

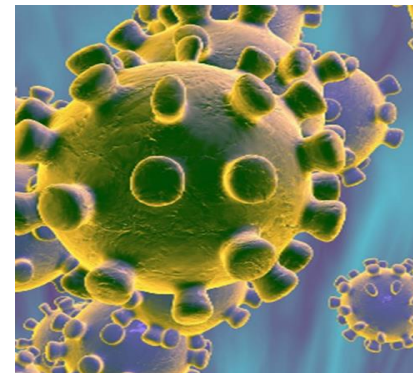
# Impact of COVID-19 on HIV/AIDS Programming in Kenya: Evidence from Kibera Informal Settlement and COVID-19 hotspot counties

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# Outline

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- Background
- Research Questions
- Methodology
- Study findings
- Conclusion and recommendations



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# Study background

# Introduction

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- Kenya has witnessed tremendous progress over the last decade in **reducing the annual number of new HIV infection** and **AIDS-related deaths**, resulting in **improved quality of life for PLHIV** and reduced risk of infection
- 79.5% of PLHIV in the country are aware of their HIV status; 96% are on life saving treatment and 90.6% of those on life saving treatment had achieved viral load suppression (KEPHIA, 2018)
- In addition, Kenya has been a huge prevention success story in the region.
  - One of the first to approve the use of PrEP and has led the way in providing prevention measures such as VMMC
- As a result, new infections have fallen drastically in recent years

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- On 13<sup>th</sup> March, Kenya reported the first case of COVID-19
  - As of Oct 29<sup>th</sup> 2020, there were 51,851 cases, 934 (2%) deaths and 35,258 (68%) recoveries in the Country
  - The world had recorded about 44.7M COVID-19 cases, 1,179,232 (3%) deaths and 32M (73%) recoveries as of Oct 29<sup>th</sup> 2020
  - To date, there is limited data on exact effect of COVID-19 coinfection on PLHIVs
  - Studies have shown that people with pre-existing conditions who contract COVID-19 are at higher risk of disease progression including death, though not much is known about the relationship between COVID-19 and HIV/AIDS
  - It is also not clear whether Kenya had recorded spikes in Respiratory Infections (RTIs) before the outbreak was confirmed in March 2020.

# Research questions

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- Is there a relationship between COVID-19 and HIV/AIDS in Kibera informal settlement?
- How has COVID-19 affected health care seeking behavior among PLHIV in Kibera informal settlement?
- How has COVID-19 affected PrEP uptake, HIV testing and treatment services in COVID-19 hotspot counties?
- What are the trends of RTIs in hotspot counties in Kenya two years before and four months after COVID-19 outbreak?



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# Methodology

- **Questions 1 and 2:**

- *Study design:* A prospective cohort study which included a monthly follow up of the PLHIVs for a period of 4 months
- *Study sites:* 7 HFs providing care and treatment support; supported by Amref under the CDC funded Kibera Reach 90 project
- *Study area:* Kibera informal settlement
- *Study population:* PLHIV aged 18 years and above seeking HIV care in the 7 HFs
- *Sample size:* 176 PLHIV, distributed proportionate to the number of PLHIV per the 7 HFs
- Extracted the line list of participants from the HFs EMRs
- Conducted phone interviews at secure places





- **Questions 3 and 4**

- A retrospective review of HIV care and treatment and RTI data in KHIS for the period 2018, 2019 and 2020 in COVID-19 hotspot counties in Kenya
- Extracted aggregate data as reported in KHIS

- **Ethical considerations:** study approved at Amref ESRC; obtained research permit from NACOSTI; obtained authorization to access patient records at the 7 HFs from NMS health department; study team provided with PPEs and trained on COVID-19 safety measures



- **Privacy and confidentiality:** All interviews conducted in private rooms; research assistants signed confidentiality agreement

- **Interview dates:** Round 1: 13<sup>th</sup> to 17<sup>th</sup> July 2020; Round 2: 19<sup>th</sup> to 21<sup>st</sup> August 2020 and Round 3: 5<sup>th</sup> to 8<sup>th</sup> October 2020

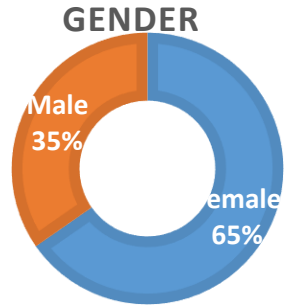
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# Study Findings

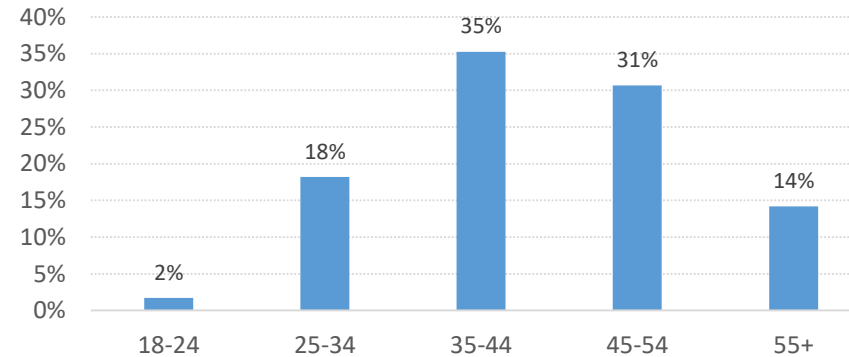
# Response rate (n=176)

- Round 1: n= 176 (100%)
- Round 2: n= 150 (89%)
- Round 3: n= 151 (89%)
- The team made all effort to attain the 100% response rate but failed for the following reasons
  - ✓ Six participants were offline for the whole data collection period on all contacts
  - ✓ Seven were not willing to participate in the study anymore
  - ✓ Eleven did not pick calls the whole week on all contacts provided
  - ✓ One asked not to be contacted again as may loose job if the boss finds out her status

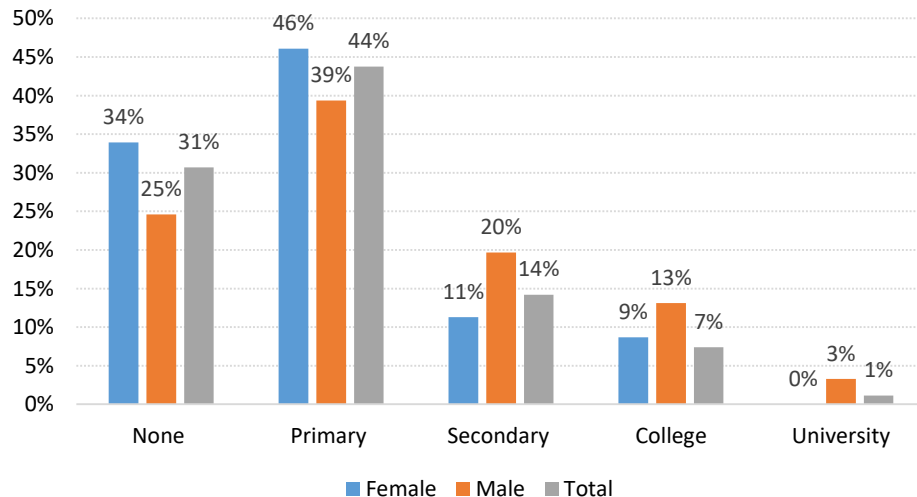
# Demographic information (n=176)



Age groups



Level of Education Completed

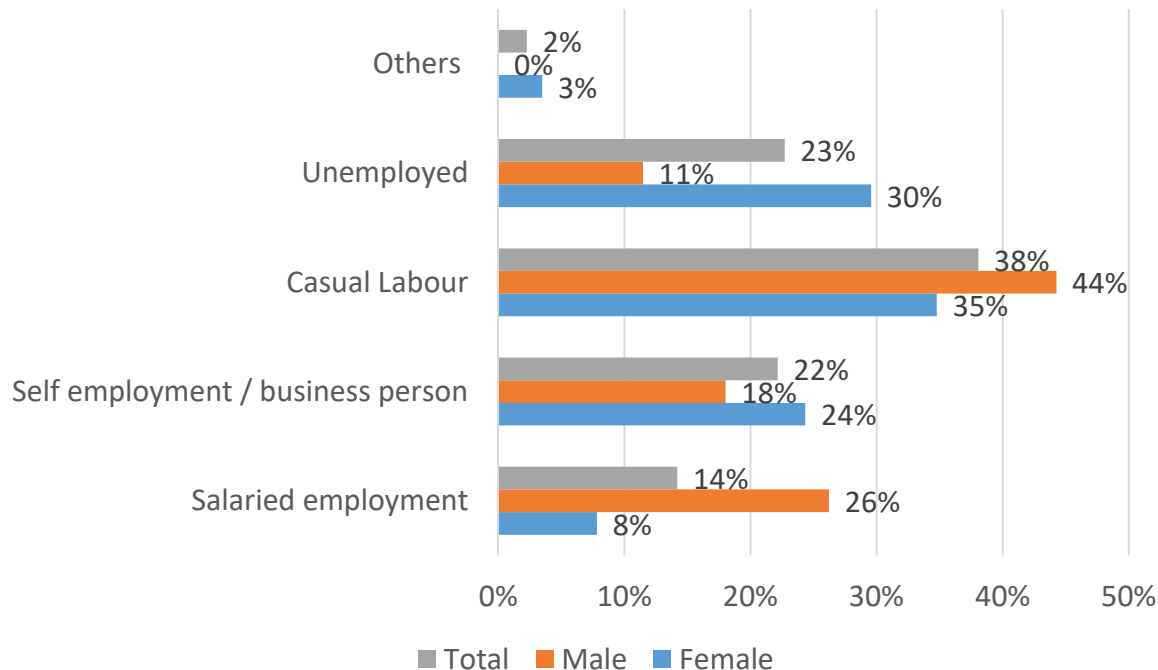


- The sample had a higher number of female respondents compared to male
- Majority (35%) of the respondents were of age group 35-44 followed by those aged 45-54
- Age range: 18-70 years
- 75% did not go past primary school while only 1% had completed University education

