COVID-19 and HIV: Latest updates and guidance

Dr Meg Doherty and Dr Rachel Baggaley
Department of Global HIV, Hepatitis and Sexually Transmitted Infections Programmes
COVID-19 and HIV: Latest updates and guidance

Meg Doherty:
- COVID epidemiology update
- What we know about HIV & COVID-19 associations
- Disruptions in essential health services for HIV (ARVs/PMTCT/Treatment)
- WHO essential health service guidance & COVID Guidelines

Rachel Baggaley:
- Prevention disruption & guidance
- Testing disruption & guidance
- What to expect from WHO in the future - guidance for HIV&COVID #buildbackbetter
Globally, as of 2:48pm CET, 6 December 2020, there have been 65,870,030 confirmed cases of COVID-19, including 1,523,583 deaths, reported to WHO.

Global Situation

https://covid19.who.int/
Modeling predicted large impact on HIV deaths and new infections

Indirect effect of COVID-19 on HIV—THE COST OF INACTION is HIGH
HIV services must be maintained...

**Suspension of prevention of mother to child transmission services for 6 months could result in dramatic increases in new HIV infections among children in 2020/2021**

- Malawi: 182
- Uganda: 129
- Zimbabwe: 106
- Mozambique: 83

Increase in the number of new HIV child infections (per cent)

### COVID-19 public health ‘earthquake’ on pediatric HIV

- Reduced uptake of facility-based services due to lockdowns
  - Fear to return to the facility even where lockdowns are not in place
  - Challenges to reach facilities due to lack of transportation
- Fewer women attending antenatal services leading to less HIV testing
- COVID19 testing competing for time and resources
- ARV stock outs of paediatric formulations
Direct effect of COVID-19 on HIV

- Approx. 2 times increased risk of death among PLHIV in S Africa
- Variable associations in the US and UK; low CD4 and comorbidities
- Early systematic reviews without associations; later with moderately increased risk


Figure 4. Kaplan Meier survival graphs, stratified by HIV status, sex and age group. P values represent log-rank tests. Plots D, E and F include only individuals from age groups <50 years, 50-59 years and 60-79 years.

COVID-19 mortality in people with HIV or tuberculosis: Results from the Western Cape Province, South Africa
Mary-Ann Davies on behalf of the Western Cape Department of Health
COVID-19 and HIV: Moderate increased risk hospitalization & death

Elevated COVID-19 outcomes among persons living with diagnosed HIV infection in New York State: Results from a population-level match of HIV, COVID-19, and hospitalization databases

James M. Tesoriero PhD\textsuperscript{a,b}, Carol-Ann E. Swain PhD\textsuperscript{a}, Jennifer L. Pierce BS\textsuperscript{a}, Lucila Zamboni PhD\textsuperscript{a}, Meng Wu PhD\textsuperscript{a}, David R. Holtgrave PhD\textsuperscript{a,c}, Charles J. Gonzalez MD\textsuperscript{a}, Tomoko Udo PhD\textsuperscript{a,d}, Johanne E. Morne MS\textsuperscript{a,d}, Rachel Hart-Malloy PhD\textsuperscript{a,d}, Deepa T. Rajulu MS\textsuperscript{a}, Shu-Yin John Leung MA\textsuperscript{a}, Eli S. Rosenberg PhD\textsuperscript{a}

Figure: Summary of rates and rate ratios for COVID-19 diagnosis, hospitalization, and in-hospital death, comparing persons living with and without diagnosed HIV Infection, by region - New York State, March 1 – June 7, 2020. 

!!includefigures!!

a. Persons diagnosed with COVID-19 through June 7, hospitalized through June 15. Standardized rate ratios adjusted for age, sex, and region.
COVID-19 and HIV: Systematic reviews point towards likely modest increase risk of severe disease and death from COVID-19

COVID-19 and HIV co-infection: a living systematic evidence map of current research

Gwinyai Masukume¹, Witness Mapanga², Doreen S van Zyl³

<table>
<thead>
<tr>
<th>Study</th>
<th>Country</th>
<th>HIV+ C19</th>
<th>Death</th>
<th>HIV- C19</th>
<th>Death</th>
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</table>

Hazard Ratio | HR | 95%-CI | Weight
-------------|--|---|---
2.14         | (1.70 to 2.70) | 47.8%|
2.30         | (1.55 to 3.42) | 20.6%|
1.33         | (0.69 to 2.57) | 8.2% |
1.63         | (1.07 to 2.48) | 18.6%|
1.20         | (0.50 to 2.85) | 4.8% |

Random effects model

Heterogeneity: $I^2 = 11\%$, $Q^2 = 0.0065$, $p = 0.34$
SOLIDARITY Trial - LPV/r provides no benefit
ARVs for COVID-19 PrEP? No evidence that it works

Preventive efficacy of tenofovir/emtricitabine against SARS-CoV-2 among PREP users

Countries with MMD policy per WHO region (n=129): frequency of ARV pick-up

- ARV MMD policy is adopted in most countries.

