Singapore HIV Congress 2021

Session 1 – 27 November 2021

Presentation topic:	Progress Update on the HIV Care Cascade in Singapore
Speaker:	Dr Felicia Hong

Summary:

- Dr Felicia Hong (CDD, MOH) share an update on the global situation pertaining to the UNAIDS target of 90-90-90, and shared on the methodology used in Singapore to derive the estimates, as well as Singapore's performance in achieving the UNAIDS target.
- At the **global level**, the 90-90-90 targets were missed marginally: **84-87-90**.
- Gaps to reach the 90-90-90 and 95-95-95 targets globally were then presented, with the largest gap in achieving the UNAIDS target being the first 90, or diagnosis.
- **Singapore's performance for 2019: 82-93-94.** Target was reached and exceeded for the 2nd and 3rd 90 on treatment and viral suppression, with breakpoint remained at diagnosis.
- Progress has been made through the years, and work remains to be done to encourage more people to get tested and diagnosed to reach the 1st 90.
- The overall goal of at least **73%** of all people living with HIV having a suppressed viral load was however achieved, which is the key breakpoint to allow us to End HIV as a public health concern
- Working towards new global goal: 95-95-95 by 2025

Presentation topic:	HIV-1 transmitted drug resistance surveillance: Update on newly diagnosed cases in Singapore
Speaker:	Dr Carmen Low

Summary:

- Overall transmitted drug resistance (TDR) and prevalence of TDR from 2016 to 2020 was shared
  - TDR to NNRTIs > PIs > NRTIs
  - Most common DRMs:
    - NNRTIs (K103N)
    - NRTIs (M41L, K219N)
    - PIs (V82A/F)
  - TDR in MSM > heterosexuals > bisexuals
  - TDR among infections with HIV-1 subtype B > CRF01_AE
  - TDR in recent > established infections

Public Health Implications

- Population-level monitoring of transmitted HIV drug resistance (TDR) can inform the selection of antiretroviral (ARV) drugs for inclusion in national ART regimens
- The extent to which drug-resistant strains of HIV are being transmitted can serve as an indicator to evaluate the effectiveness of prevention programs.
- HIV strains can be monitored to evaluate diagnostic and screening algorithms as well as ensure that all circulating strains are adequately detected.

- Can be used for research into the development of vaccines and to assess the usefulness of a potential vaccine in a given setting

Presentation topic:	NHIVP Antiretroviral Treatment Recommendations – Updated Recommendations
Speaker:	A/Prof Sophia Archuleta

Summary:

The latest review and key updates to the ART recommendations includes:

1) Selection of ART

- DTG- and BIC-based regimens are the preferred first line regimens:
  - **TDF/TAF + FTC/3TC based regimens:** combined with DTG. BIC is currently only available as a combination tablet with TAF/FTC (Biktarvy®) *
  - **ABC + 3TC based regimens**: A combination tablet consisting of ABC, 3TC and DTG is available (Triumeq®) *
  - **NRTI-sparing regimens**: DTG + 3TC

- RAL-based regimens are no longer recommended as a first line regimen
- NNRTI- and DRV/r-based regimens can be considered as alternative first line regimens if INSTI-based regimens cannot be used

** To note: DTG and ABC/3TC/DTG are on the Standard Drug List; BIC is not. Cost considerations to be discussed with patients.*

2) Switching strategies

- The main change to the guidelines as pertaining to switching strategies is the inclusion of two-drug regimens as switch options for patients with well-controlled HIV infection.

INITIAL DRUG	REASON TO SWITCH (EXAMPLES)	SWITCH TO	IF	WHEN TO SWITCH
Tenofovir-based regimens (TDF or TAF)	Nephrotoxicity Osteoporosis	DTG/3TC DTG/RPV DRV/r/3TC*	- No resistance to either drug component is present - If patient has HBV-CoI, additional HBV-active agent such as entecavir should be added *DRV/r/3TC should only be used if unable to use DTG-based two drug regimens	≥ 6 months stable
Abacavir-based regimen	Myocardial infarction Significant cardiac risk factors			

TDF: Tenofovir disoproxil fumurate; TAF: Tenofovir alafenamide; ABC: Abacavir; DTG: Dolutegravir; 3TC: Lamivudine; RPV: Rilpivirine; DRV: Darunavir

3) Monitoring while on ART

- CMV IgG is no longer required as part of baseline serologies for all newly diagnosed patients with HIV infection.
- Toxoplasma antibody should be checked for all newly diagnosed patients with HIV infection.
  - If cost is a concern, physicians may opt to check it only for individuals with CD4 cell count <100 cells/uL.
- Serum cryptococcal antigen should be checked for individuals with CD4 cell counts < 100 cells/uL

Presentation topic:	NHIVP Pre-Exposure Prophylaxis Guidance – Updated Guidance
Speaker:	Dr Wong Chen Seong

Summary:

The latest review and key updates to the PrEP guidance includes:

1) Updates on special clinical scenarios for the use of HIV PrEP

Who may be suitable for PrEP?	Additional Considerations
Sexual partner of someone with HIV who is not on suppressive antiretroviral therapy	HIV viral suppression defined as plasma viral load <200 copies/mL for ≥ 6 months
Vaginal or anal intercourse without the consistent use of condoms with more than one partner in the last six months	If the high-risk exposure is after 72 hours but within 28 days of window period, HIV testing should be repeated after 4 weeks prior to starting PrEP. Alternatively, HIV RNA viral load can be done if patient is keen to start PrEP immediately.
Sexually transmitted infection in the last six months (laboratory confirmed, self-reported or received treatment)	Particularly syphilis
Received HIV post-exposure prophylaxis in the last six months	
Reported concerns about consistent use of condoms in the future	E.g. has difficulties using condoms
Engage in sexual activities under the influence of alcohol or other drugs	Or indicate that they may have such behaviour
Requesting for PrEP- case by case basis	E.g. left a monogamous partnership and will likely be having condomless sex in future

2) Clarifications on contraindications to the use of HIV PrEP

- Known HIV infection
- Clinical syndrome suggestive of acute HIV infection/HIV seroconversion

- Known impairment of renal function
  - estimated creatinine clearance <60 ml/min for individuals considering TDF/FTC
  - **estimated creatinine clearance < 30ml/min for individuals eligible for TAF/FTC)**
- Allergy or other known contraindication to any of the drugs in the PrEP regimen

3) Updates on the use of TAF/FTC as HIV PrEP

- TAF/FTC can only be used in cis-gender men who have sex with men and trans-gender women who have sex with men as daily PrEP regimen
- TAF/FTC cannot be used in on-demand PrEP regimen

4) Monitoring and Evaluation of individuals taking PrEP

- All individuals should get a repeat creatinine 1-3 months after starting PrEP.
- In individuals younger than 50 years old without any co-morbidities, nil further creatinine monitoring is required if the repeat creatinine test is normal.
- Assess if PrEP is still needed based on assessment of the patient's risk of HIV infection 12 monthly
- Patients should continue taking daily PrEP for 28 days after the last sexual exposure putting them at risk of HIV infection before discontinuing PrEP.
- All patients who test positive for HIV should be referred for treatment at a HIV care centre on an urgent basis

Presentation topic:	Debate: "This House believes that HIV self-testing should be rolled out in retail pharmacies"
Speaker:	Proposition: Dr Stephanie Sutjipto (NCID), Dr Cherie Gan (SGH) Opposition: Dr Alicia Ang (NUH), Dr Khoo Bo Yan (NCID)

Summary:

The debate saw a lively and animated exchange of ideas by Infectious Disease Senior Residents from all 3 training institutions, and was carried out in the British Parliamentary style of debates. Key points argued included:

Proposition:

- HIV self-testing will increase the convenience and efficiency on both a systems level as well as an individual level when it comes to HIV testing
- HIV self-testing is not a replacement to the already excellent services provided by community-based organisations, but it is a supplement and an addition
- Any issues with regards to safety and misinterpretation or failure to interpret the HIV self-testing result properly will be addressed by the wealth of education and public awareness on HIV self-testing
- Currently there is evidence published to show that HIV self-testing is not only plausible, but is in fact widely acceptable and should be introduced.

Opposition:

- It may not be necessary at this time, as currently there are excellent services with access and availability to testing (both rapid and conventional)
- Cautioned that HIV self-testing needs to come with the correct support systems, which may not be either yet available at this moment, or suitable to the local context
- Potential misuse of HIV self-testing and end up creating more barriers with regards to HIV stigma and discrimination, because of how simply an HIV self-test could be administered

Presentation topic:	Keynote 1: HIV Cure: Where are we in 2021?
Speaker:	Prof Sharon Lewin

Summary:

- The **absence of intact virus** constitutes one definition of a cure. A subset of elite controllers now termed extraordinary elite controllers have achieved this but the pathway to extraordinary elite control needs to be understood
- **Latency reversal agents alone** (a key focus area in the field of HIV cure research) do not reduce the reservoir and therefore need to be combined with other agents that directly kill the infected cell. Some of the newer latency reversing agents have favorable immunomodulatory activities such as TLR agonists and immune checkpoint blockers
- New strategies for delivery of **gene therapy** in vivo using Adeno-Associated Virus or Lipid Nanoparticles (LNP) are a major advance for implementation and are of high interest
- We remain far from a cure for HIV but ongoing discussions about a **target product profile** for a cure is needed now to ensure that any advance will be delivered quickly to those at highest need and acceptable to the community

Presentation topic:	Keynote 2: LoveYourself Ph - Innovations and Self Care Project
Speaker:	Dr Ronivin Garcia Pagtakhan

Summary:

- HIV self-testing project was introduced in the Philippines in 2020
- Barriers to HIV testing cascade identified in the Philippines:
  - Misconceptions that downplay the need to get tested
  - Morality as a factor not to test
  - Worries in confidentiality and privacy
  - Fear of what happens when one tests positive
  - Other factors related to HIV testing services: accessibility, testing time, too many people in testing center

- The Self Care experience:
  - Virtual assistants – Engaged Miss Universe and local actor
  - Discreet packaging – Plain box, no logos/designs
  - Online counselling – Peer counsellors, regardless of test result, all clients are linked to combination prevention strategies
  - Acxess by LoveYourself – Delivery service during community quarantine

- Recommendations for HIV Self-test program roll out:
  - Education: Clients must be informed of the whole process, and provided with multiple options for information process (Eg. using Facebook, Telegram, Viber etc various channels)
  - Entertaining/Engaging: Use friendly tone and positive language on all materials used, addressing practical and personal needs
  - Inspiring: Promote call-to-action messaging that will inspire clients to manage their health and wellness