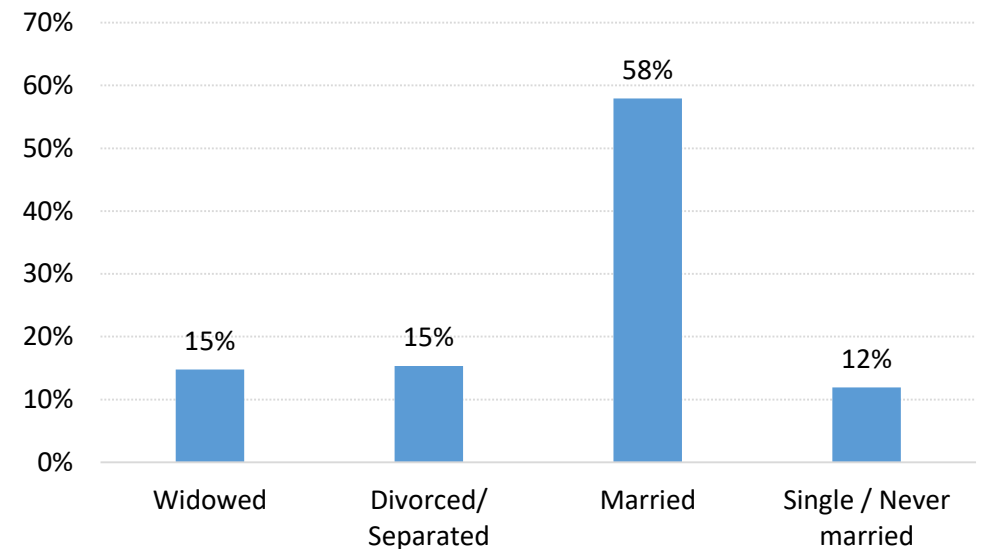
# Demographic information: Occupation and Marital status

- About 14% of the respondents had salaried employment. Majority were casual laborers.
- Majority (58%) of the respondents were married

### Occupation



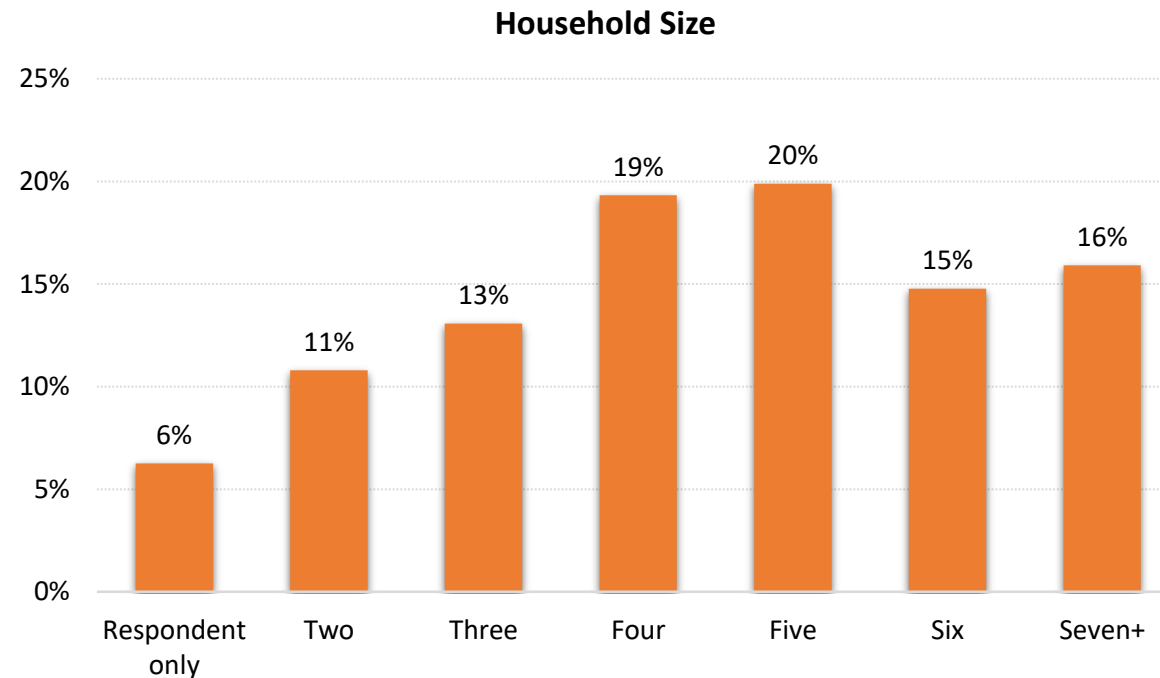
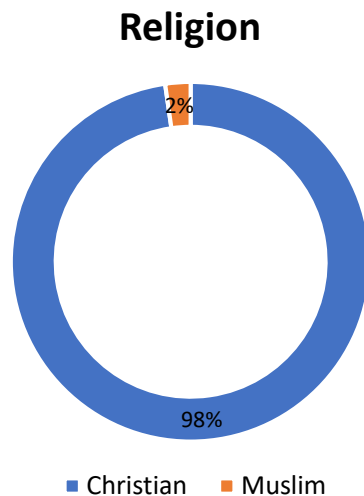
### Marital Status



Total=176, Female=115, Male=61

# Demographic information: Religion and HH size

- The average HH size in Kibera was 4 members, though a significant proportion of the HHs (16%) have more than 7 members +
- 98% of the respondents were Christians

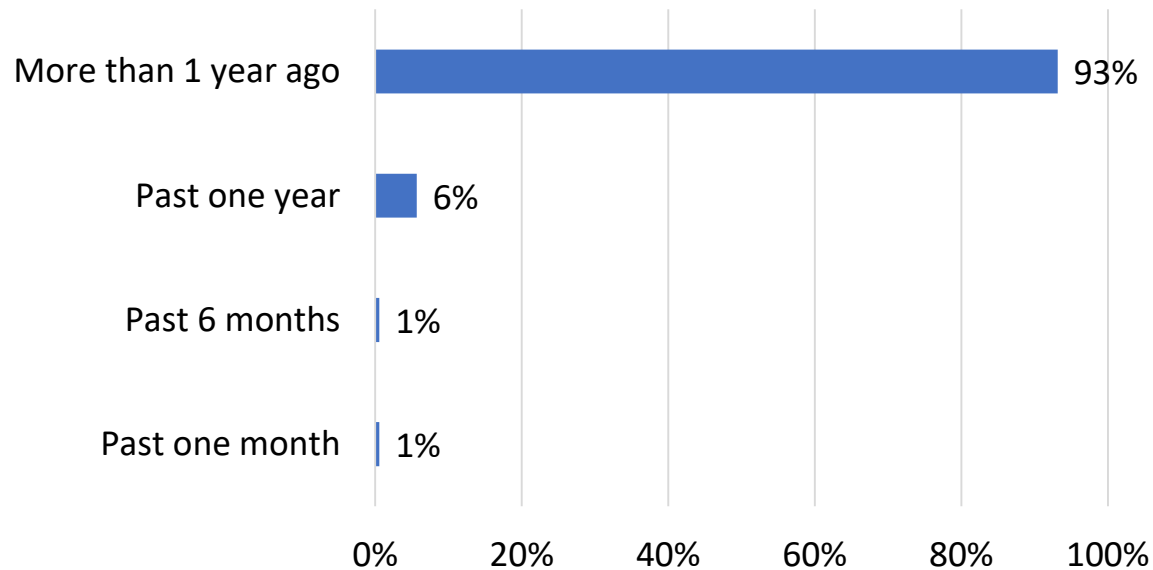


Total=176, Female=115, Male=61

# Clinical information

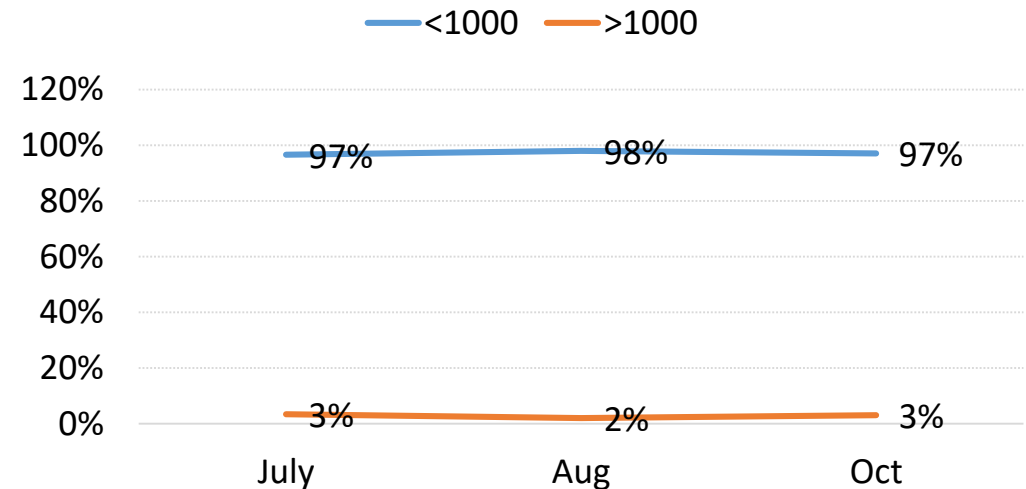
- About 93% of the respondents were first diagnosed with HIV more than one year ago
- The respondent's viral load remained stable through out the four months period

**1st HIV Diagnosis**



*Qn: When did you receive your first positive HIV result?*

**Viral load (Copies/ml)**



*Qn: What is your current viral load?*



## HIV/TB co-infection

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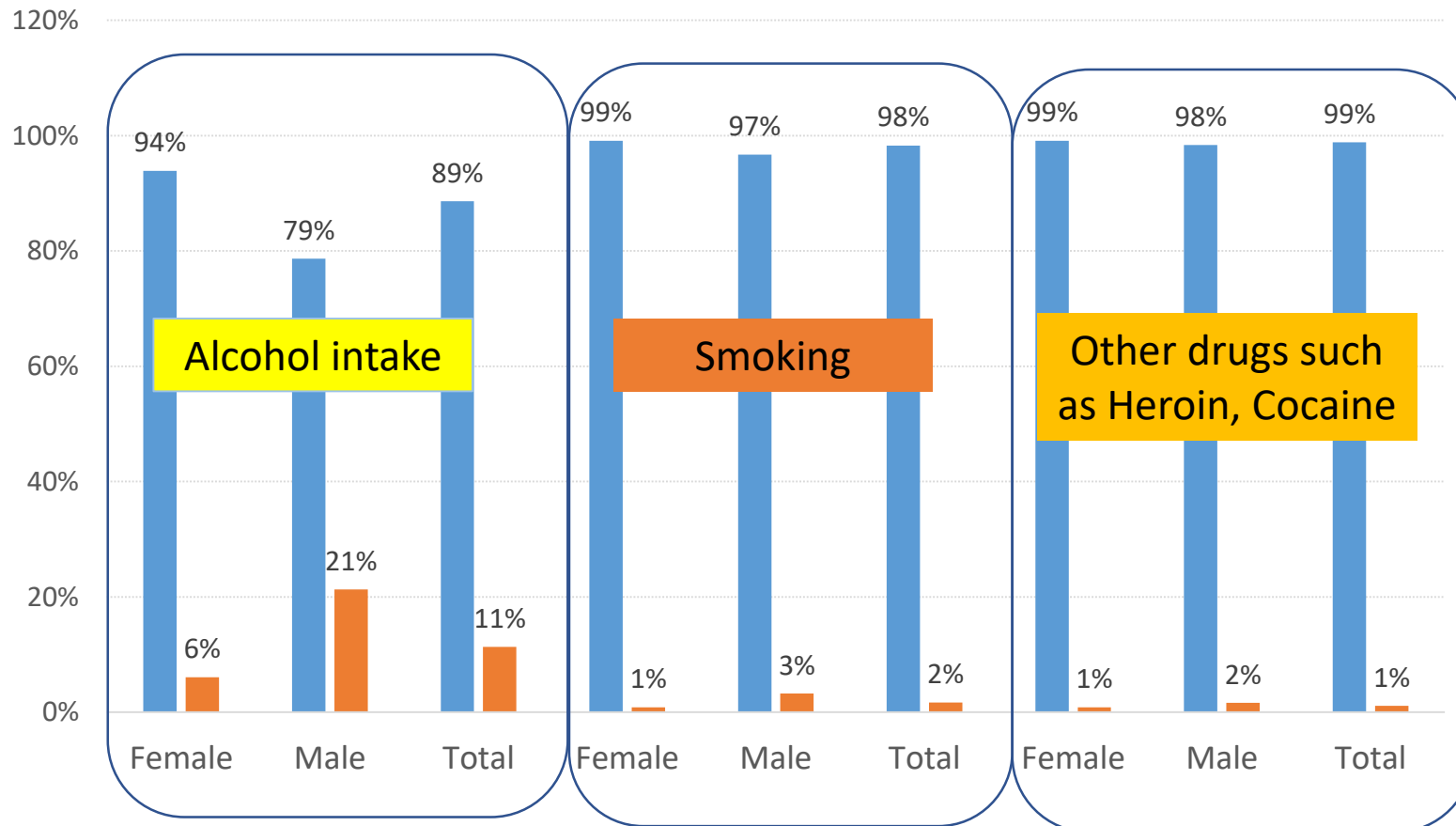
- About 25% of the respondents were TB co-infected, which is a reflection of the national HIV/TB coinfection currently at 26% (DNTLD-P, 2019)



