

Annual HIV Statistical Report 2018

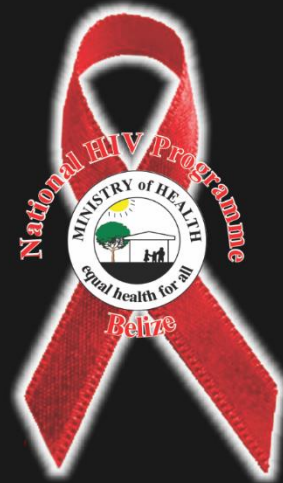


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Abbreviations

ART	Antiretroviral Therapy
ARV	Antiretroviral
BHIS	Belize Health Information System
CD4	Cluster of differentiation 4; also known as T-cells or T-helper cells
EPTB	Extra Pulmonary Tuberculosis
EMTCT	Elimination of Mother to Child Transmission
HIV	Human Immunodeficiency Virus
MCH	Maternal and Child Health
MOH	Ministry of Health
ND	Not Done
PCR	Polymerase chain reaction
PLWHIV	People Living with HIV
PTB	Pulmonary Tuberculosis
VCT	Voluntary and Counseling and Testing Center
VL	Viral Load
WHO	World Health Organization

Acknowledgments

On an annual basis, The Epidemiology Unit of the Ministry of Health publishes The HIV Surveillance Report.

A special thanks is extended to all health facilities using the Belize Health Information System (BHIS) and partners who provide surveillance data to the Ministry of Health. These include Hand in Hand Ministries, Kolbe Foundation, the Belize Defence Force and BFLA.

MOH would also like to thank the National AIDS Commission (NAC) for its continued assistance in National Testing Day and World AIDS Day activities.

A heartfelt thanks is extended to all the healthcare workers, Civil Society Organizations and other partners who work day in and day out to provide the best possible care and services to those affected by HIV.

Preface

HIV Surveillance Report 2018

The HIV Surveillance Report is published annually by the National HIV, TB and other STI's Program, Epidemiology Unit, Ministry of Health, Belmopan.

The HIV data presented is gathered from the HIV case-based surveillance system (through the BHIS) for the period January to December 2018.

Rates were calculated using the Belize Mid-Year Estimates 2018 of the Statistical Institute of Belize.

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Introduction

According to UNAIDS/WHO global reports for 2018, there were an estimated 37.9 million people living with HIV, and 1.7 million who were newly infected, with 79% knowing their status. The same report indicates about 770,000 HIV related deaths in 2018. While the death rate and number of new infection have declined globally, there is still much work to be done to achieve 90/90/90 targets.

The Ministry of Health, (MOH) collects, analyzes, and disseminates surveillance data on HIV infection in Belize. The Ministry's primary source of information is collected via an electronic information system, the BHIS. This annual surveillance report, published by the Epidemiology Unit of MOH, summarizes annual findings pertaining to HIV in Belize, including testing data, rates of new infection, treatment retention, among others. The same is then utilized by MOH, the NAC, other Governmental and Non-Governmental Organizations, to detect weaknesses, focus efforts pertaining to prevention, treatment and care, as well as for policy development, where needed.

The data used has been collected, via BHIS, from all four health regions, as well as some data from partners, such as BFLA and Hand in Hands. It must be pointed out that stakeholder involvement is key in the national response to HIV. Thus, the importance of the National AIDS Commission who is tasked with bringing these various entities together, one of which is the Ministry of Health, to develop targeted and coordinated mechanisms in the response.

MOH continues to be a part of this great effort, and recognizes all partners as we strive towards achieving national goals and to providing quality care for those affected by HIV.

HIV Testing

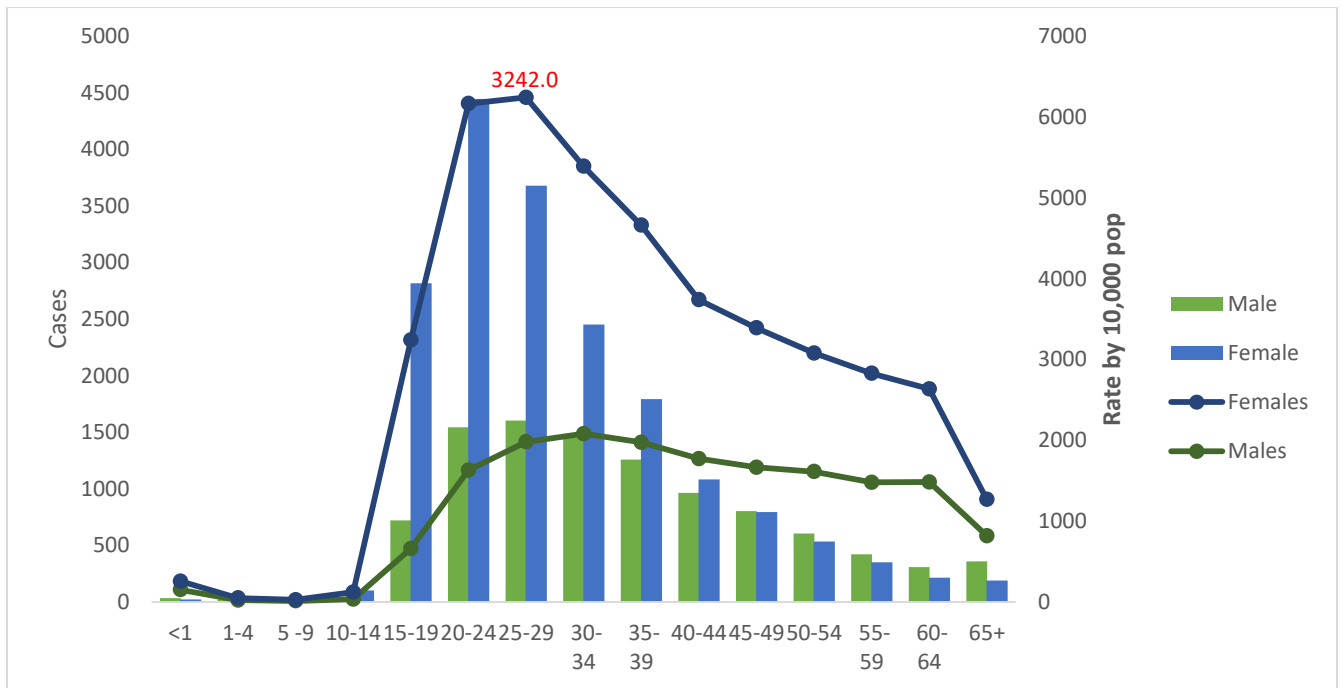
HIV testing is important to knowing one's status. The Ministry of Health offers free HIV testing, year-round, at its health facilities. The Ministry in collaboration with the National AIDS Commission also conducts outreach activities where testing is done, as well as collaborates with partners, such as BFLA, who assist in carrying out testing, particularly to key affected populations. As a result of these testing activities for 2018, preliminary data shows that 40,162 tests were done, which is an increase from the previous year (36,947). Of these, 35,276 tests were captured through Belize Health Information System (BHIS) records, while 4,886 were from Non-BHIS sources. *See Table 2*

