

# Believing in Science to Fight HIV/AIDS: A Success Story

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Between December 1, 1988 the first World AIDS DAY and December 2019 a course of 31 years and more, as if it happened only yesterday. A continuous fight against HIV/AIDS that started in Dr. Robert Gallo's lab in 1978 in the National Cancer Institute – Laboratory of Tumor Cell Biology National Institute of Health – Bethesda MD., where I was culturing the blood coming from San Francisco, drawn from “Gays” or men who have sex with men (MSM), to isolate the virus keeping in mind that this virus could induce cancer. At that time, the virus was called HTLV, that is Human T Cell Leukemia Virus and the Syndrome was called at the beginning Gays Related Syndrome. In 1980-1981 the name has changed into HIV or Human Immunodeficiency Virus and the syndrome Acquired Immunodeficiency Syndrome abbreviated as AIDS.

Since then, with the help of good science, the world has achieved a great success and reached a very good level of control of the infection and the disease.

In Lebanon, we were faced with the first imported case of HIV/AIDS in 1982. At that time, the ratio of T helpers (T4) over T Suppressors (T8) cells was the main diagnostic and monitoring laboratory test (as someone who had training in immunodiagnosics. I was consulted by the treating physician). Since then, the number of cases started to increase, and the first case was reported in the literature in 1983-1984. With the support of the WHO, the National AIDS Program was established by the Ministry of Health (1988-1989). Since then, it took the lead in the fight against HIV/AIDS with a series of Interim, then 2 years and five years action plans, the last of which was accomplished in 2016 and being implemented nowadays.

I witnessed and was part of all these activities including the membership in the various national committees. In addition, in 1992 we established the Lebanese AIDS Society which gathered the prominent people working in

the various aspects of HIV/AIDS and this society has been playing an active role in these concerted efforts to stop HIV/AIDS.

Through these 3 to 4 decades, the achievements were efficient in curbing and controlling the spread of the HIV/AIDS and allowed us to shift the focus now on the high risk behavioral targets, the MSM, where most of the HIV/AIDS new cases in Lebanon are occurring, 95% of the total of 204 cases reported last year.

### The theme of this year's World AIDS Day is Ending the HIV/AIDS Epidemic: Community by Community.

Let us mark this occasion by recommitting to our collective efforts to eliminate HIV in Lebanon and globally.

While great progress has been made, it is now time for us, as a global community, to successfully bring HIV to an end, once and for all. Reaching this goal requires that we engage with communities to develop, refine, and bring to scale interventions designed to meet the needs of people with and most vulnerable to HIV.

Lebanon has launched the *Ending the HIV Epidemic: A Plan* for an initiative with the goal of reducing new HIV incidence by 90 percent over the next decade. This initiative involves numerous agencies working in unison under the leadership of National AIDS Program. We are collaborating with local, regional, territorial, and community leaders across the country. Community members are engaged in helping find new ways to increase diagnoses and link more people to prevention and treatment.

Abroad, several African countries are on pace to achieve epidemic control by 2020. When the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) started in 2003, only 50,000 people in all of sub-Saharan Africa were on HIV treatment. In 2018, the majority of the 23.3 million people on HIV treatment worldwide were in sub-Saharan Africa. As part of PEPFAR, CDC supports a third of all people on HIV treatment globally. CDC and our U.S. government work side-by-side with on-the-ground partners to improve methods for finding, treating, and preventing HIV.

After more than 40 years of our domestic response and 16 years of PEPFAR, we know that communities most impacted by HIV have a great deal to teach us regarding how best to address their needs. Solutions defined by the community, for the community, and in the community, as well as informed interventions built on a solid foundation of scientific excellence, will help secure future gains and continued progress toward HIV epidemic control.

Ending the HIV epidemic is not aspirational; it is doable. Science has provided us with the tools. Together, we can complete this mission.

It is in this spirit that Lebanon has developed its last 5-years plan of action. Along this line all activities are supporting the objectives and targets set in the Plan. The end result is that the disease, to a great extent is well controlled, curbing and continues to do so in the general Lebanese population. The focus at this time is on sexual behavior and specifically on the men who have sex with men, where most reported HIV positive cases were reported lately.

### Epidemiologic Facts:

The global and regional HIV statistics for 2018 show that People Living with HIV/AIDS (PLWHA) are 37.9 million (32.7M-44M): 36.2 million adults, 18.8 million women, 7.1 million child under 15.

In 2018, there were 1.7 Million new infections with HIV Compared to 3.4 new infections in 2001, a 50% reduction in almost two decades (Figure 1).