# Social life

## Alcohol intake, Smoking and other drugs

■ No ■ Yes



- 11% of the respondents reported taking alcohol, 2% smoked and 1% take other drugs such as Heroin and Cocaine
- 21% and 3% of male respondents reported taking alcohol and smoked respectively compared to 6% and 1% female

# Research Question 1

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**Is there a relationship between COVID-19 and HIV/AIDS  
in Kibera informal settlement?**



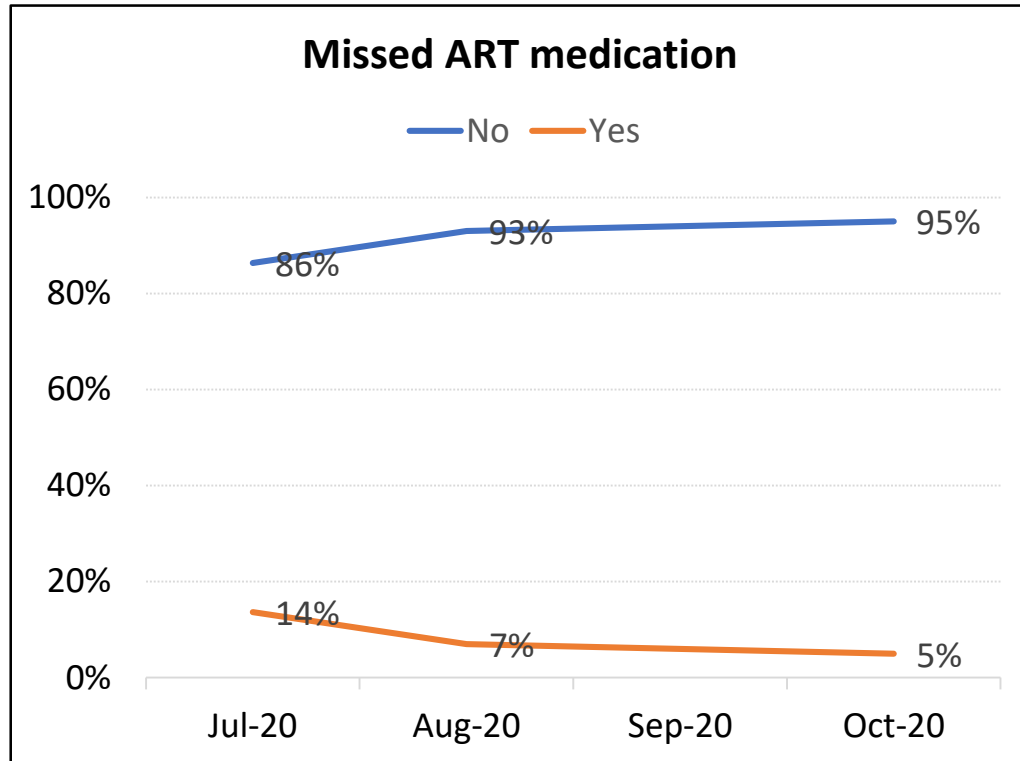
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- The correlation coefficient (  $r$  ) between gender of the PLHIVs and COVID-19 test result was 0.19 indicated weak relationship.

## Research Question 2

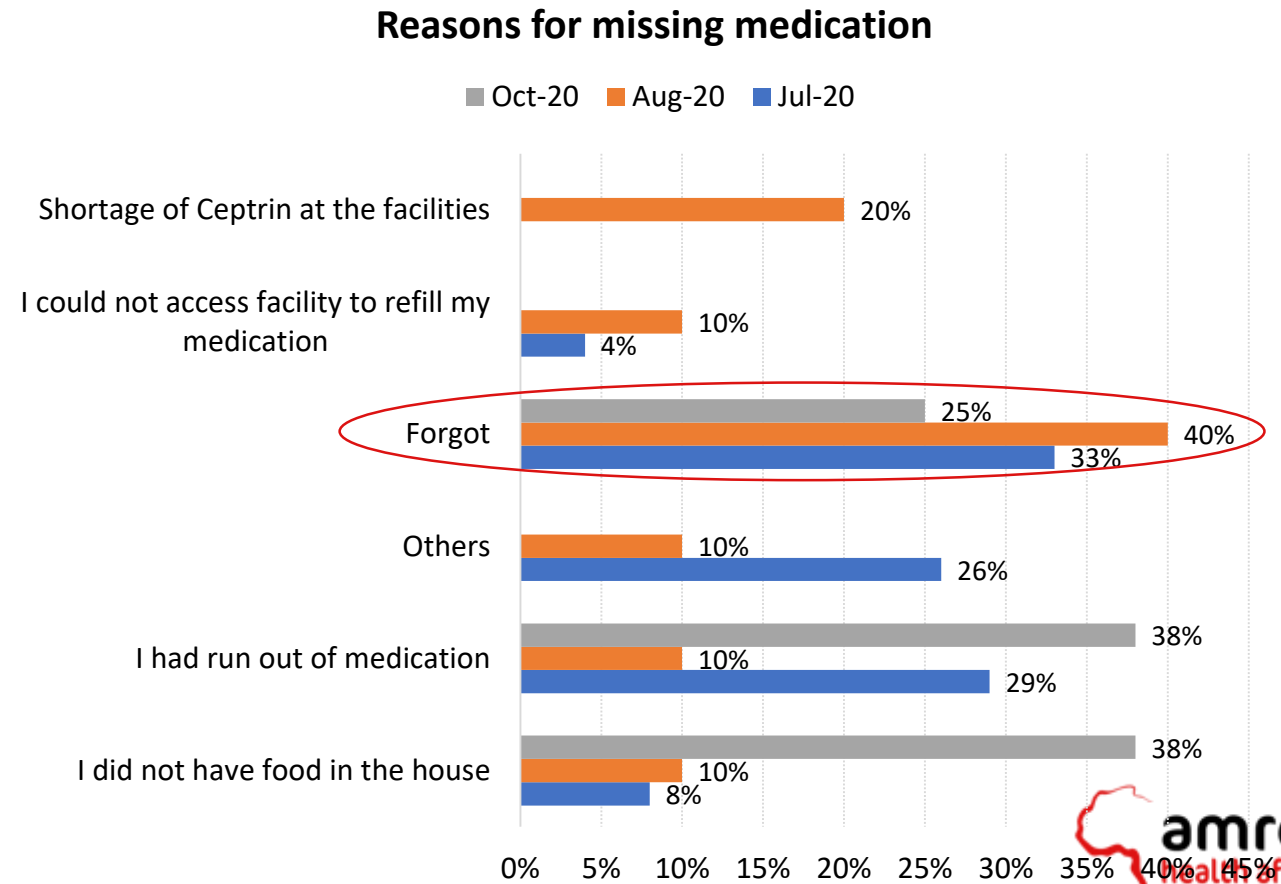
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**How has COVID-19 affected health care seeking behavior among PLHIV in Kibera informal settlement?**

- The proportion of respondents who missed medication consistently reduced from July (14%) to October (5%)