- Data available for 144 countries:
  - 129 (90%) adopted MMD policy

- Country cases suggest COVID-19 effect on MMD is double-edged:
  - Sufficient ARV stock → intensified MMD (Namibia, Malawi...)
  - Uncertain ARV stock → shorter MMD (Indonesia, Botswana..)

ARV stock availability and ARV disruptions due to COVID-19: June to November 2020

- Data available for **102 countries (November 2020)**
- From **24 to 12 countries** reported ARV stocks availability for major first line drugs (TLE/TEE/TLD) of **three months or less**

**75% reduction in ARV disruptions due to COVID-19**
- From 34 to 9 countries; LMIC most affected

**ARV 1st line stocks among WHO regions (n=102)**

<table>
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<tr>
<th>Region</th>
<th>&gt;3 months</th>
<th>≤3 months</th>
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<tr>
<td>Region of the Americas</td>
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<td>Western Pacific Region</td>
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Source: WHO HIV/HEP/STI COVID-19 Questionnaire, November 2020
Countries reporting on ARV disruptions due to COVID-19, 2020

Results compiled from a survey conducted by WHO between April and June 2020 (n=127): 34 countries reported ARV disruptions.

Results compiled from a survey conducted by WHO in November 2020 (n=152): 9 countries reported ARV disruptions.


Change in the number of pregnant women tested for HIV per month, compared to baseline, selected countries, 2020

- Change in number of pregnant women tested for HIV in 5 SSAfrica countries
- Initial disruption and rebound

Note: The baseline is the average of January and February reports.
Note: The six countries selected were among 13 that fulfilled the following attributes: (a) had data for January 2020; (b) had more than 50 pregnant women in January data; (c) had more than 50% of facilities reporting or data from 50% of estimated births; and (d) had at least six months of data.

COVID-19 Impact on reduced testing and partial rebound on newly initiating ART by month, Mar-Sept 2020

Monthly trends of persons tested and put on treatment = March to September 2020

Existing HIV and TB laboratory systems facilitated COVID-19 testing in Africa

• 412 laboratories in 17 African countries (SLIPTA)
• 78 laboratories achieving accreditation ISO standards.
• > 20 million HIV viral load tests and > 11 million molecular TB test in 2019
• **Platforms repurposed for COVID-19 test & >10 million tests conducted**
• Machines, infrastructure, sample transport systems, and highly skilled staff shared
• Led to disruptions for HIV and TB testing but on rebound now

HIV& COVID Stories from countries....  
https://www.who.int/health-topics/hiv-aids/#tab=tab_1
Maintaining Essential Health Services

- **Recommends practical measures** to take at national, subnational, and local levels to organize and maintain access to services in full safety with the highest quality.

- **Provides indicators for surveillance of essential health services and describes considerations of when to stop and when it safe to restart essential health services during COVID-19.**

- **Divided in two parts**
  - Part 1: Operational strategies to maintain essential health services
  - Part 2: Specific information regarding specific diseases
  - Annexe: Indicators for following EHS

- [https://www.who.int/publications-detail/10665-332240](https://www.who.int/publications-detail/10665-332240)
Harmonized suite of health service capacity assessment modules in the context of the COVID-19 pandemic

Hospital readiness and case management capacity for COVID-19

A set of modules to assess hospital preparedness and response planning and COVID-19 case management capacity including essential medicines, diagnostics, and supplies. It also includes in-depth modules on essential biomedical equipment for COVID-19, COVID-19 safe environments, and infection prevention and control.

Continuity of essential health services in the context of the COVID-19 pandemic

A set of modules to assess and monitor health facility capacities to provide essential health services during the COVID-19 outbreak. It looks at changes in service utilization and delivery, and includes in-depth modules on the availability of essential medicines, diagnostics, and supplies, as well as on community needs and perceptions.
Guidance and tools available for countries

Maintaining essential health services: operational guidance for the COVID-19 context
- Rapid hospital readiness checklist
- Biomedical equipment for COVID-19 case management – inventory tool

WHO surge calculators:
- Forecasting supplies, diagnostics and equipment requirements
- Forecasting health workforce requirements

- Community-based health care, incl outreach and campaigns, in the context of COVID-19 pandemic
- Preventing and managing COVID-19 across long-term care services: Policy brief

Educational platforms for clinical management of COVID-19:
- WHO Academy COVID-19 app
- OpenWHO online course
What has happened to HIV prevention and testing in the time of COVID-19

- Condoms
- VMMC
- PrEP
- Services for KP
- Services for AGYW
- HIV testing
Maintaining essential HIV prevention (and contraception services)

• Learning from Ebola in West Africa: increased unplanned and teenage pregnancies during emergency response → unsafe abortions and AGYW morbidly

• Prioritize continuation of contraception services

• Many HIV prevention activities likely to be paused or scaled down eg VMMC, community outreach activities.