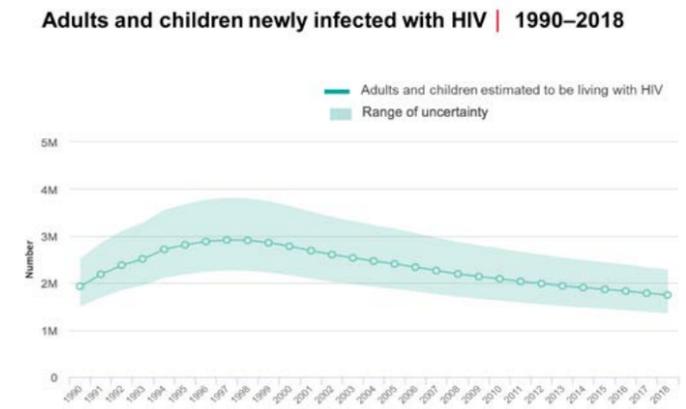


Figure 1. Global Statistics of adults and children infected with HIV.

On the other hand, global HIV/AIDS estimates of death related to HIV/AIDS are 770,000 (570,000-1.1M) died for reasons related to HIV compared to 1.9 M (1.3M-1.7M) in 2005. Again a significant decrease by more than 50% (Figure 2).

In Lebanon, the national HIV statistics in 2019 show that 204 new HIV cases were reported to the National AIDS

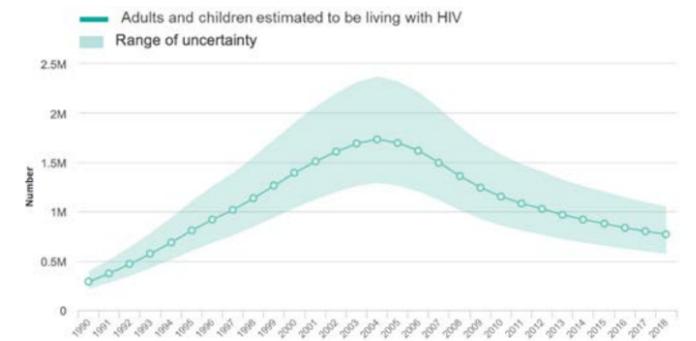


Figure 2. Adult and child deaths due to AIDS 1990-2018.

Program, leading to a number of cumulative HIV/AIDS cases till December 2019 of 2570. Most of the cases are males (Figure 3). They are consistent with the trend reported for the last decade or so (Figure 4). Almost half of the cases are less than 30 years of age and 39.7% between 30 to 50 years (Figure 5). Thus, maintaining a trend for the last few years (Figure 6).

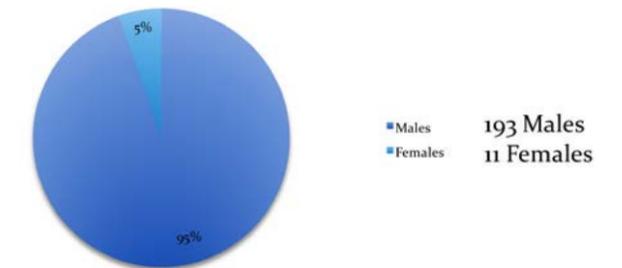


Figure 3. Distribution by gender.

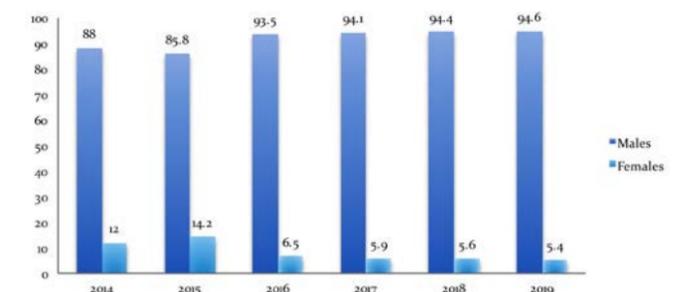


Figure 4. Trends of HIV/AIDS reported cases over the last 6 years by gender.

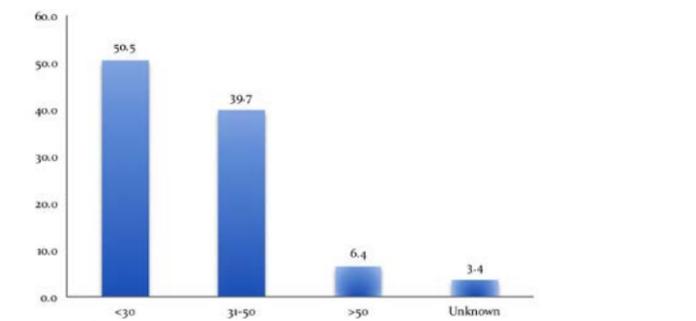


Figure 5. Distribution by age.