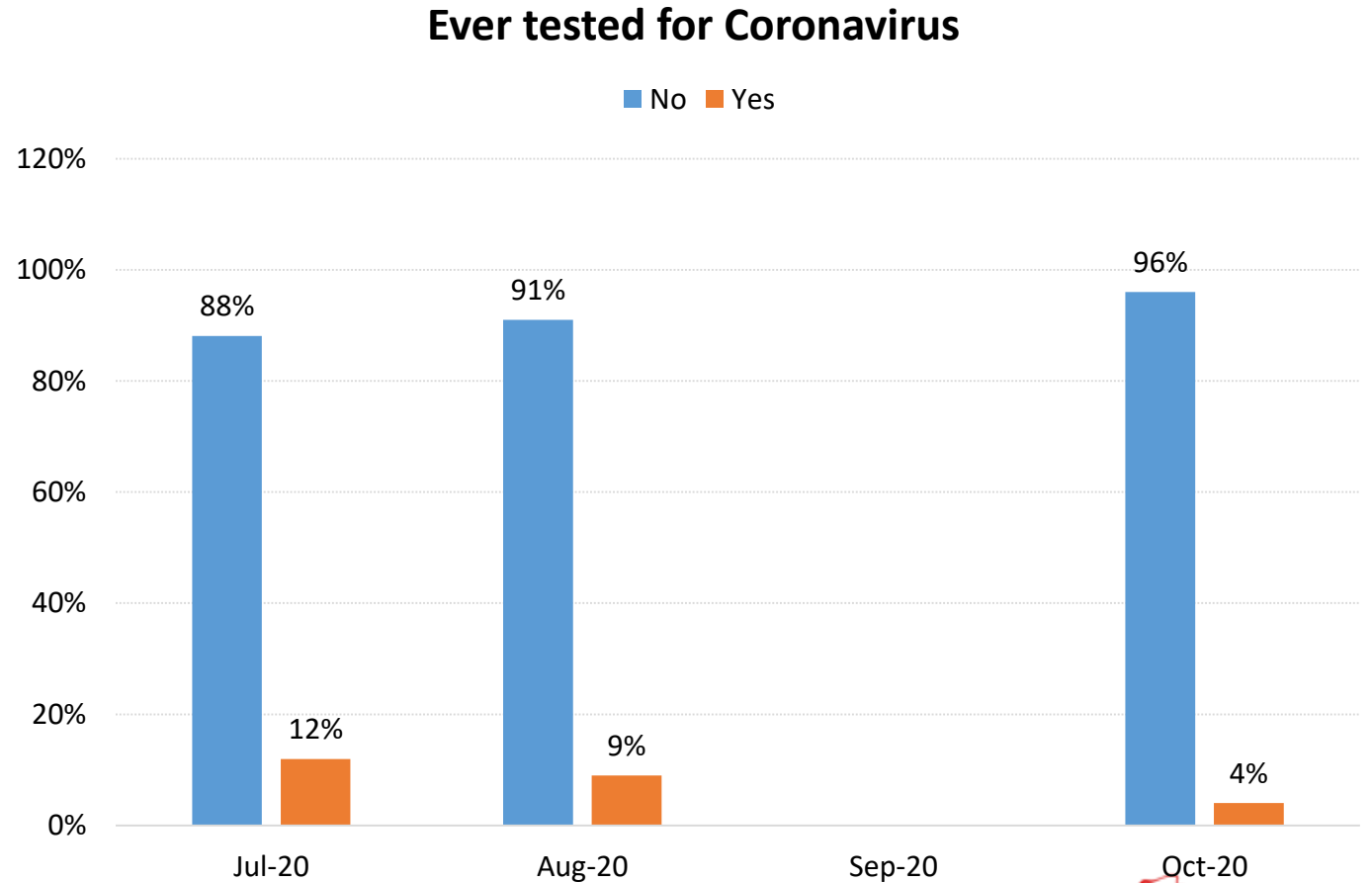


Qn:) Since the start of covid in Kenya, is there any day that you have missed taking your medication?



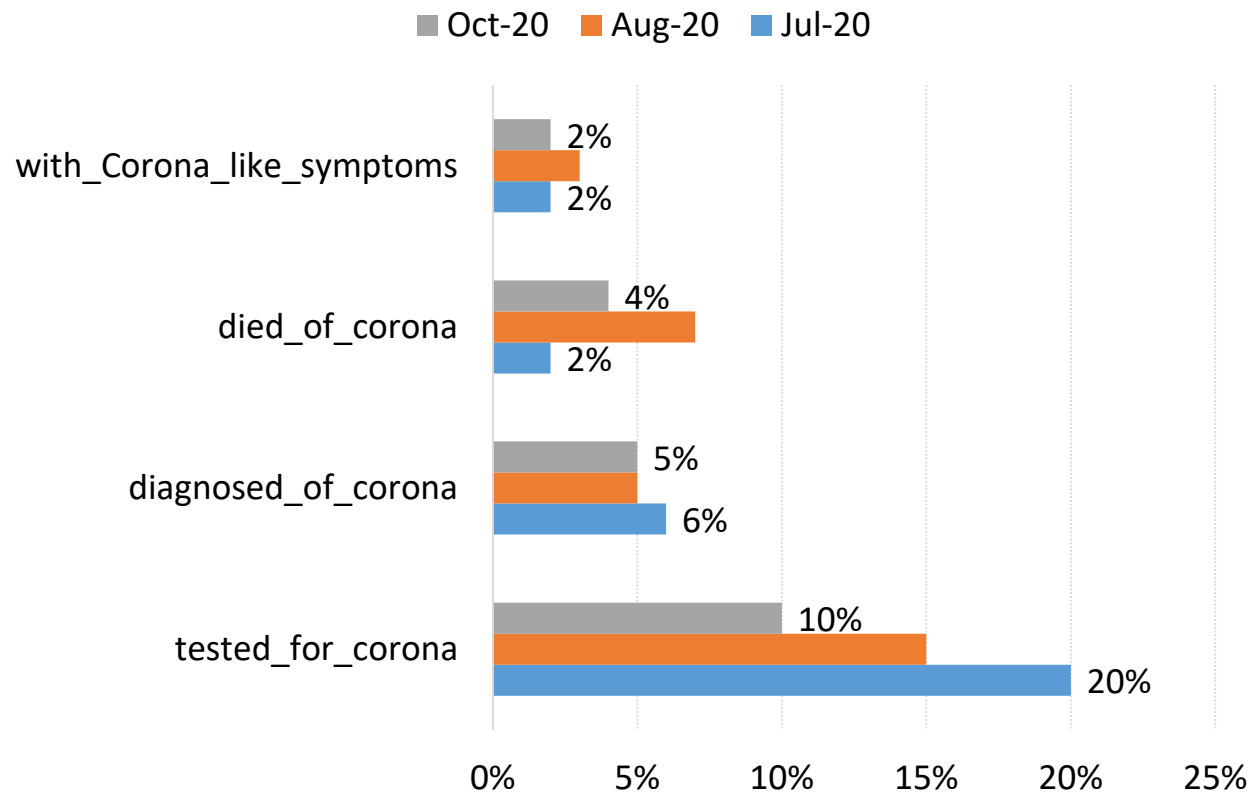
# Ever tested for COVID-19

- The proportion of respondents who had tested for covid-19 reduced from 12% in July to 4% in October 2020
- Among those who tested for covid-19 1 each turned positive in July and August while none in October 2020



*Qn: Ever tested for corona in the past one month?*

## PLHIVs Know of a person...

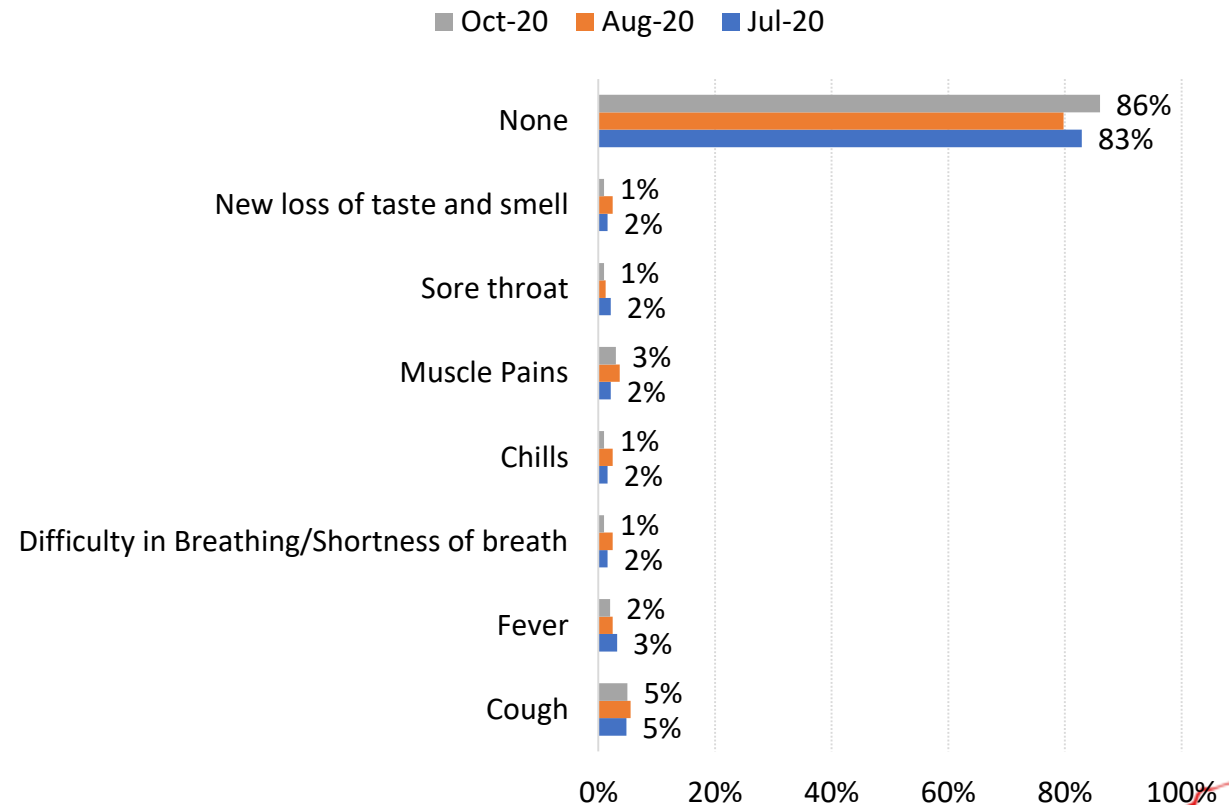


- 2% of respondents reported knowing someone with Corona like symptoms in July 2020. That proportion remained same in October 2020
- 2% of the respondents reported knowing someone who died of corona in July. The proportion doubled to 4% in October 2020
- Almost a similar proportion of respondents reported knowing someone diagnosed with corona in July (6%) and October 2020 (5%)
- About 20% of respondents reported knowing someone who had tested for corona. That proportion reduced to 10% in October 2020

# Covid-19 symptoms experienced

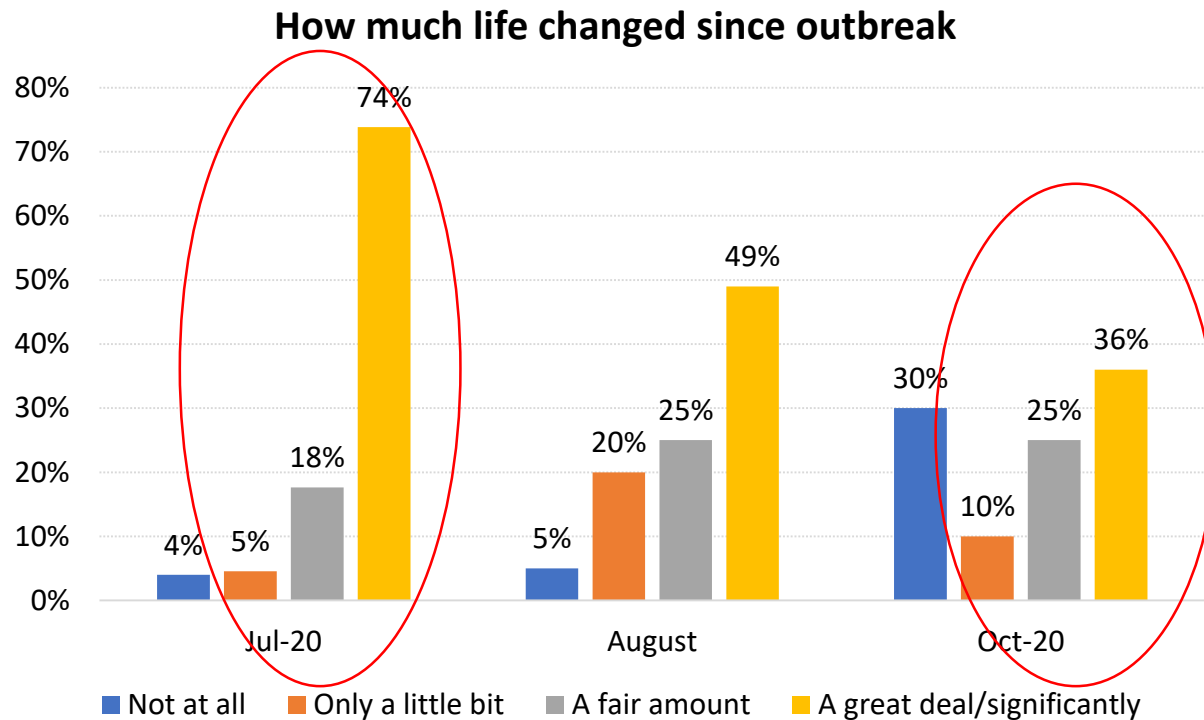
- 100% of the respondents had ever heard of Coronavirus disease
- About 17%, 20% and 14% of the respondents in July, August and October respectively reported at least one of the COVID symptoms
- No exponential increase in any of the covid-19 symptoms through out the 4 months period
- On average, 62% of the respondents sought medical care in case of covid-19 symptoms.

