Session 1 Rapporteur

Rapporteur name: Dillon Yeo Guo Dong

Session title: Intersection of HIV and Co-occurring Conditions

Presentation title: Keynote 1: Integration of HIV, mental health and other co-occurring conditions

Presenter Name: Dr Jeremy Ross

Presentation summary/highlights:

1. What is integration in the context of Mental Health Diseases and HIV
    1. Integration can be seen at different levels of service delivery
        i. Macro, Meso, Micro
    2. Multiple definitions of what integration means
        i. Where 2 or more entities develop linkages to improve outcomes to serve clients more responsively, developing a continuum of care that is coordinated, and co-located.

2. Why is there a need, and should we integrate?
    1. Within the Asia-Pacific region, there is a high prevalence of MHDs among adult and adolescent PLHIV populations
    2. There is also a high prevalence of substance use disorders, consistent with many other regional studies of diverse adult PLHIV population.
    3. Evidence shows the negative impact of MHDs across the HIV care continuum, affecting ART compliance, clinic retention, viral suppression, with subsequent impact on mortality, quality of life, frailty and stigma.
    4. Logistical and human resources for addressing mental health diseases are limited
    5. High co-occurrence between MHDs and substance use, with increased risk of non-communicable diseases (Cancer, cardiovascular risk, metabolic disorders), due to overlapping and synergistic effects of HIV with mental health diseases.

3. How well are we integrating?
    1. Integration of MHD screening is limited among HIV clinics in Asia-Pacific region
    2. Availability of resources to screen and manage for Substance use disorders are also limited
    3. Integration of Alcohol use/ Substance use disorder treatment is limited among HIV treatment sites
    4. Linkage to MHD care is also challenging

4. What is required to better integrate our services?
    1. What we have:
        i. Regionally translated and validated MSD screening tools (PHQ-9, GAD7)
        ii. Effective MSD treatments and interventions for PLHIV
        iii. General policy, guidelines and tools support (E.g. WHO)

    2. What we need
        i. Stronger advocacy, leadership, political will to proptizie MH care within HIV programs
        ii. Domestic and international donor support and financial commitment for MH care

iii. National policies and practices to support cross-disciplinary collaboration and clinical management.
iv. Training for non-mental health specialists to deliver basic psychotherapeutic interventions.

3. Task shifting
   i. There is evidence to show that delegation of care delivery to non-specialist healthcare providers may be effective.

4. Additional research to inform regional MHD-HIV care integration
   i. Available regional data on MHD among PLHIV relatively limited.
      1. Focused on depression, need to address other prevalent MHDs
   ii. Need to examine impact, associations and relationships with HIV outcomes (retention, viral suppression, other health outcomes)
   iii. Need to evaluate implementation of MHD interventions in the context of HIV care to scale and sustain integrated HIV and mental health care.
   iv. Need to develop regional implementation research capacities and for implementation research to inform integration, adaptation, or scale up of MHD services within HIV care

Critical assessment/Recommendations:

- MSDs are a prevalent comorbidity among diverse PLHIV populations in the Asia-pacific region
- Associated with poor HIV and other outcomes
- Compromise continued HIV treatment cascade gains, achieving 95-95-95 targets and 0 new infections
- Integration of MSD care in HIV clinical settings remains limited
- Need for stronger advocacy, increased financial resources, task-shifting, implementation research and associated training.

Presentation title: Overview of co-occurring conditions amongst people living with HIV in Singapore

Presenter Name: Dr Dariusz P. Olszyna

Presentation summary/highlights:

Focus on management of HIV is moving towards comorbidities, quality of life, given that virological suppression can be achieved virtually for any patient who is willing to take anti-retroviral therapy.

CASE 1:

- Comorbidites increase with age and with HIV infection
  - Bone fractures, CVD, diabetes, HTN, hypothyroidism
- Many factors to consider in the treatment of HIV
  - Impact of ART on lipid/weight control, impact of ART on CKD, CVD risk, cost, number of tablets
  - Adjusting HT medications for nephroprotection, blood pressure targets
  - Adjusting lipid medications to optimise LDL control for CVD risk
  - DM management – caution of metformin with DTG
  - Obesity – lifestyle, weight management clinic, semaglutide
- Additional things to think about
  - Vaccinations, cancer screening
- How to manage all of these in a 10 min clinic setting?