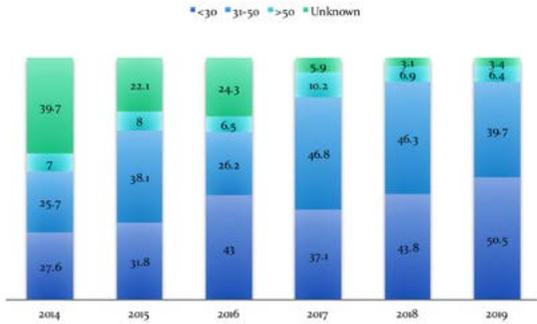


Figure 6. Trends of HIV/AIDS reported cases over the last 6 years. Distribution by age.

Almost all cases are transmitted by the sexual mode (Figure 7), thus, keeping the same trend for the last few years (Figure 8). Homosexual transmission has been the emerging mode for most cases reaching up to 95% in 2018 (Figures 9 and 10). This is where most of the interventional activities are now oriented.

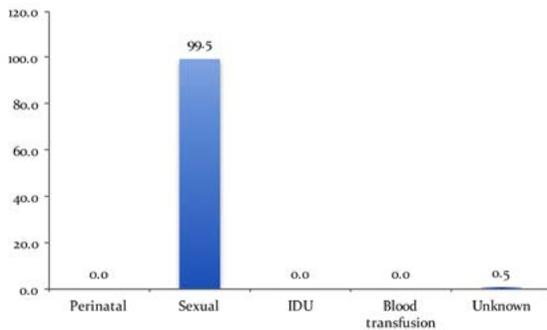


Figure 7. Distribution by mode of transmission.

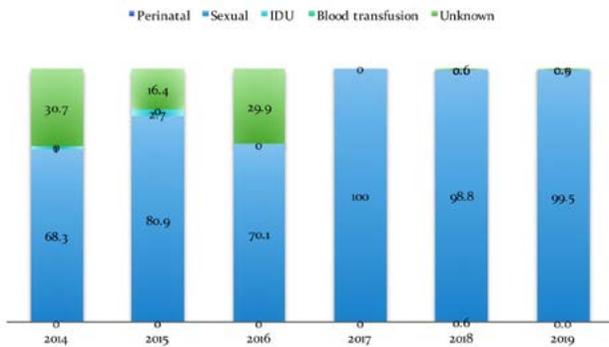


Figure 8. Trends of HIV/AIDS reported cases over the last 6 years. Distribution by mode of transmission. Sexual Transmission was the most common mode of transmission for HIV throughout the pas 6 years 2014-2019.

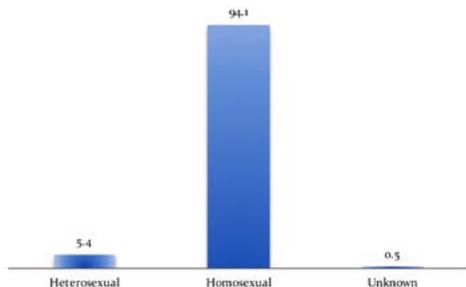


Figure 9. Distribution by sexual orientation.

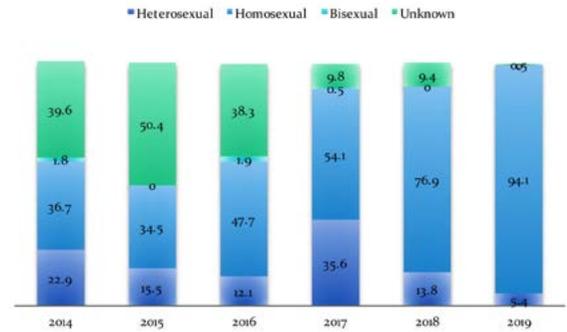


Figure 10. Trends of the HIV/AIDS reported cases over the last 6 years. Distribution by sexual orientation.

In brief, the number of reported cases has doubled between 2016 and 2019. The number of inhabitants in Lebanon has also almost doubled from 3 to 6 million (approximately). This is mainly due to the migrants from neighboring countries at war. This is an over simplified explanation that needs more research and accurate data (Table 1) to analyze.

Almost all these patients are enrolled in care and receive treatment(194 out of 204 i.e. 95%), leading a total number of PLHIV under care of 1673 patients. The big question was and still is, how to meet the cost by the Lebanese government and what would be the role and share of the professional non-governmental organizations? How to develop more our role as Lebanese AIDS Society?

Cumulative #	Number/Year	Year
1780	109	2014
1893	113	2015
2001	108	2016
2206	205	2017
2366	160	2018
<b>2570</b>	<b>204</b>	<b>2019</b>

Table 1. Trend of the HIV/AIDS reported cases over the last 6 years.

### Conclusion

The hard work continues at all levels of prevention, diagnosis, counselling and treatment. It is hoped that by 2030 Lebanon will have zero new cases. Thanks to the concerted efforts of all stakeholders under the leadership of the National AIDS Program.