Covid-19 symptoms experienced





# Impact of COVID-19 on life



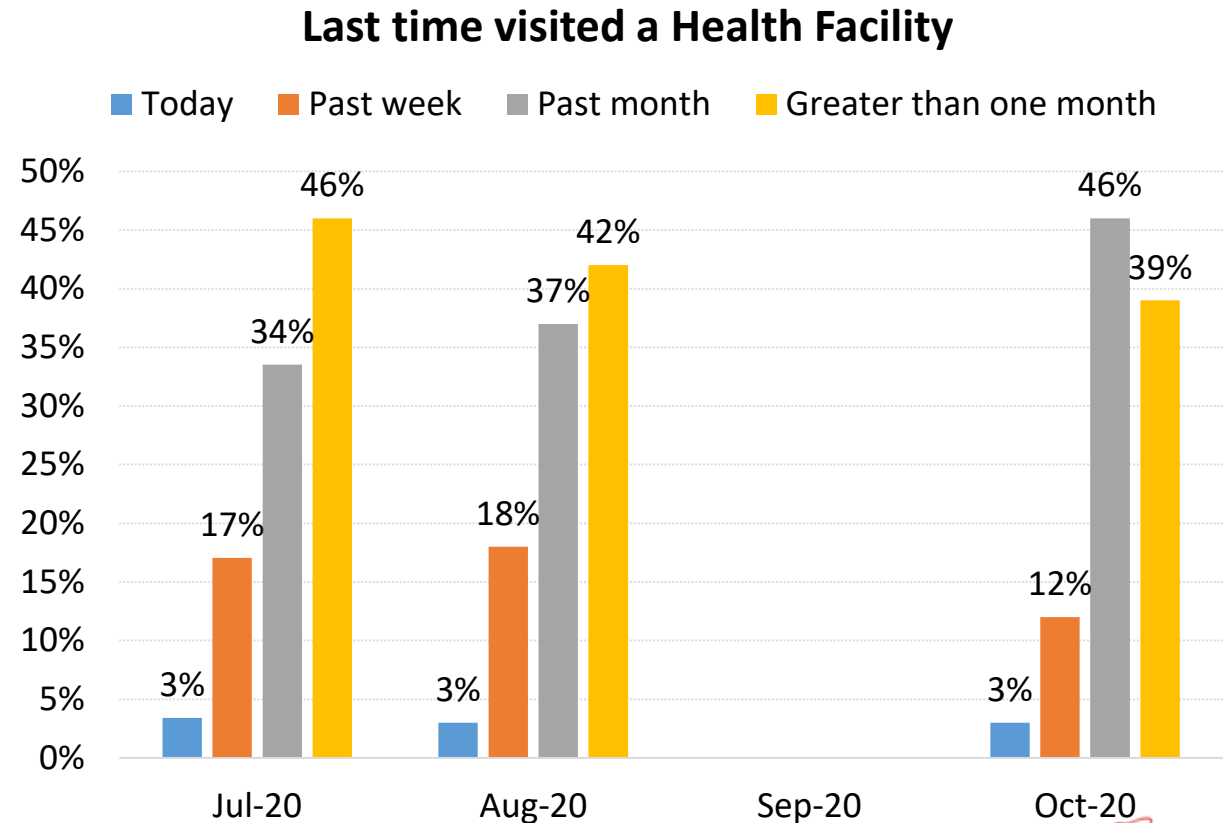
*Qn: Since the outbreak of the virus, how much, if at all has your life changed?*

- In July 2020, about 96% of the respondents indicated that their lives changed in at least one way or another since the outbreak of COVID-19 in Kenya
- This proportion had reduced to 70% in October 2020, showing that people are either getting used to the situation or being innovative in ways of life
- Top three ways in which the lives of the respondents had changed include:
  - ✓ Reduced income from employment/work
  - ✓ Increased hunger
  - ✓ Increased cost of living

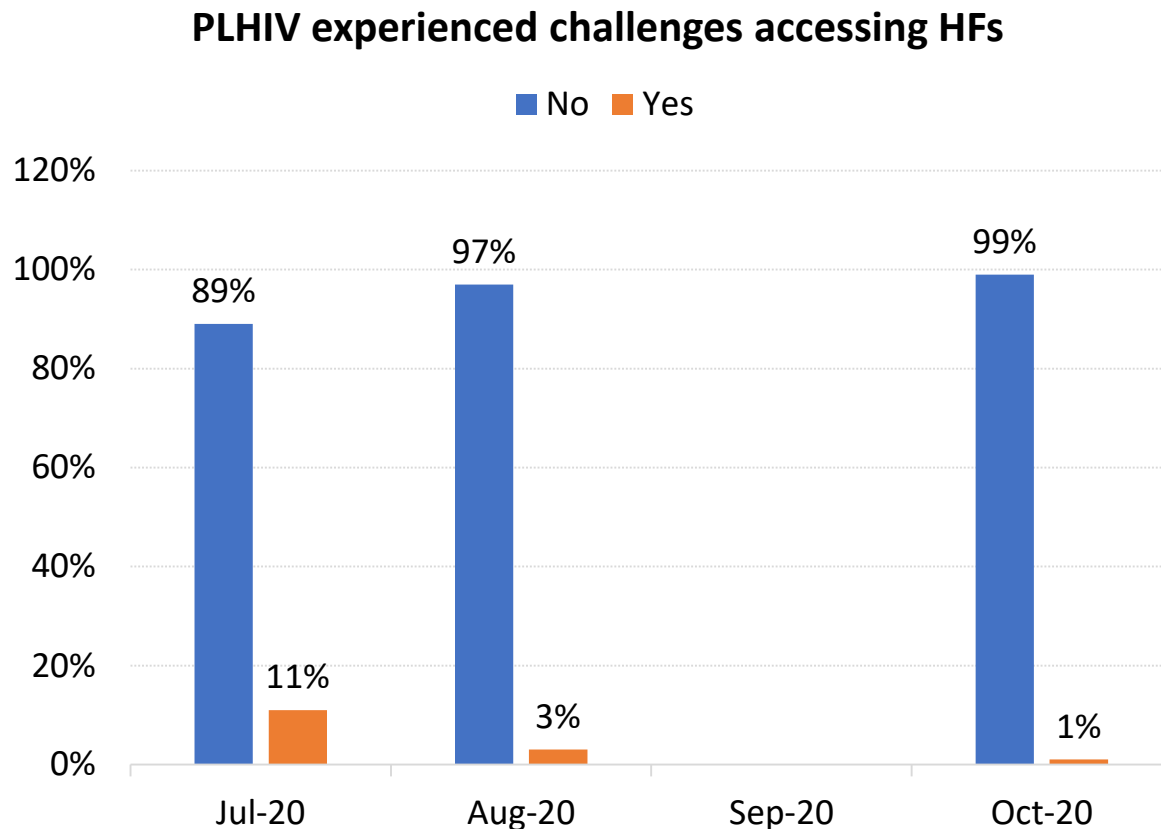
# Last time PLHIVs visited HFs

- Across the four months, majority of the respondents visited the HFs more than a month from the date of the survey for medication refill
- This is expected given that on average 97% of the PLHIVs are stable on treatment (VL of <1000 copies/ml)
- On average, 2% of the respondents mentioned that the screening for coronavirus at entrance of HFs affected their routine visit to the HFs

*Qn: When was the last time you visited a HF?*



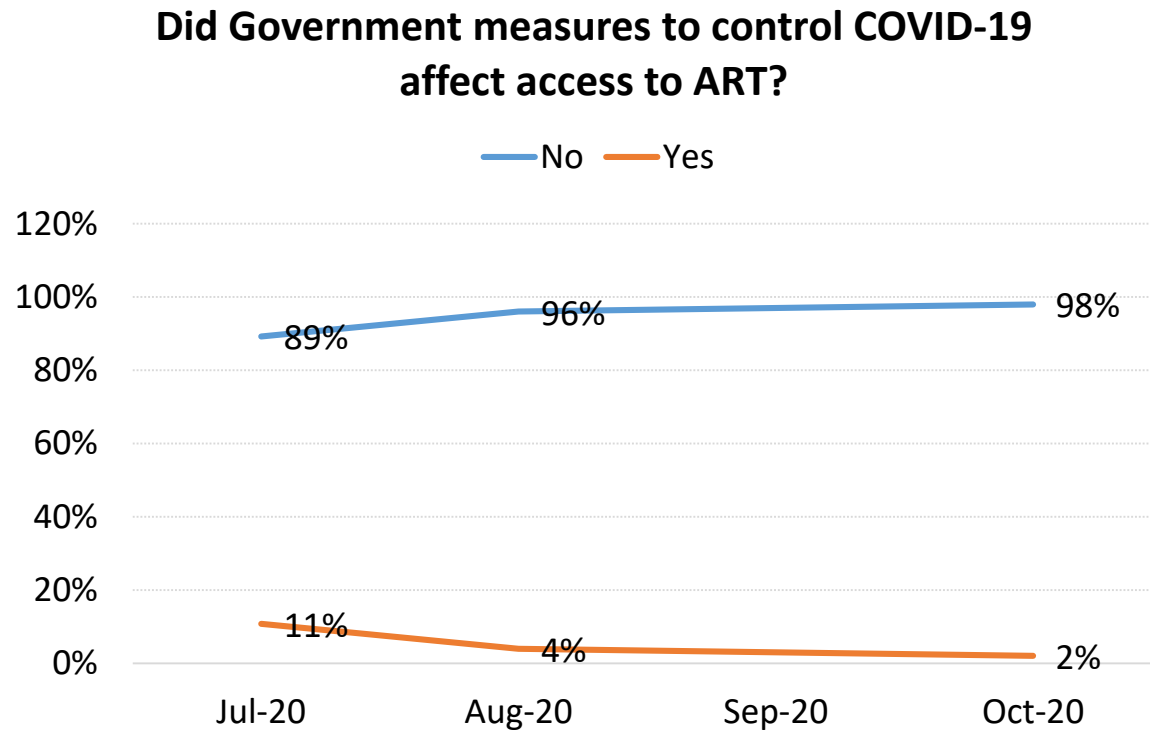
# PLHIVs experienced challenges accessing HFs