CASE 2:

- Co-morbidities with other STIs (Hepatitis C, Syphilis), MHDs
- Increased morbidity and mortality risk from hepatitis C
- Public health aspect in the time of U=U and PrEP (increased condomless anal sex among MSM)
- High costs of hepatitis C treatment / funding vs public health risk
- Importance of PI based regimen for such patients
- What can we do? Support ART, encourage U=U, educate about risk of sexual HepC transmission, keep engaged in clinic, respond to any requests for help without judgement, even if it is just for another STI while patient is not adherent to ART

Critical assessment/Recommendations:

- We are there not only for those who are willing to take ART or those who have undetectable viral loads. Don't let perfect be the enemy of good.
- Complex care of PLHIVs with coexistent chronic conditions require time, expertise and resources
- Coexistent comorbidities which are easily treatable in isolation, may pose challenges in PLHIV (financial resources, poor engagement in care)
- Lack of mental health service integration in HIV clinics

Presentation title: Introduction to the National HIV Programme: Primary care recommendations for people living with HIV.

Presenter Name: Dr Choy Chiaw Yee

Presentation summary/highlights:

1st Primary care recommendations for PLHIV

Why do we need primary care recommendations

- ART has been successful in reducing morbidity and mortality in HIV-related diseases
- Hence, number of PLHIV will increase
- Compared to peers above the age of 50: 5x the risk of multimorbidity even if they have achieved virological suppression, due to chronic immune activation, leading to accelerated ageing
- Complicated by polypharmacy, adverse drug reactions, lifestyle choices, social circumstances, home insecurity, poverty
- Age related stigma + HIV related stigma may result in loneliness, reduced cognition and energy
- This becomes a challenge for elderly PLHIV > age of 50
- Care for older adults are often fragmented, and not tailored to their unique needs and challenges
- ID not trained to handle issues associated with ageing
- GRM / Primary care not trained to handle issues associated with PLHIV

Purpose

- Guide physicians in providing comprehensive care
- Identify gaps in the care of PLHIV
- Improve quality of NCD

Recommendation workgroup & process

- Review of select benchmark international and local guidelines and updates
    - New York State Department of Health, IDSA, EACS, ACE, DSC Clinic, Academy of Medicine, Singapore
- Recommendations discussed and adapted to the Singapore context with consultation and feedback from
    - INF, Family medicine, Nephrologists, Endocrinologists etc

Recommendations specific to PLHIV

- Attention was focused towards screening for geriatric syndromes, renal and bone health (earlier screening age), cardiovascular risk factor reduction, co-infection with viral hepatitis, fatty liver, Mental Health Screening, Latent TB screening

Critical assessment/Recommendations:

- The 1st Primary Care recommendations for PLHIV have been released to help consolidate and streamline guidelines, recommendations for both ID specialists and Primary Care providers caring for PLHIV.

Session 2A Rapporteur

Rapporteur name: Narmadha Morvil

Session title: Current HIV landscape in Singapore

PRESENTATION TITLE: THE ROAD TO 95-95-95: UPDATE ON SINGAPORE HIV CARE CASCADE 2021

Presenter Name: Dr Felicia Hong

Presentation summary/highlights:

An update on the global situation pertaining to the UNAIDS target of 95-95-95, and on the methodology used in Singapore to derive the estimates, as well as Singapore's performance in achieving the UNAIDS target was shared.

Background

- UNAIDS Targets 95-95-95: Testing and treatment targets adopted in 2021 to End AIDS by 2030
- 95% patients living with HIV to know their HIV status
- 95% patients with diagnosed HIV to be on treatment
- 95% patients on treatment to be virally suppressed

Current Global Situation in 2022

- At the global level, the 95-95-95 targets were missed marginally at 86-89-93%
- However, there is gradual progression towards the target
- The largest gap in achieving UNAIDS target is in the first 95 which is at diagnosis

Methodology to measure the Singapore HIV Care Cascade: Use of the National HIV Registry Database – To develop accurate estimates for the HIV care cascade

- Review of Singapore's performance based on an analysis of the 2021 Cohort: **85-94-94**.
- Target is almost reached for the 2nd and 3rd targets for treatment and viral suppression, but still remained below target for diagnosis rates

Generally over the years, there has been a trend towards increasing diagnosis and treatment rates, but the progress is slowing rather than accelerating

Possible reasons for this is likely due to lack of awareness, barrier's to testing and HIV stigma.