Table 1: HIV Tests Done, 2018

ALL HIV TESTS DONE, 2018			
Row Labels	Male	Female	Grand Total
1) <1	48	32	80
2) 1-4	31	32	63
3) 5 -9	23	23	46
4) 10-14	58	144	202
5) 15-19	1010	3946	4956
6) 20-24	2161	6228	8389
7) 25-29	2244	5154	7398
8) 30-34	2040	3433	5473
9) 35-39	1763	2511	4274
10) 40-44	1351	1515	2866
11) 45-49	1124	1114	2238
12) 50-54	847	749	1596
13) 55-59	589	492	1081
14) 60-64	431	299	730
15) 65+	504	266	770
Grand Total	14,224	25,938	40,162

Source: BHIS

Graph 1: HIV Tests done by Age and Sex, 2018



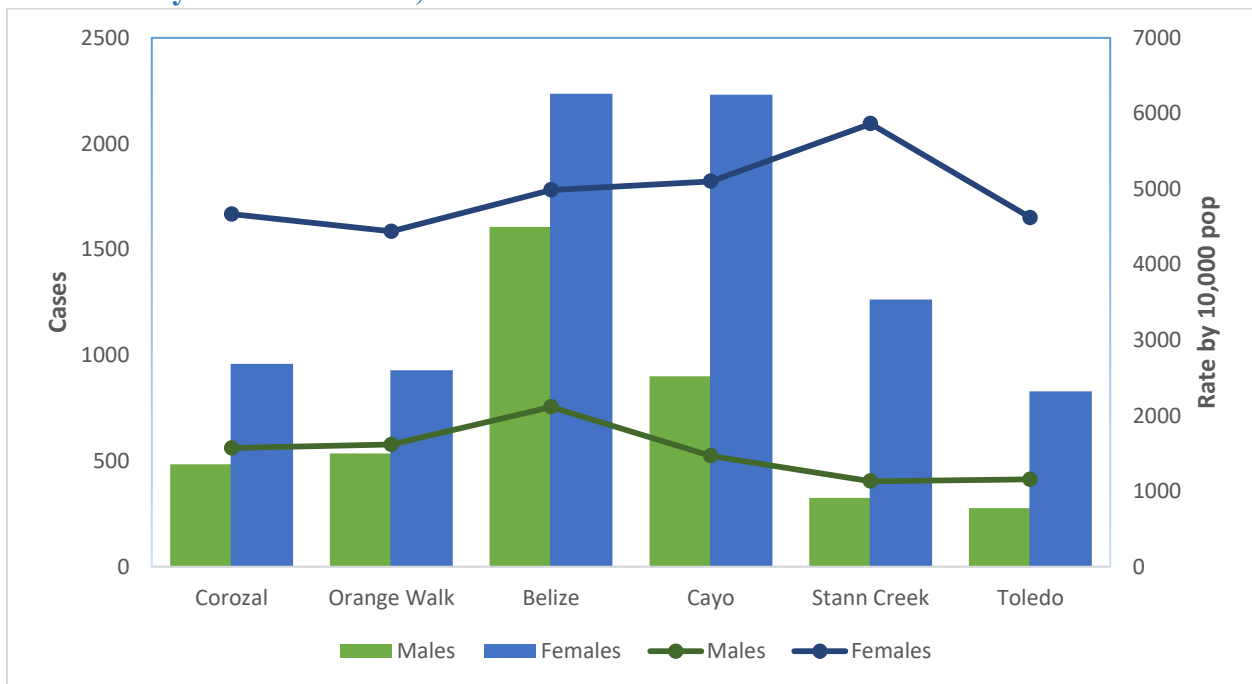
Once again the data reveals that females are testing almost twice as much as males. However, when looking at the age range, it is also observed that it is the women between the ages of 15 - 39 (women in reproductive age), who are testing significantly more than males. This data suggests that this great disparity in figures may be attributed to the EMTCT strategy where pregnant women are offered routine HIV testing.

There appears to be a mild shift in testing figures, with males 50 years of age and up, testing more than females. This leads to the question whether, this sub-population represents males who are already symptomatic?

Table 2: BHIS Reported Tests, 2018

BHIS HIV Tests by District, 2018			
District	Female	Male	Grand Total
Corozal	2686	1355	4041
Orange Walk	2601	1499	4100
Belize	6262	4501	10763
Cayo	6247	2521	8768
Stann Creek	3539	911	4450
Toledo	2324	778	3102
Unknown	24	28	52
Grand Total	23,683	11,593	35,276