*Qn: Did you experience any challenges in accessing the HF?*

- About 11% and 1% of the respondents reported having experienced challenges accessing the HFs in July and October respectively.
- Experiences shared include:
  - ✓ Fear of contracting corona virus
  - ✓ Lock down regulations
  - ✓ Facility was closed
  - ✓ Isolated because of Corona virus
  - ✓ Lack of personal protective equipment (Face mask)
  - ✓ Lack of funds to access facility

# Effect of government control measures on Access to ART

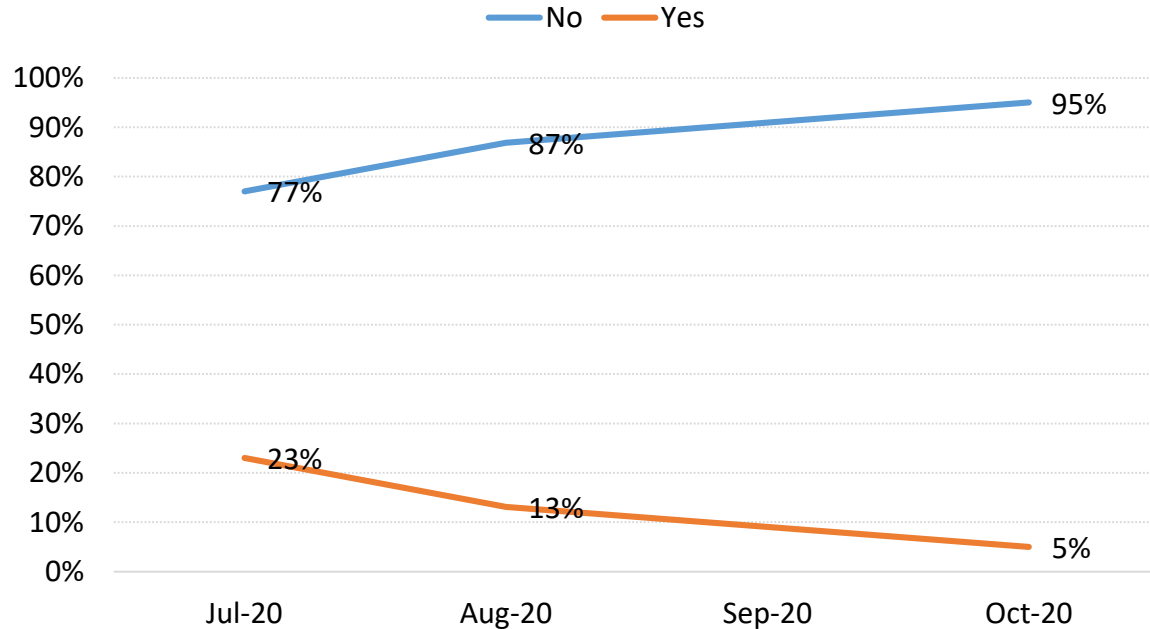


*Qn: Have the measures taken by the government against the spread of corona affected your access of ART?*

- In July 11% of the respondents indicated that the measures put in place by the government to control the spread of coronavirus affected their access to ART
- The experiences mentioned included:
  - ✓ Could not travel because of lockdown
  - ✓ Hospitals closed for activities such as fumigation/covid centers
  - ✓ Shortage of Septrin
- Shortage of Septrin has been consistently reported as an issue for the four months

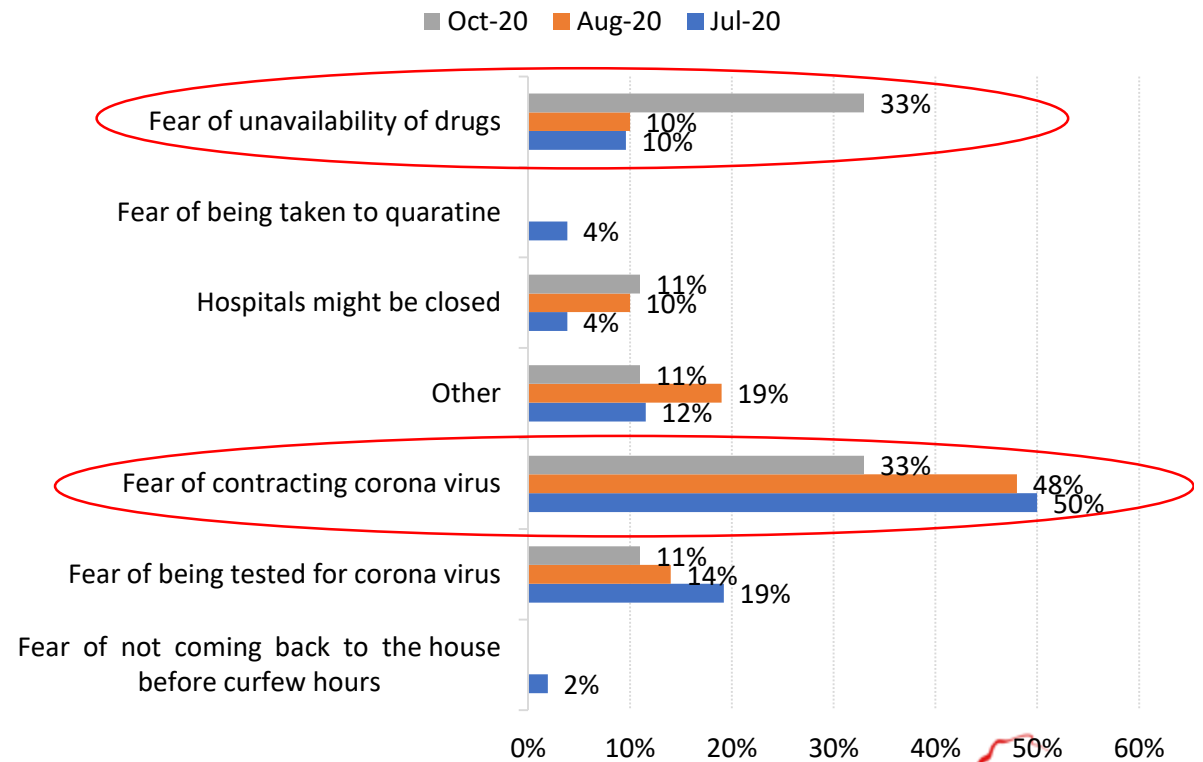
# PLHIVs fears and concerns about seeking health services in a HF

Fears and Concerns about seeking for health services in a health facility



Qn: Do you have any fears and concerns about seeking for health services in a HF?

Main fears and concerns about seeking health services in a HF



# Whether PLHIVs should consult a doctor in case of coronavirus symptoms

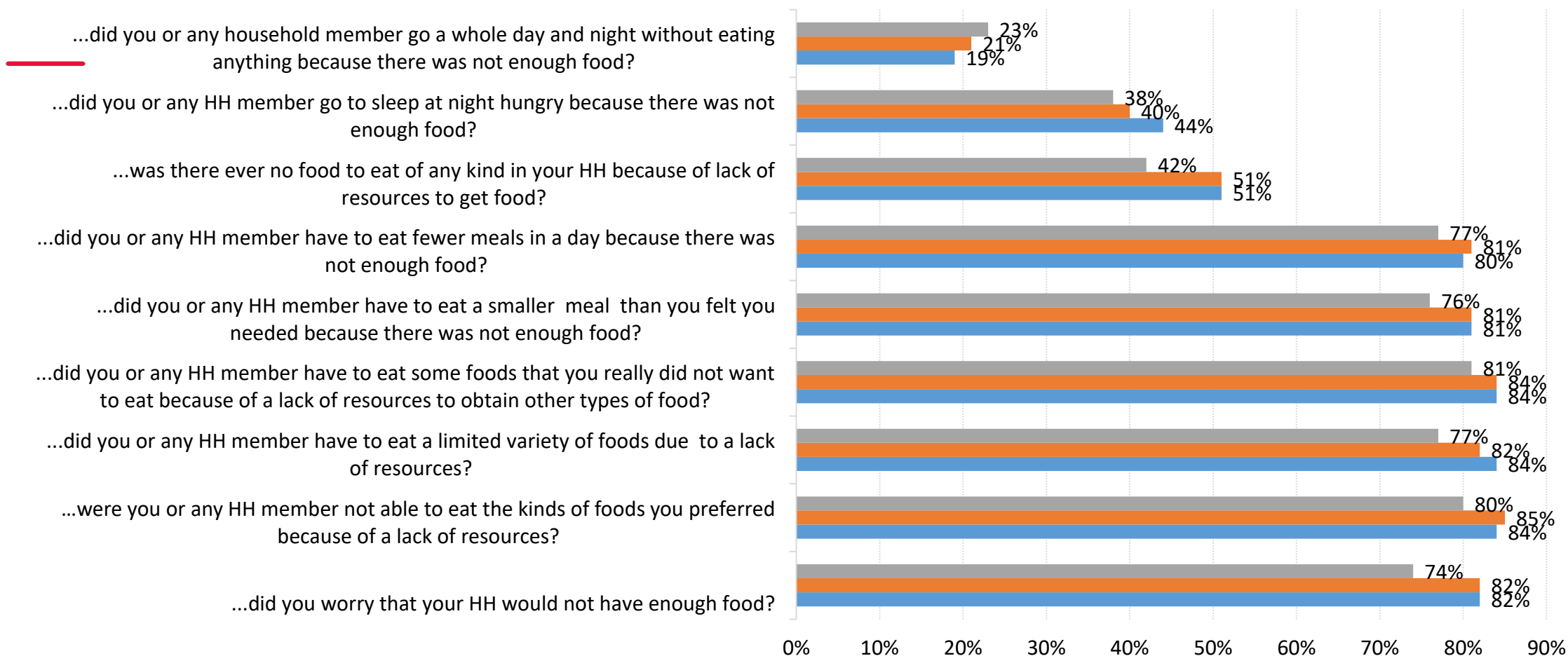
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- In July and August, 99% of the PLHIVs believed one should consult a doctor/health professional if he/she has coronavirus symptoms
- This has reduced to 96% in October 2020

# Household food insecurity

In the past four weeks...