• But condoms, harm reduction and methadone programmes need to continue with modifications

• Delivery of supplies with social distancing through pharmacies

• Larger supplies for longer time periods

• Continue to support HIV testing including through expanding access to self-testing
Voluntary medical male circumcision (VMMC) services for HIV prevention, COVID-19 disruptions & continuation

Thanks to WHO VMMC leads Wole Ameyan, and Julia Samuelson
WHO recommended that VMMC programme activities be suspended in a pandemic context to ensure essential services continue to be delivered.

In several countries, VMMC programme activities were suspended during COVID-19 measures between April-June 2020.

In some counties such as South Africa, VMMC services pivoted towards the COVID-19 response, by contributing staff and supplies.

VMMC Service Disruptions

Temporary suspension of services due to COVID-19 slowed down progress in 2020

- 11 of 15 priority countries for VMMC scale up have reported data on service disruptions
- 8 countries reported more than 2 consecutive months of service disruption data
- 4 of these 8 countries have reported data that represent >50% of facilities providing VMMC services (Botswana, Kenya, Rwanda, and South Africa)

In Botswana, Kenya, Rwanda, and South Africa VMMC services were suspended or slowed down in April 2020, however services are resuming

Source: UNAIDS HIV services tracking tool, 2020
Notes: Data are reported monthly by national country teams, with support from UNAIDS, UNICEF, and WHO. Historical monthly data may be updated or revised at the time of each submission; thus results may change.
WHO VMMC plans

New WHO guidance launch and dissemination in midst of COVID-19

WHO Project ECHO virtual webinars and case-based studies
- August: Series of 3 on all chapters
- November: ASRH and VMMC linkages
- December: Transitioning
Pre-exposure prophylaxis

Thanks to WHO
VMMC leads Robin Schaeffer and Michelle Rodolph
PrEP during COVID-19 – a mixed picture - less use, less access ... but ? less need

Torres, Brazil
During lockdown April to May 2020:
• 28% of previous PrEP users stopped PrEP use
• reasons for stopping: 47% impediments to pick up PrEP refills and 40% sexual abstinence

Reyniers, Belgium:
• 47% stopped taking PrEP during lockdown
• 22.6% of PrEP users said that their PrEP appointment was postponed due to lockdown.
• but changes in sexual behaviour, so lower PrEP use not necessarily the same as more risk exposure.

Hammoud, Australia
• 41% of PrEP uses stopped using
• those who stopped, 86% gave COVID as a reason, but only 17% said that they found it difficult to access PrEP (stopping may be due to changes in sexual behaviour and reduced risk.

Dvora Davey, Cape Town, South Africa, PrEP in Pregnant and Postpartum Women (PrEP-PP),

During SA nationwide lockdown missed PrEP visits increased significantly
• 63% at the 1-month visit
• 55% at the 3-month visit
• The relative risk of missing a study visit increased during lockdown compared with before lockdown (odds ratio 2.36, 95% CI 1.73–3.16).

Douglas Krakower, Fenway Health, Boston, US,
March and April of 2020
patient lapses in refilling PrEP prescriptions ↑191%.
patients starting PrEP ↓72.1%
total # patients with an active PrEP prescription ↓18.3%
HIV tests ↓85.1%.
PrEP innovations during COVID-19
Vietnam (Healthy Markets): Online support and counseling for PrEP clients

Online promotion → Online customized counseling → HIVST kit delivered to client with follow-up instructions

Slide courtesy Dr. Kimberly Green, Global Director – HIV & TB, PATH
WHO PrEP plans

• Updated oral PrEP guidance
• Guidance on the DPV vaginal ring
• Following developments with long acting preparations eg CAB-LA
HIV prevention and key populations

- A Global Network of Sex Worker Projects survey across 55 countries found that a majority of respondents in every region, except Europe, reported reduced access to condoms, lubricants and services for screening and treating STIs.