**Graph 2
HIV Tests by District and Sex, 2018**



New Infections

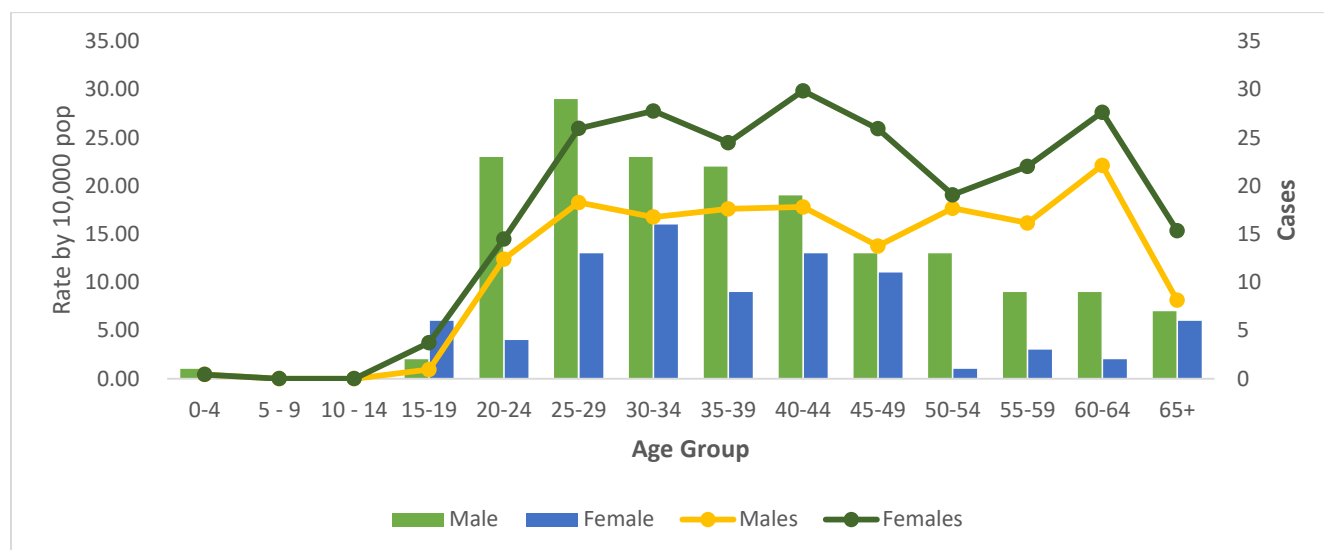
Preliminary data for 2018, shows that there were 254 newly diagnosed cases of HIV Infection in Belize, with a male to female distribution ratio of 2:1 (170 males and 84 females). Over the years we have seen more males testing positive. It must be noted that males pose a high risk population for various reasons including but not limited to late health seeking behaviour and practicing unprotected anal intercourse with other men. When comparing the numbers of new infections in the elderly male and female population, it can be seen that more men are testing positive than females at this later stage in life. This late diagnosis contributes to unknowing transmission of HIV and risk of increased morbidity and mortality among this group who usually do not know their status until they present with an opportunistic infection. This scenario highlights the need to screen males at a younger age.

Table 3:

Newly Diagnosed HIV Infections by Sex and Age Group, 2018			
Age Group	Female	Male	Grand Total
0-4		1	1
15-19	6	2	8
20-24	4	23	27
25-29	13	29	42
30-34	16	23	39
35-39	9	22	31
40-44	13	19	32
45-49	11	13	24
50-54	1	13	14
55-59	3	9	12
60-64	2	9	11
65+	6	7	13
Grand Total	84	170	254

Source: BHIS

Graph 3: Newly Diagnosed HIV Infections by Sex and Age Group, 2018



Source: Epidemiology Unit, Ministry of Health

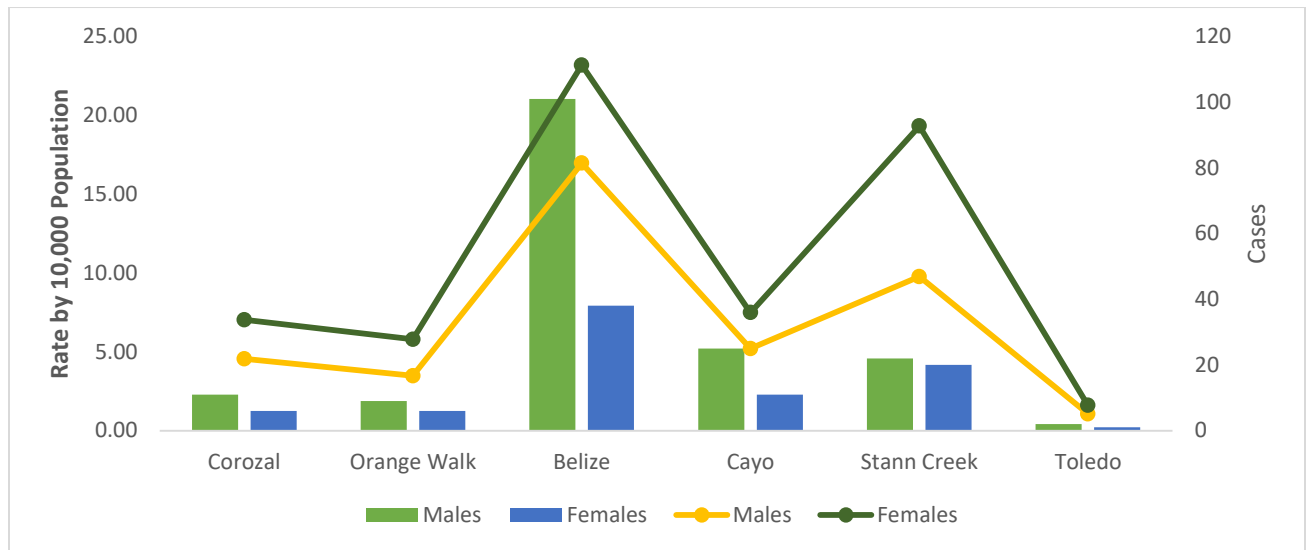
Also demonstrated in the above table and graph, is the fact that the working age group is still mostly being affected, with the majority of the new infections being diagnosed between the ages of 20-54 years and especially among males. This is significant considering the economic impact this may have on the country due to increased health costs to provide necessary services for the affected population, wages lost due to illness and even death, among others.

