,000 panels, the quilt has grown into a massive, public expression of grief. Its panels come from around the world. It was even nominated for the Nobel Peace Prize in 1989.

http://www.openculture.com/2012/08/aids_quilt_goes_digital_thanks_to_microsoft.html
In the 1980s, the average life expectancy following an AIDS diagnosis was approximately one year. Today, with combination antiretroviral drug treatments started early in the course of HIV infection, people living with HIV can expect a near-normal lifespan. NIAID\textsuperscript{xv} has fostered and promoted development of antiretroviral therapies that have transformed HIV infection from an almost uniformly fatal infection into a manageable chronic condition.\textsuperscript{xvi}
In the beginning there was single drug therapy with azidothymidine (AZT) which had been developed in 1964 as a potential cancer therapy drug but had proved ineffective against cancer and was shelved. In the 1980s, it was included in an NCI screening program to identify drugs to treat HIV/AIDS. In the laboratory, AZT suppressed HIV replication without damaging normal cells, and the British pharmaceutical company Burroughs Wellcome funded a clinical trial to evaluate the drug in people with AIDS. Used alone, AZT decreased deaths and opportunistic infections, albeit with serious adverse effects. In March 1987, AZT became the first drug to gain approval from the U.S. Food and Drug Administration for treating AIDS. xvii

**Combination Therapy**

The limitations of single-drug treatment regimens quickly became apparent. HIV replicates swiftly and is prone to errors each time it does. With time an arsenal of medications evolved into combination therapy.

**Helpful Links**

[Download a PDF reference guide to drugs that fight HIV-1](https://aidsinfo.nih.gov/contentfiles/hiv_pill_brochure.pdf)

Watch NIAID Director Anthony S. Fauci, M.D., reflect on advances in HIV treatment. [link is external](https://www.youtube.com/watch?v=7Kp1PKENhpA&feature=youtu.be&t=1m55s)


Global HIV Statistics (AIDS Day 2019)
References

2. Ibid
4. Ibid
5. Ibid
7. Ibid

Daley, Karen, PhD, RN, FAAN A 30-Year Journey Towards the Future. Association of Nurses in AIDS Care, November 4, 2017


https://hab.hrsa.gov/about-ryan-white-hiv-aids-program/who-was-ryan-white#how

https://hab.hrsa.gov/livinghistory/voices/gallagher.htm

National Institute of Allergy and Disease

Information from the National Institute of Allergy and Disease

https://www.niaid.nih.gov/diseases-conditions/antiretroviral-drug-development