- A global survey among MSM using a social networking app in April-May 2020 found that many reported interruptions to HIV prevention services, including condoms and PrEP.
WHO plans for KP work

During COVID-19

• Support services that reach KP e.g. community-based services, drop-in centres and outreach services
• continue providing life-saving prevention (distribution of condoms, needles and syringes), testing and treatment (for HIV and opioid dependence) while securing safety of staff and clients
• Alterations in implementation and service delivery
  • Take home OST

New KP guidelines

• Updated planned for 2021
• Include HIV, viral hepatitis and STIs
• Person centred with population specific modules
• Continue advocacy to address structural barriers with enabling interventions
• Prioritised health packages by population
Maintaining HIV testing services during the time of COVID-19

WHO suggested measure in April 2020

• Support undiagnosed PLHIV to get tested → linked to ART
  • PLHIV, who do not know their status & not ART inc those with risk factors (e.g. diabetes ↑ BMI), who acquire a COVID-19 may be at risk of COVID-19 complications
• Ensure safety of HTS providers - PPE etc
  • adaptations eg phone calls, digital tools (e.g. videos, websites, social media, text messages) and use of HIV self-testing (HIVST)
• Considerations for prioritizing and adapting HTS programmes
  • continuing ongoing critical clinical services (e.g. ANC (inc dual HIV/syphilis), individuals with symptoms/conditions indicative of HIV or co-infections or other co-morbidities (e.g. TB, STIs, malnutrition), and EID of HIV-exposed children).
  • partner/index/family testing to reach the partners of PLHIV and KP programmes; increasingly using phone calls; partner delivered HIVST
  • key populations who need HTS, sexual health services, and social protection
    • restricting/pausing community outreach – focus on HIVST and virtual support
  • maintain linkage and referrals to ART, and supply of condoms, contraception
  • monitor supply chain management - may be increased HIVST demand & risks of disruptions

Thanks to the WHO testing team - Cheryl Johnson, Muhammad Shahid Jamil, Maggie Barr-DiChiara

World Health Organization
Decline in testing during COVID-19 restrictions seen across Africa

- Testing in ANC largely maintained
- Greatest declines in testing in men, non-pregnant women, and KP
- Significant difference across countries
- Positivity rate in testing stable – but indicates a significant drop in absolute new # of diagnoses
Realizing the role of HIV self-testing (HIVST) in the time of COVID-19

Considerations for HIVST

• HIVST may be acceptable alternative to maintain services while adhering to physical distancing guidance.

• Strategically implement HIVST prioritizing areas & populations with greatest needs and gaps in testing coverage.

• HIVST approaches include:
  • distribution for personal use and/or sexual and/or drug injecting partners of PLHIV and social contacts of KP
  • in high HIV burden settings, pregnant women can provide HIVST kits to their male partners.

• Priority settings to consider
  • pick up at facilities or community sites
  • online platforms (e.g. websites, social media, digital platforms) and distribution through mail
  • pharmacies, retail vendors, vending machines

Countries with HIVST programmes

Expand and adapt HIVST

• replace facility with HIVST (to decongest health facilities)
• use HIVST for partner and social network testing

Countries yet to use HIVST

• Lobby for rapid HIVST approval
Ukraine (Serving Life): HIVST direct delivery

161 self-tests with nutrition packages delivered.

25 new HIV-positive partners of index clients in civil sector diagnosed and initiated on ART.

Slide courtesy Dr. Kimberly Green, Global Director – HIV & TB, PATH
Exploring opportunities for HIV testing & prevention in the COVID-19 response

In high HIV burden settings ... could consider

• Community contact tracing key element of the COVID-19 response
  • Provide HIVST or offer HTS when screening for COVID-19 in homes (for those who have not have a recent HIV test) – potentially an opportunity to reach men offer testing & link to ART; messages about prevention

• Offer HIV testing/HIVST for people presenting with COVID-19 symptoms in facilities

In high TB burden settings

• ? TB screening
  https://www.who.int/tb/COVID_19considerations_tuberculosis_services.pdf

COVID-19 has and will continue to change many aspects of health care delivery.

Some learning and approaches may endure in the longer team and result in better testing and prevention, more access, more empowerment, more self-care, better efficiency and cost-effectiveness.
Opportunities to build back better health systems

• **Prevention**
  • Decentralising service delivery to decongest facilities for PrEP & mobile PrEP;
  • Restarting VMMC & EMTCT safely; restarting EPI/HepB vaccinations (ANC innovations)

• **Adaptations to HIVST to COVIDST**
  • Client-directed online HIVST
  • Using HIVST as pathway to COVID ST in S Africa

• **Support to MMD for ARVs, DAAs, OST, TPT and other coinfections (AHD package)**
  • ART & DAA refill in the community & community delivery
  • MMD of new ARV regimens (DTG&4:1) for children and adolescents;
  • Take home methadone, bupenorphine, TPT
  • Ensure AHD clients seen; community re-engagement/restart of ART

• **Virtual Case Management and DSD**
  • Telemedicine, tele-results for viral load & EID
  • Virtual Support Groups for children, adolescents and their caregivers
  • Development of peer-led IEC materials for children, adolescents, adults

• **Person centered care:**
  • Self care options - self-sampling and self collection
  • Self-sampling collection for CT/NG (STIs)
Thank you

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Protected and supported health workers can deliver safe HIV services during COVID-19 pandemic