Table 4: Newly Diagnosed HIV by District and Sex 2018

Newly Diagnosed HIV by District, 2018			
Row Labels	Female	Male	Grand Total
Corozal	6	11	17
Orange Walk	6	9	15
Belize	38	101	139
Cayo	11	25	36
Stann Creek	20	22	42
Toledo	1	2	3
Unknown	2	0	2
Grand Total	84	170	254

Source: BHIS

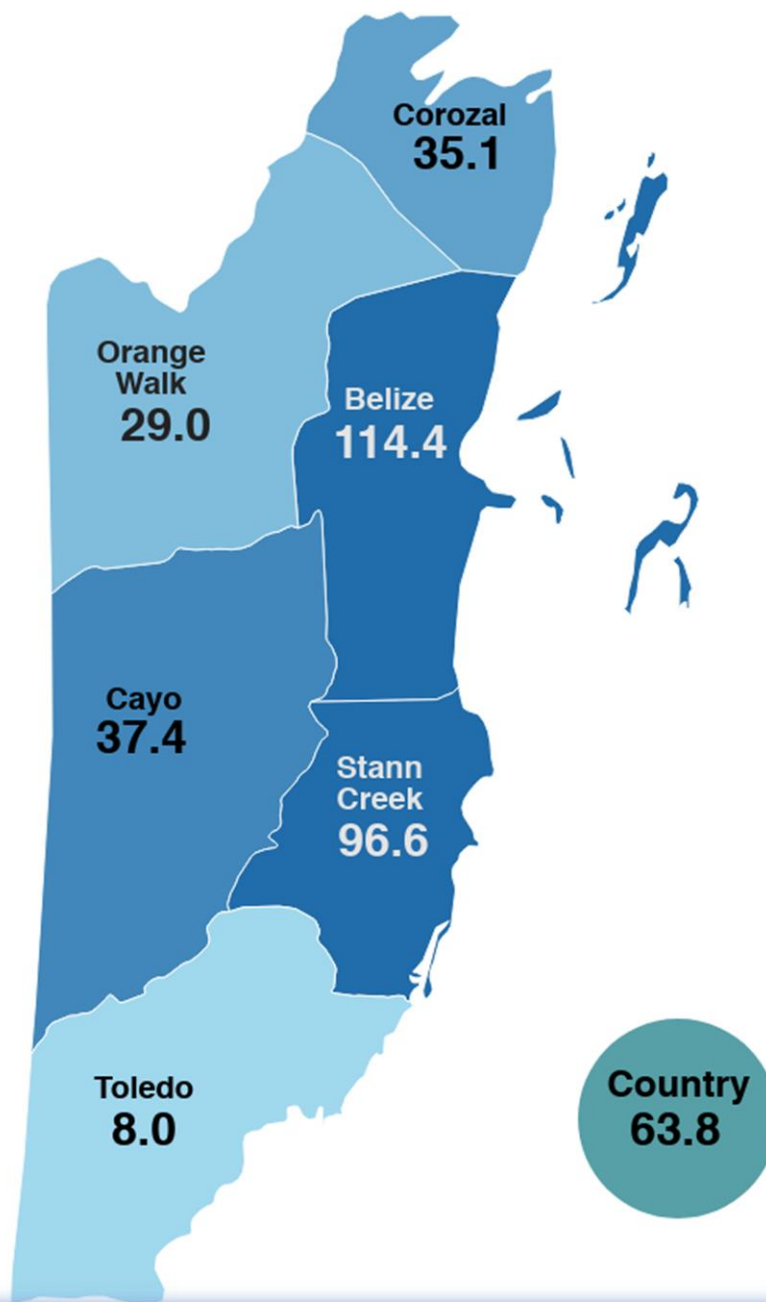
Graph 4: New HIV Infections by District of Residence, 2018



Source: Epidemiology Unit, Ministry of Health

Nationally, the number of new infections did rise slightly compared to the past year, with 254 new infections in 2018 as compared to 223 in 2017. It may be inferred that due to increased testing, more cases are being identified, especially as the Ministry of Health has started to direct its screening efforts at the male population, which is considered a high risk population as mentioned before. Even as the Ministry of Health has scaled up its efforts in the response to HIV, it must be pointed out that there also still exist socioeconomic and other risk factors and risk behaviours which contribute to the continuing situation in Belize. This highlights the need for a concerted effort across the various Ministries, CSO's and Private sector who contribute to the HIV/AIDS response.

Incidence Rate of HIV per 100,000 by District, 2018



Care and Treatment

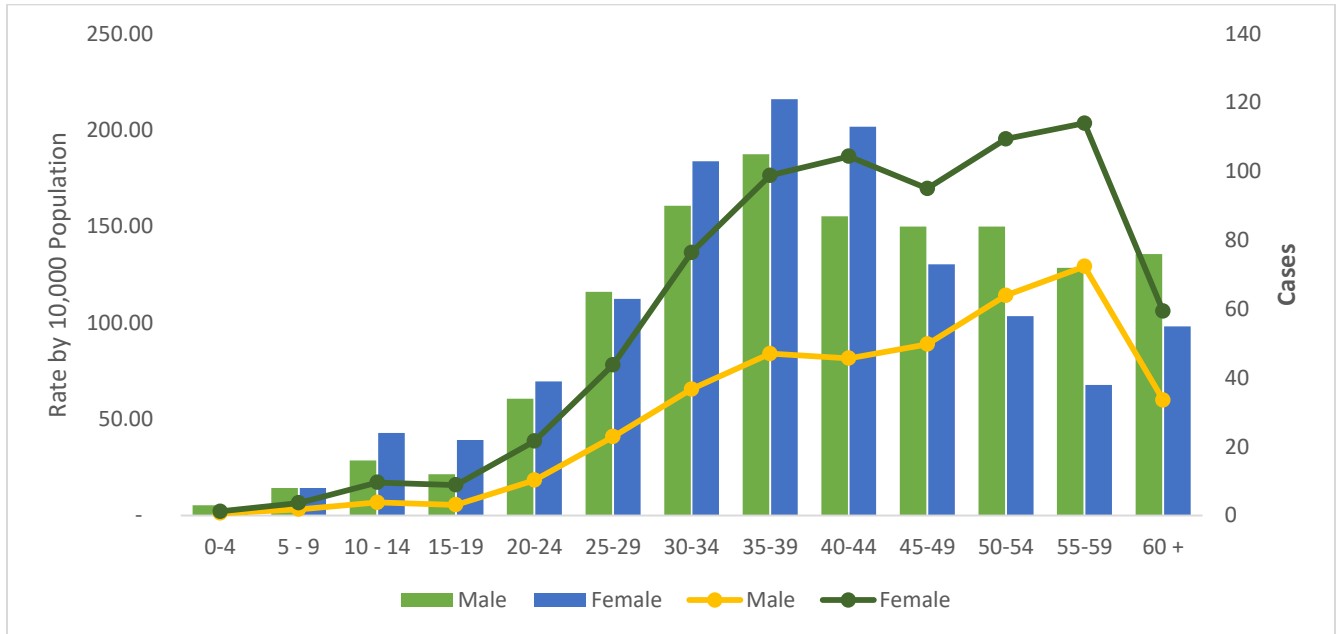
Without antiretroviral therapy (ART), most persons living with HIV will eventually progress to AIDS-defining illnesses and premature death. The primary goal of ART is to achieve viral suppression and thus prevent HIV-associated morbidity and mortality. Retention in treatment and care of all newly diagnosed HIV infected persons and those that are already on antiretroviral therapy, has posed a significant challenge to the HIV program. At the end of 2018, a total of 1,455 persons living with HIV were on treatment with 96% being adults (>14 years) and 4% being children (\leq 14years). There were slightly more males to females on ART by the END 2018. While males tend to seek HIV services less than females, once they are diagnosed, they access treatment in a similar manner to women.