■ Oct-20 ■ Aug-20 ■ Jul-20



## Research Question 3

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**How has COVID-19 affected PrEP uptake, HIV testing and treatment services in Seven Covid-19 hotspot counties in Kenya two years before and four months after COVID-19 outbreak**

The 7 hotspot counties are: 1) Nairobi, 2) Mombasa, 3) Machakos, 4) Busia, 5) Kiambu, 6) Nakuru and 7) Kajiado





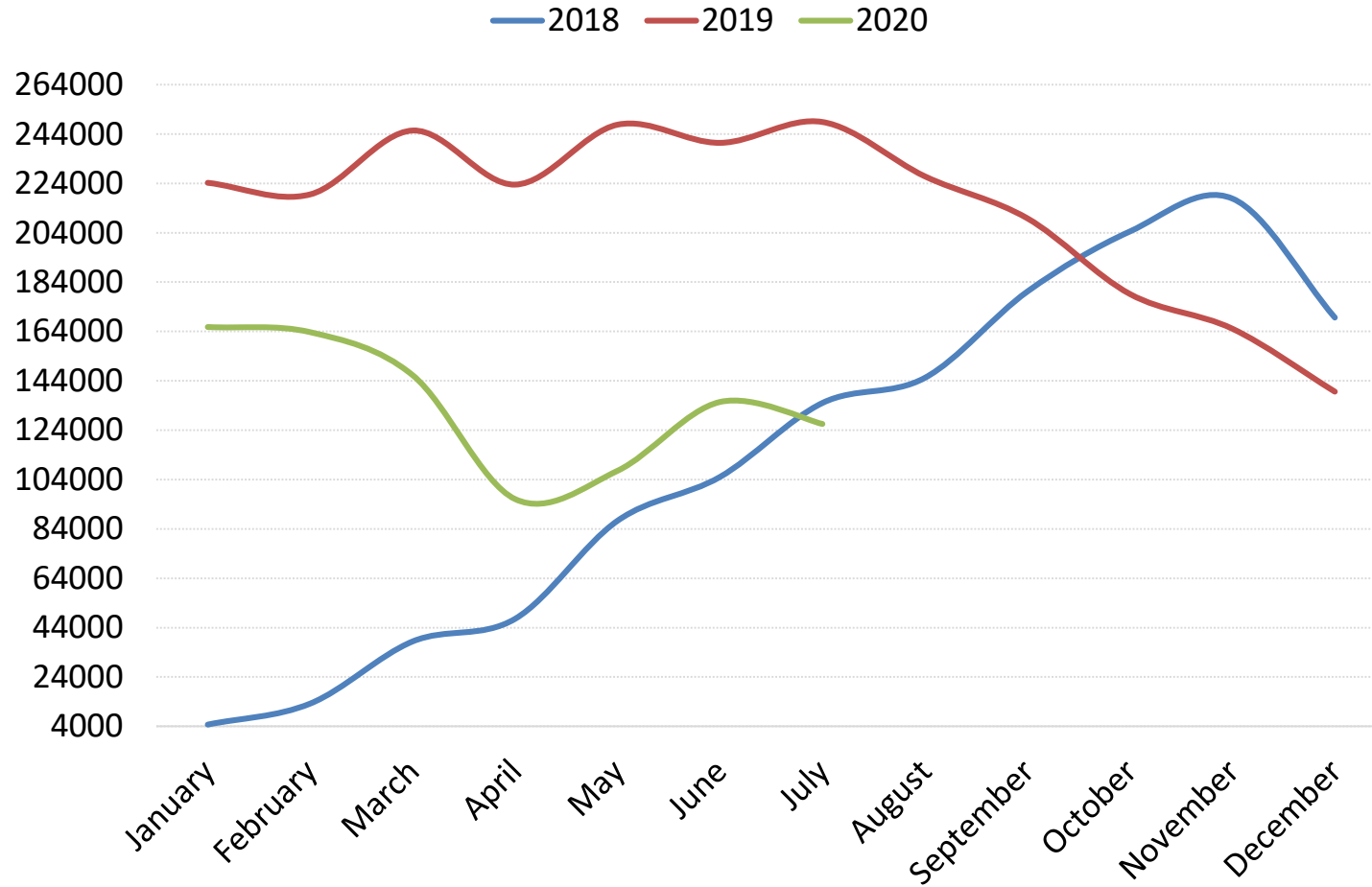
# Impact of covid-19 on HIV testing

HIV_Testing	IRR	Robust Std. Err.	z	P> z	[95% Conf. Interval]
Month	1.054963	.027901	2.02	0.043	1.001671 1.11109
Year	.8261786	.2183384	-0.72	0.470	.4921785 1.386836
Period	.4436609	.0787972	-4.58	0.000	.3132362 .6283916
_cons	1.9e+172	1.0e+175	0.74	0.457	3.1e-282 .

- HIV testing in the seven COVID-19 hotspot counties in Kenya was significantly affected by the onset of COVID-19 pandemic
- From a Poisson regression, we find that HIV testing had reduced by 56% with the onset of COVID-19 pandemic than before holding other variables constant

Note: IRR is Incident Rate Ratio

## HIV Testing Trends in COVID-19 Hotspot Counties



- The trend graph show reduction in trends of HIV testing in the 7 hotspot counties which corroborate the reduction of 56%

# Impact of covid-19 on PrEP

Includes: Discordant couples, general population, MSM, FSW, PWID

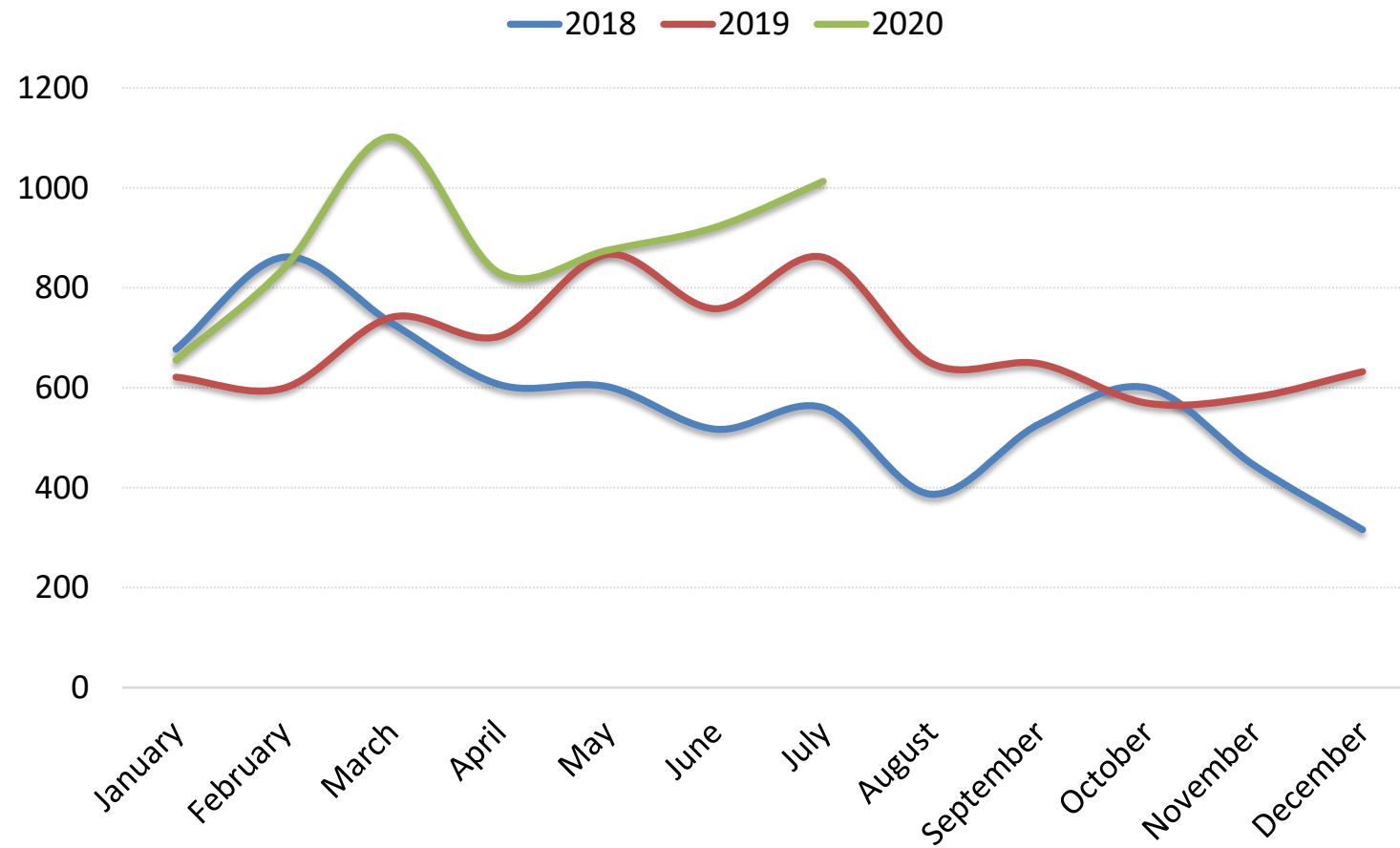
PrEP	IRR	Robust Std. Err.	z	P> z	[95% Conf. Interval]
Month	.9739061	.0091511	-2.81	0.005	.9561345 .9920081
Period	1.241527	.1143043	2.35	0.019	1.036545 1.487045
Year	1.542447	.1897687	3.52	0.000	1.211954 1.963063
_cons	0	0	-3.50	0.000	0 2.2e-166

- PrEP among discordant couples, general population, MSM, FSW and PWID significantly increased by 24% from the onset of the pandemic