Table 5: Persons Alive and on ART ending 2018

Age Group	Female	Male	Total
0 - 4	2	3	5
5 - 9	8	8	16
10 - 14	24	16	40
15 - 19	22	12	34
20 - 24	39	34	73
25 - 29	63	65	128
30 - 34	103	90	193
35 - 39	121	105	226
40 - 44	113	87	200
45 - 49	73	84	157
50 - 54	58	84	142
55 - 59	38	72	110
60 +	55	76	131
Total	719	736	1,455

Source: Epidemiology Unit, Ministry of Health

Graph 5: Number of Persons Alive and on ART for 2018



Source: Epidemiology Unit, Ministry of Health

HIV Related Mortality

Preliminary data for 2018 shows that there were 105 HIV related deaths, with 38 females and 67 males (1:1.7), which is similar to last year's reported figures. This is a rate of 2.6/10,000 population. Most of the deaths are occurring in males of working age (35-50), a reflection of the sub-population most affected by this disease. Also, to be highlighted that most deaths are occurring among the most productive ages, causing a negative impact in the country's and family's economy.

The majority of HIV related deaths are seen to occur in the Belize District, which is the district with the highest HIV incidence. This is followed by Stann Creek and Cayo respectively. Notably, these are the districts with the highest disease burden.

Table 6: HIV Deaths by Age Group and Sex

HIV Deaths by Age Group and Sex, 2018			
Age Group	Female	Male	Total
0-4	1	0	1
5-9	0	0	0
10-14	0	0	0
15-19	0	0	0
20-24	1	2	3
25-29	4	2	6
30-34	4	3	7
35-39	6	15	21
40-44	6	8	14
45-49	5	9	14
50-54	4	6	10
55-59	1	6	7
60-64	2	9	11
65+	4	7	11
Total	38	67	105

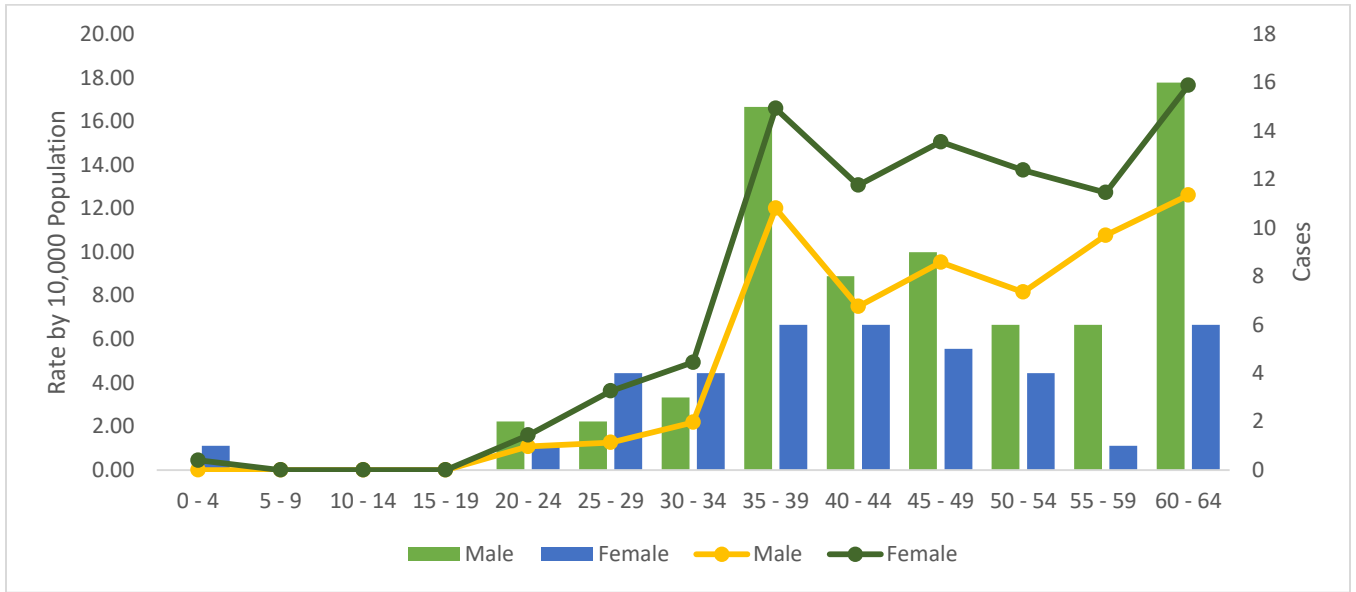
Table 7: HIV Deaths by District and Sex

HIV Deaths by District and Sex, 2018			
District	Female	Male	Total
Corozal	3	2	5
Orange Walk	1	2	3
Belize	20	42	62
Cayo	5	10	15
Stann Creek	9	8	17
Toledo	0	3	3
Total	38	67	105

Source: Epidemiology Unit, Ministry of Health

Source: Epidemiology Unit, Ministry of Health

Graph 6: HIV Related Deaths by District of Residence 2018



Source: Epidemiology Unit, Ministry of Health

EMTCT (Elimination of Mother to Child Transmission)

Based on the data collected, there were a total of 7859 pregnant women who delivered in 2018, of which, 39 had a positive HIV status (less than one percent of the women who delivered).

Table 7: Percentage of pregnant women with known HIV status

Year	2018	Number Persons
Numerator	Number of pregnant women attending antenatal clinics and/or having a facility-based delivery who were tested for HIV during pregnancy, or already knew they were HIV positive	5607
Denominator	<i>Population-based denominator:</i> Number of pregnant women who delivered within the past 12 months.	7778

Table 8: Knowledge of Status Among HIV Positive Mothers Delivering in 2018

Prior Knowledge of HIV Status	Number	Percentage	Received ART during Pregnancy
Pregnant and Knew HIV+ Status (Old)	23	58%	23
Pregnant and Newly diagnosed as HIV+	16	41%	15
Total	39	100%	38

This could be further distributed by those who had previously known their status (58%), and those who were recently diagnosed while testing during pregnancy (41%). As may be observed, there are still a large number of women, who are being diagnosed through routine screening in pregnancy. The EMTCT is closely monitored by the Maternal and Child Health (MCH) Program of the MOH. Routine antenatal screening, including HIV testing, is recommended for all pregnant women, during pregnancy and at delivery. This allows for initiation of ARVs whenever

a woman is newly diagnosed with HIV infection during her pregnancy, thus reducing the possibility of mother to child transmission.

There was one reported case of Mother to Child Transmission among women living with HIV, who delivered in 2018. Data reveals that this was a mother newly diagnosed at delivery (recently migrated). In spite of the efforts to eliminate mother to child transmission, early booking still proves a challenge in a small number of cases, both among locals and migrants. Late booking implies a later diagnosis, especially in the few cases where women are not captured until delivery. However, once diagnosed and initiated on ART, HIV positive women have good adherence to treatment and care during pregnancy when compared to remaining HIV infected population.

All exposed infants are screened at birth, so there is 100 % coverage for first PCR in babies born to HIV infected mothers. As the baby gets older, this coverage falls since they depend on their parents to take them to the health facility for testing.

Table 9: Mother-to-child transmission of HIV

Year	2018	Number Persons
Numerator	Estimated number of children newly infected with HIV from mother-to-child transmission among children born in the previous 12 months to women living with HIV	1
Denominator	Estimated number of births to women living with HIV who delivered in the previous 12 months (2018??)	39

Source: Epidemiology Unit, Ministry of Health

Viral Load Testing

Among persons living with HIV, viral load suppression (HIV viral load less than 1000 copies/mL) is associated with a lower risk of HIV-related morbidity and mortality and a lower risk of transmitting HIV to others. As a part of MOH’s protocols in the treatment and care of PLWH, VL testing is recommended every 6 months. The treatment goal for PLWH is rapid and sustained viral suppression. As seen in the tables below, a total of 935 persons received viral load testing in 2018, of which 563 (60%) were shown to be virally suppressed. There is a noted improvement in numbers of VL testing in 2018 when compared to the previous year, as in 2017 there was some difficulty in the acquisition of VL testing kits resulting in decreased testing.

Table 10: Viral Load Testing 2015-2018

Viral Load Samples Tested				
Year	2015	2016	2017	2018
Viral Load Tests	140	1238	317	1201
Persons Tested	140	940	304	935

Source: BHIS, MOH

Table 11: PLWH Receiving VL Testing, 2018 Table 12: Viral Load Suppression 2018 by Age Range and Sex

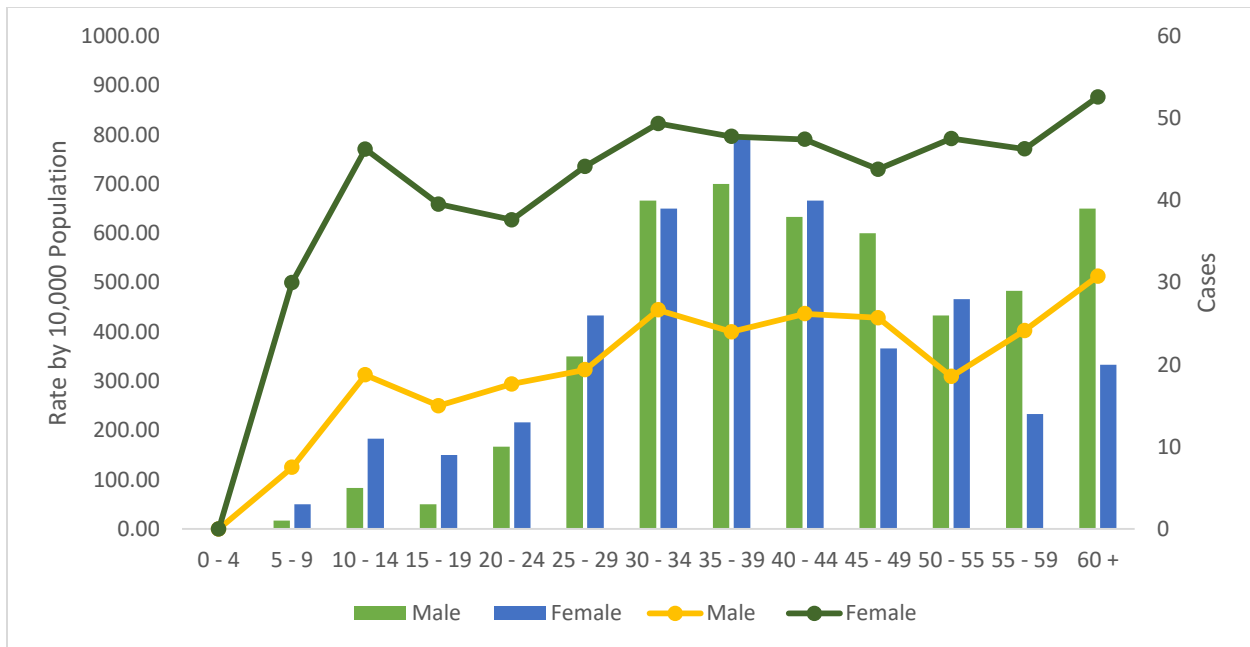
PLWH Receiving a VL Test in 2018	
Adult	Child (under 15 years)
487	32
152	6
71	3
89	5
65	2