Note: IRR is Incident Rate Ratio



## PrEP Trends in COVID-19 Hotspot Counties



# Impact of covid-19 on Clients Starting ART

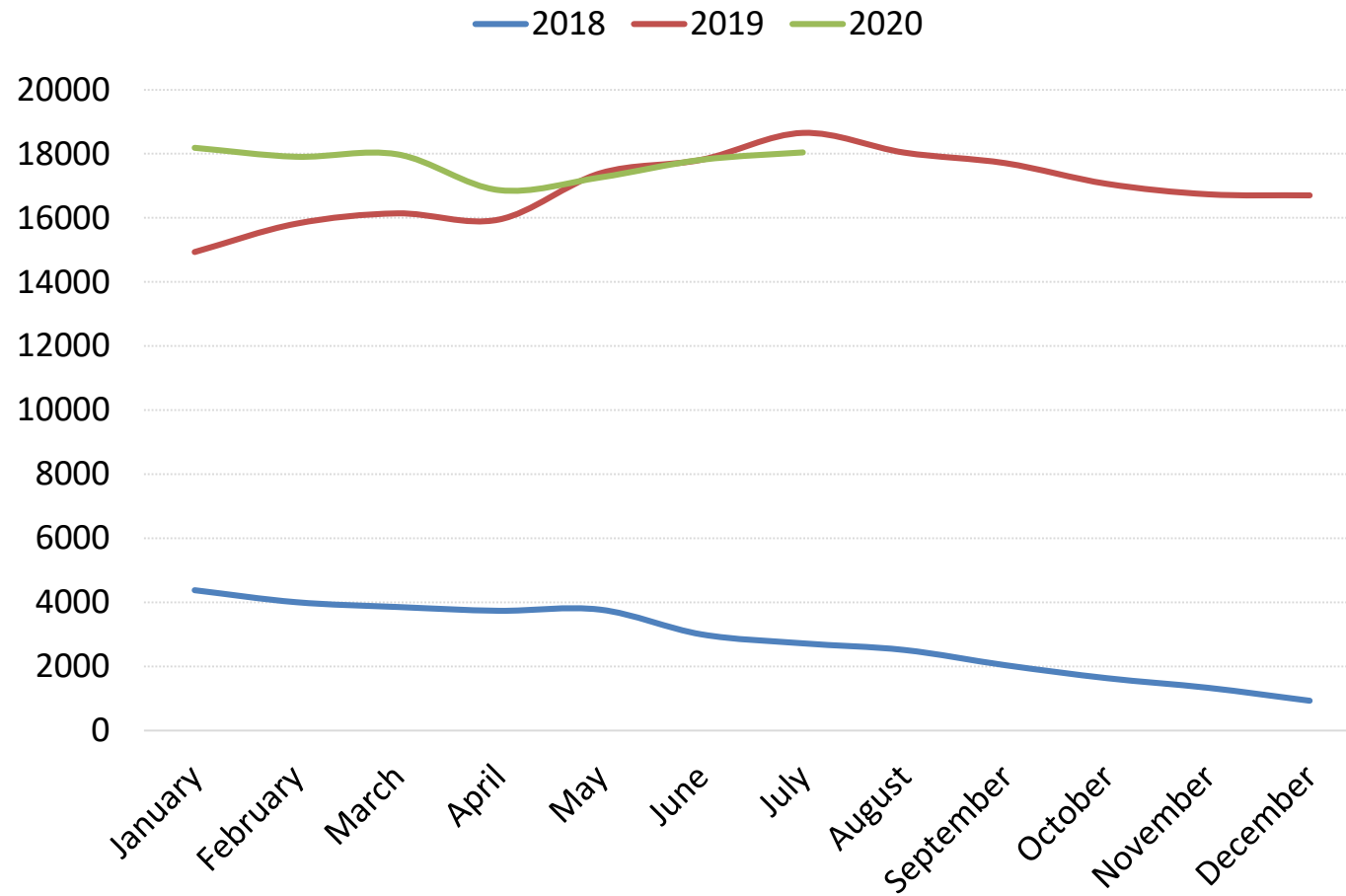
Starting_ART	IRR	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
Month	1.035541	.0168434	2.15	0.032	1.003049	1.069085
Period	.5237438	.1044745	-3.24	0.001	.3542618	.7743075
Year	1.797552	.4962637	2.12	0.034	1.046367	3.088013
_cons	0	0	-2.11	0.035	0	6.99e-37

- Clients starting ART significantly reduced by 48% from the onset of the pandemic

Note: IRR is Incident Rate Ratio



## Starting ART Trends in COVID-19 Hotspot counties



## Research Question 4

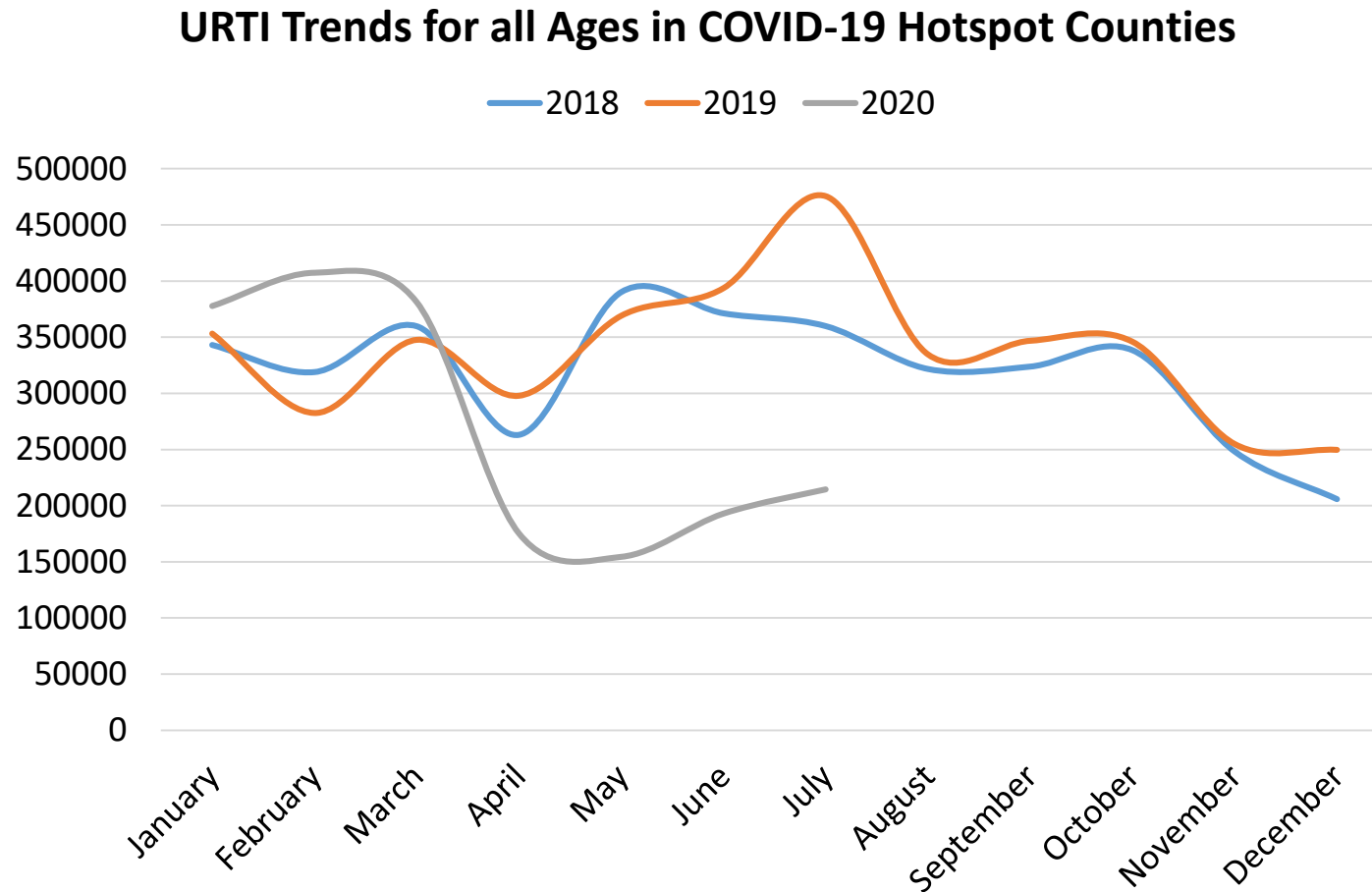
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**What are the trends of Respiratory Tract Infections (RTIs) in Seven Covid-19 hotspot counties in Kenya two years before and four months after COVID-19 outbreak**

The 7 hotspot counties are: 1) Nairobi, 2) Mombasa, 3) Machakos, 4) Busia, 5) Kiambu, 6) Nakuru and 7) Kajiado



# Trends in Upper Respiratory Tract Infection

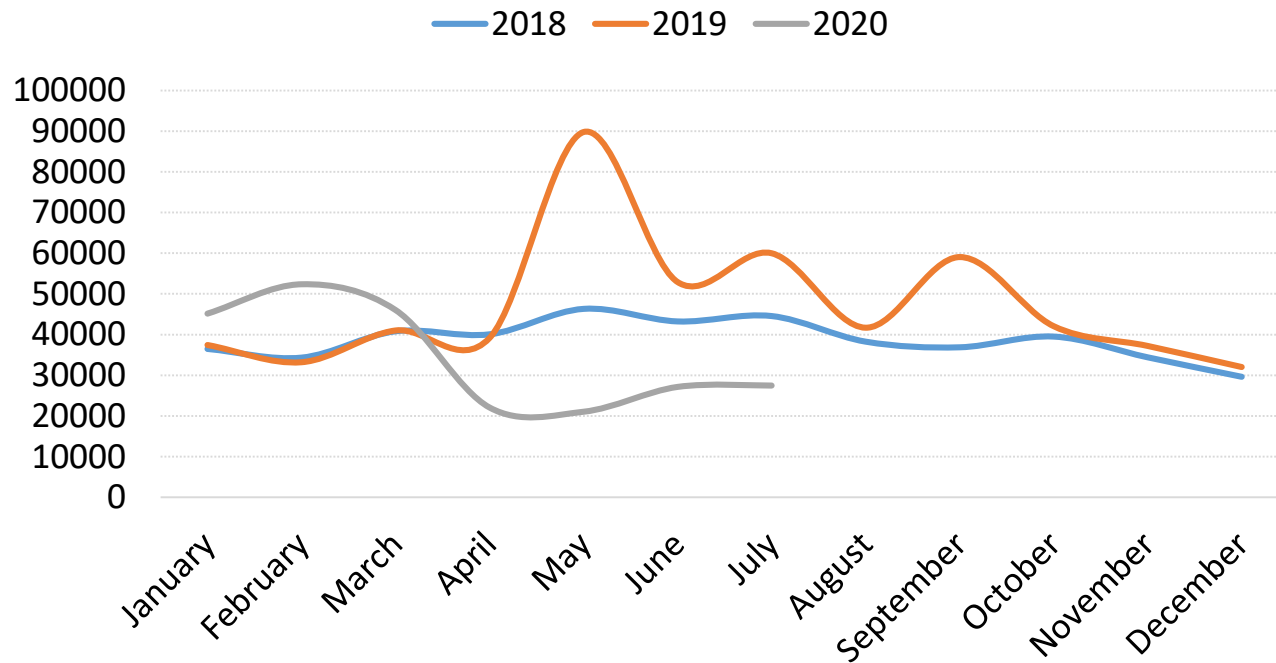


- The trend of Upper Respiratory Tract Infection reduced from the onset of the pandemic in comparison to the same periods in 2018 and 2019



# Trends Pneumonia Cases in Covid-19 hotspot counties in Kenya

Pneumonia Trend in COVID-19 Hotspot Counties



- The trends in Pneumonia cases reduced from the onset of COVID-19 pandemic in comparison to the same period in 2018 and 2019



# Conclusion

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- The lives of HIV patients have been negatively impacted in at least one way or another since the outbreak of the pandemic
  - Patients experienced challenges accessing HFs and ART, especially in the month of July because of a myriad of issues such as fear of contracting coronavirus, closure of HFs, government lockdown measures or lack of personal protective equipment
  - The patients are also at high risk of food insecurity and malnutrition because of inability to fend for themselves and HH members
- The situation has however improved as at October 2020
- We have also seen reduced HIV testing services, ART initiation by significant margins since the onset of COVID-19
- The findings have not revealed spikes in RTI or pneumonia infections before March 2020 to suggest that COVID-19 could have been in the Country way back before the first case was reported

# Recommendations

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- Further research is required to understand the effect of COVID-19 co-infection of PLHIVs as the available data was inconclusive on this aspect
- Further research is also necessary to understand why patients who are mature in HIV treatment forget to take their medications as stipulated

# Acknowledgements

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# CONNECT

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