23	
887	48

The tables above show the distribution of virally load testing and suppression by age range. It is noted that 42% of those under 15 years of age who received VL testing were virally suppressed, while 61 % of those 15 and older, who were tested with VL were virally suppressed. Hand in Hand Ministries has been of great assistance working with the Ministry of Health to offer support to children and families of children living with HIV, particularly in the Belize District. However, in spite of this, care and treatment among the pediatric population has its own unique set of challenges, including but not limited to: family support, knowledge of status, transition from childhood to adolescence to adulthood, stigma and discrimination. This once again, highlights the need for a multi-stakeholder approach to address the particular needs of this affected population.

Number Virally Suppressed Persons 2018 Less 1,000 Copies			
Age Group	Female	Male	Total
0 - 4	0	0	0
5 - 9	3	1	4
10 - 14	11	5	16
15 - 19	9	3	12
20 - 24	13	10	23
25 - 29	26	21	47
30 - 34	39	40	79
35 - 39	48	42	90
40 - 44	40	38	78
45 - 49	22	36	58
50 - 54	28	26	54
55 - 59	14	29	43
60 +	20	39	59
Total	273	290	563

Graph 7: Distribution of Virally Suppressed PLWH by Age Range, 2018



Source: Epidemiology Unit, Ministry of Health

Continuum of Care Cascade 2017

The continuum of care cascade follows a cohort of HIV infected persons through a cohort year. The purpose of the cascade is to quantify the number of people at each step of the continuum of care, from the total number of people with HIV (PHIV) to viral suppression. Continuum of care data should be used to strengthen country program responses to the HIV epidemic. Cascade usually represents a one direction approach looking at a series of five steps, including HIV diagnosis, long term retention in care, ART initiation and adherence, and viral suppression.

Table 13: Continuum of Care Cascade 2017

Continuum of Care Cascade 2017

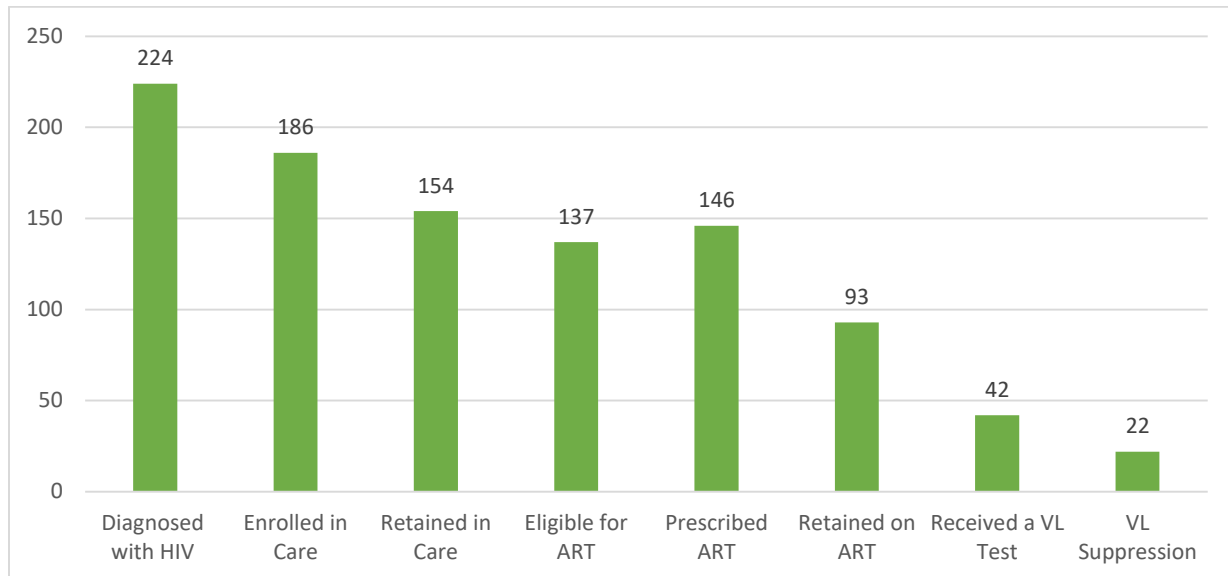
	Indicator	Number	Definitions
1	Diagnosed with HIV	224	Number of people who have been diagnosed with HIV in the reporting period specified for the cohort
2	Enrolled in Care	186	Number of people diagnosed with HIV in the reporting period specified for the cohort that have received a clinical assessment OR CD4 count OR viral load (including patients on ART)
3	Retained in Care	154	Number of people diagnosed with HIV in the reporting period specified for the cohort with 1 or more CD4 cell count or viral load tests.
4	Eligible for ART	137	Number of people diagnosed with HIV in the reporting period specified for the cohort with an HIV diagnosis who are eligible for treatment
5	Prescribed ART	146	Number of people diagnosed with HIV in the reporting period specified for the cohort with HIV diagnosis, who are prescribed ART
6	Retained on ART	93	Number of people diagnosed with HIV in the reporting period specified for the cohort who are retained in ART for 12 months since initiation
7	Received a VL Test	42	Number of people diagnosed with HIV in the reporting period specified for the cohort who are retained in ART and received a viral load test
8	VL Suppression	22	Number of people diagnosed with HIV in the reporting period specified for the cohort, who are on ART and have a suppressed viral load (<1000copies/ml3

This cascade uses a 5-step approach to present the data. It highlights the loss of patients throughout the process of treatment and care and thus identifies the areas where more efforts need to be focused.

In 2017, 224 patients were diagnosed with HIV and at the end of that cohort year, of which 83.5% (186/224) were enrolled in care. This indicates that 16.5% did not return for a follow up evaluation after testing positive. Of those that were enrolled in care, 82.8% (154/186) were retained, meaning that they had either a viral load or CD4 test done to evaluate whether they were eligible for ART. Of those who were prescribed ART, only 63.7% (93/146) were retained on ART. Of the 93 patients retained on ART, 45% (42) received a viral load test. Of those who received a VL test, of which 52.4% (22/42) were virally suppressed. It must be highlighted that for the 2017 cohort year, the program faced difficulties in the acquisition of VL testing kits, thus

the marked difference in the number of those who received a VL test, as compared to the previous year.

Graph 8: HIV Continuum of Care Cascade for 2017



Source: Epidemiology Unit, Ministry of Health

TB HIV Coinfections

For 2018 there were a total of 30 patients diagnosed with TB/HIV Co-infections, which represents 31% of the TB cohort (97 new and relapse cases). This represents a slight increase compared to 2017 but is similar to that reported in 2016. Persons living with HIV are more at risk for developing TB due to their compromised immune state, thus the importance of early screening, diagnosis and treatment among this vulnerable population.

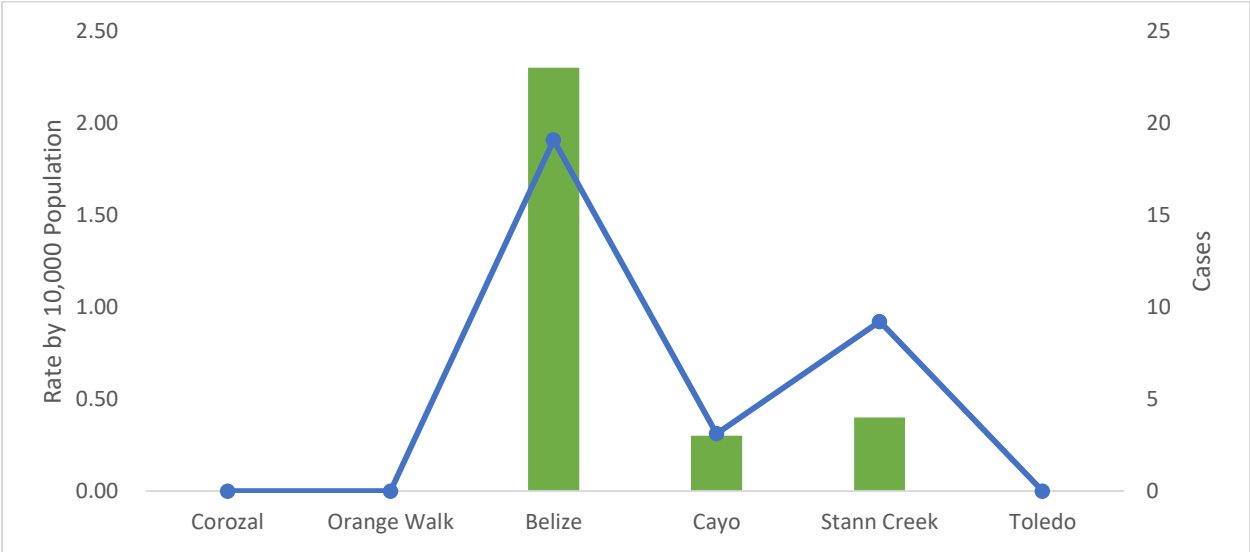
When looking at the distribution by district of residence, it is seen that all the co-infections for 2018 proceed, from the three districts with the higher burden of both TB and HIV, which are the Belize, Stann Creek and Cayo districts. The male population is also seen to be significantly more affected than females. Once again, this is a reflection of the overall trend in new HIV Infections with men being more affected than women.

Table 14: TB / HIV Coinfection by Age Group, 2018

TB / HIV Coinfection by Age Group, 2018			
Age Group	Female	Male	Total
15 - 19	1		1
20 - 24		1	1
25 - 29	2		2
30 - 34	1	1	2
35 - 39		2	2
40 - 44	3	4	7
45 - 49		5	5
50 - 54	1	2	3
55 - 59		4	4
60 - 64		2	2
65 - 69		1	1
Total	8	22	30

Source: Epidemiology Unit, Ministry of Health

Graph 9: TB Coinfection by District 2018

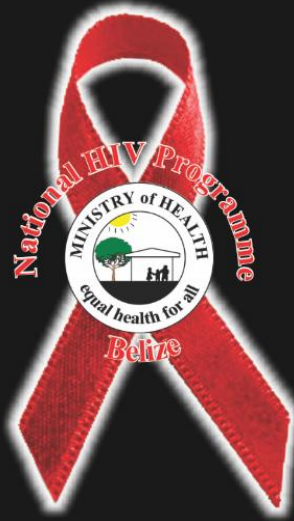


Source: Epidemiology Unit, Ministry of Health

Conclusions/Recommendations

Striving to achieve the UNAIDS 90-90-90 targets and providing quality care for persons affected by HIV impules the country's HIV response. Over the years, there have been notable successes in the response to HIV such as increased and free access to testing and treatment, increased partnerships with CSO's and NGO's, among others. However, there are challenges yet to be overcome. Late access to services, which results in late diagnosis and late treatment initiation, combined with lack of adherence still pose significant challenges and lead to increased morbidity and mortality among PLWH. Belize, Stann Creek and the Cayo districts remain the districts with the highest burden of HIV infection. More males of working age group are also being diagnosed. As a result, the Ministry of Health has started to direct its screening efforts at the male population, which is considered a high-risk population. However, it must be highlighted once again that there still exist socioeconomic inequalities, risk behaviors, among other factors which contribute to the ongoing situation in Belize. Work overload in health care facilities and stigma and discrimination also continue to prove deterrents to treatment and care as indicated by a study on 'Barriers to Adherence', that was done in 2017.

Through the GF Project for HIV/TB 2019-2021, there is in place a plan for more CSO involvement, aimed to increase the reach of testing services and for timely linkage/referral to care. Continued monitoring, not only by MOH but also by partners involved is needed. Behavioral change approaches need to be evaluated as a mechanism to improve patient adherence and retention. Weaknesses in the system need to be analyzed and new strategies tabled and agreed upon for strengthening all levels of the continuum of care. In summary, in light of the gaps identified, the need for strengthening the multisector (multi-stakeholder) collaboration is vital to propelling the country's HIV response forward.



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