Efforts by AfA have been crucial in increasing awareness and reducing HIV stigma in the general population. The recent advent of HIV self-testing pilot programme has also seen higher rates of first time testers using the self-test kits.

Critical assessment/Recommendations:

- There is a need to continue efforts in reducing barriers to testing in order to work towards the global goal of 95-95-95 by 2025

PRESENTATION TITLE: THE ROLE OF MOLECULAR SURVEILLANCE IN THE MANAGEMENT OF HIV AND ART PRESCRIBING IN SINGAPORE

Presenter Name: Dr Carmen Low and A/Prof Sophia Archuleta

Presentation summary/highlights:

- Molecular surveillance enables us to understand resistance patterns and HIV subtypes amongst patient's living with HIV

- Singapore's molecular surveillance workflow which involves collection of residual plasma specimens from public hospitals and performing genotype resistance testing, subtyping, looking for recent infection and viral isolation was shared.

- Overall transmitted drug resistance (TDR) and prevalence of TDR from 2016 to 2022 were shared as below:
  - TDR to NNRTI remains the highest
  - In patients without prior exposure to ART, pre-treatment HIV drug resistance to NNRTI have risen to >10%
  - Resistance to NNRTI drug class is 3 times more in patients with previous exposure to ARTS
  - TDR to NNRTI > NRTI > PI
  - TDR between 2016-2018 was <4%. But it has increased almost two-fold to 6.9% between 2019-2021 and markedly increased to 14% in 2022
  - The increase in TDR is driven predominantly by NNRTI and NRTI while TDR to PI and II remain constant
  - Multi-drug resistance rates is 0.5% – dual class resistance including NRTI/NNRTI
  - TDR are higher in Males, in the younger age group (25-39 yo), in MSM > heterosexuals > bisexuals

- Factors affecting resistance:
  - Fast replication of the virus – even in untreated individuals, the virus is constantly mutating and may select for drug resistance mutations
  - Low genetic barrier of resistance of certain drugs
  - Compliance issues amongst patients

Critical assessment/Recommendations:

Public Health Implications:

- Molecular surveillance studies can assist in selection of antiretroviral regimens.
- Study of the circulating strains would enable us to ensure that the strains are adequately detected with existing diagnostic and screening algorithms. It can also potentially be used in the development of vaccines in the future.

Recommendations for the use of ART in adults living with HIV in Singapore

A/Prof Sophia shared about the formulation of a national strategic approach to achieve the UNAIDS targets and how the ART recommendations are developed after close review of selected international guidelines, adaptation to the Singapore context looking at the patterns of transmitted drug resistance and health economics, consultation and feedback prior to launching the recommendations at SHC.

Updated recommendations as follows:

1. Selection of ART
    - TDF/TAF based regimens with 3TC/FTC combined with DRV-r has been included in the first line regimen for individuals who have acquired HIV while using CAB-LA as PrEP
    - If nil history of PrEP, DTG and BIC based regimens are preferred as first line
        - 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
    - DTG/3TC is now available in Singapore as a single tablet formulation – one can start with DTG/3TC unless baseline high viral load, Hep B coinfection or ART initiated before GRT for NRTI and HBV testing is available
    - NNRTI and DRV-r based regimens can be considered as alternative first line if INSTI cannot be used
    - RAL has been removed as an option under alternative regimens

2. Switching ART
    a. IM CAB/RPV has been included as an option for switching ART in virologically suppressed individuals
        i. IM CAB/RPV – cannot be given to women of childbearing age, trying to conceive (not enough data)
    b. When switching to two-drug regimens, Individuals who are virologically suppressed with archived 3TC associated mutations or prior virological failure can still consider switching to DTG/3TC
    c. “Special consideration” - Switching to TAF/TDF/XTC with either BIC or DTG in individuals with pre-existing NRTI resistance

3. Monitoring
    a. HIV VL monitoring should be done 4-8 weeks after switching to IM CAB/RPV

4. A new section has been added on antenatal, perinatal care and monitoring of women living with HIV and their infants

PRESENTATION TITLE: HIV epidemiological updates in Singapore

Presenter Name: A/Prof Matthias Toh

Presentation summary/highlights:

- Reported HIV and AIDS cases and rates per 1,000,000 population
  - Looking at the overall trend of HIV cases, there was a rise in number of HIV cases from 1985 to 2008. The cases plateaued from 2008 to 2015 and then continuedly dropped to 2022
  - Estimates of all adults living with HIV appears to be plateauing
  - Males > Females
  - Most HIV notifications reported are amongst HSM and MSM. MSM > HSM
  - MSM accounts for 60% of the cases reported.
  - Majority of HSM are tested positive at >50 years old whereas majority of MSM are tested positive between 30-49 years old.
  - More HSM are diagnosed at late stage of infection compared to MSM
  - There was a drop in notification rates by almost 50% from 2015 to 2022 which could potentially be due to travel restrictions due to COVID. Hence we may be expecting a surge of cases with the lifting of travel restrictions

Critical assessment/Recommendations:

- How to achieve the 95% target for diagnosis:
  - There has been consistently high HIV and STI testing amongst MSM which could be due to higher awareness and good networking with higher uptake of testing and preventive measures
  - Amongst sex workers, there has also been an upward trend in getting HIV and STI testing to >60%
  - There has been an increase in HIV and STI testing in heterosexual males at risk group from 29% to 46% but this group contributes most to the gap in achieving the target for diagnosis.
  - We will need to maintain efforts amongst these subgroups.
  - Collaborators will need to continue to reach out to the unknown and to at risk populations to achieve the target.

Session 3A Rapporteur

Rapporteur name: Quek Ying Hui

Session title: Improving health through multidisciplinary management

Presentation title: Findings from REPRIEVE study and implications for Asian people living with HIV

Presenter Name: Dr Anchalee Avihingsanon

Presentation summary/highlights:

- Patients with HIV have an increased risk (50-100%) of cardiovascular disease and metabolic syndrome, through chronic inflammation, thrombosis, as well as through the use of ART
- This manifests through increased subclinical CAD, myocardial infarction, heart failure, arrhythmia, QTc prolongation, and sudden cardiac death
- ART reduces comorbidities but residual immune activation persists even with good viral suppression
- Statins can lower LDL but also reduce residual immune activation and inflammation, and also can reduce oxidative stress, stabilise plaque, has anti-thrombotic effects, and improves endothelial function and vascular tone
- The REPRIEVE study aimed to evaluate if pitavastatin would prevent MACE (major adverse cardiovascular events) through statin effects in PWH at low to moderate risk, for whom statins would not be typically prescribed under current guidelines
- Asians comprised of 1138 (15%) out of 7769 patients randomised, 571 patients in intervention arm, and 567 patients in the control arm. Females comprised 31% of the study cohort
- Study was prematurely discontinued due to MACE endpoints met. There was a risk reduction of 35% of first primary MACE and a risk reduction of 21% of death in the intervention arm vs placebo
- Effect size of pitavastatin vs placebo was particularly large in South Asia (mainly Indian ethnicity), with an 80% risk reduction seen, and a 53% risk reduction seen in Southeast Asian
- With regards to LDL, pitavastatin resulted in a 30% reduction in LDL cholesterol vs no change in the placebo group, with similar effects on non-HDL cholesterol
- Serious adverse events were similar in each group

Critical assessment/Recommendations:

- Overall conclusion from the REPRIEVE study is that statin effect is beyond what is expected for LDL lowering alone - 35% vs 17%. In patients with HIV 40-75 years old on ART with low to moderate risk (ASCVD risk >5%) and normal range LDL, treatment with pitavastatin should be considered to lower risk of MACE
- Consideration has to be given to potential side effects of statins e.g. slightly higher rate of DM and interaction with ART
- For PWH, the decision to take a statin should be individualised, with shared decision making

Presentation title: Management of metabolic conditions in people living with HIV: Role of primary care physicians

Presenter Name: Dr Rinkoo Dalan

Presentation summary/highlights:

- Cardiometabolic risk management in HIV infection
  - Managing a multitude of risk factors: e.g. smoking, obesity, hypertension, dyslipidemia, diabetes mellitus
  - Targets include:
    - Smoking cessation
    - BMI <23, waist circumference <90cm in male, <80cm in female
    - BP <140/90 for <80 years old, BP <150/90 for >80 years old
    - LDL <2.6 (low-moderate risk), LDL <2.1 (high-risk)
    - Hba1c <7.0%
  - Patients may experience immune reconstitution syndrome 18-24 months after starting ART, triggering autoimmune disease such as Graves' disease, autoimmune diabetes, or other components of polyglandular autoimmune syndrome
  - Hba1c cannot be used in diagnosis of DM in HIV infection (may be over- or under-diagnosis. Suggest performing fasting glucose and OGTT to diagnose DM in HIV infection
  - Metformin not more than 1000mg per day should be prescribed if dolutegravir is prescribed for HIV

- Osteoporosis management in HIV infection
  - People with HIV (both males and females) at any age have a higher rate of fracture
  - HIV has a direct effect on bone, where it increases osteoblasts apoptosis and reduces formation of new osteoblasts
  - Everyone should receive lifestyle advice, advice on physical activity, weight bearing exercises, and baseline Vit D level
  - If >50 years old OR menopause, history of fracture, Vit D deficiency, hypogonadism, steroid, or tenofovir use, a baseline BMD should be done
  - Switching TDF to TAF improves BMD significantly without any other interventions
  - Osteoporosis treatment includes oral and IV bisphosphonates, monoclonal antibodies, and anabolic agents e.g. teriparatide

Critical assessment/Recommendations: As above

Presentation title: Multidisciplinary care for people living with HIV

Presenter Name: Ms. Joy Yong, APN Cheng Hong, Dr Ho Lai Peng

Presentation summary/highlights:

- Pharmacists involvement in caring for PLHIV has shown:
  - Improvement in patient outcomes including improved adherence
  - Reduced pill burden and dosing frequency
  - Greater increases in CD4 cell counts and higher rates of viral suppression
  - Decreases in medication errors

- Nursing care role of providing care to patients with HIV has shifted over the years
  - HIV-trained nurses play a crucial role in providing holistic care e.g. management of chronic metabolic syndromes, encouraging and facilitating age-appropriate screening for cancers, and screening for age-related conditions (e.g. frailty, sarcopenia)

- Role of social worker
  - Provides psychosocial care and support
    - Emotional support for patients and families, as well as care and discharge planning
  - Assists in navigating various systems (including healthcare systems)
    - Facilitate referral to resources and application for financial assistance
  - Advocate against stigma and discrimination in the community, as well as advocating for resources for people living with HIV

Critical assessment/Recommendations: As above

Session 4 Rapporteur

Rapporteur name: Matthew Koh

Session title: Empowering communities – Innovative strategies for HIV prevention, treatment and support

Presentation title: Keynote 4: Chemsex among GBMSM in Taiwan: from Harm Reduction to Recovery

Presenter Name: Dr Stephane Ku

Presentation summary/highlights:

- Chemsex, especially with problematic use of crystal methamphetamine, consistently impacts the sexual, physical and mental health of a subgroup of GBMSM in the region.
- Examples include: Higher risk of HIV transmission, overdose, long term mental health effects (e.g. addiction, psychosis, deficits in thinking and motor skills, mood disturbance, increased distractibility), injection related events (e.g. local injury, infective endocarditis and bloodborne infections).
- Cognitive-behavioural and pharmacological (e.g. Mirtazapine, Naltrexone with Bupriopion) interventions have proven effectiveness in treating drug use disorders.
- Harm reduction strategies (e.g. HIV treatment and prevention, screening and treatment of other STIs, needle exchange programs) have been implemented in both clinic-based or NGO-based setting.
- Important contributing factors to the success of such interventions include cultural sensitivity to the local population and integration with local sexual health services.

Critical assessment/Recommendations:

- More evidence-based and community-led harm reduction interventions and preventive strategies for HIV and other STIs are required, with research evaluating their efficacy and cost-effectiveness.

Presentation title: NHIVP HIV testing recommendations and HIV self-testing pilot programme implementation

Presenter Names: Ms Lavinia Lin, Fikri Alkhatib and Sally Low

Presentation summary/highlights:

- Singapore still falls short of the first UNAIDS 90/95 target: In 2021, only 84.7% of people living with HIV are aware of their status. >50% newly diagnosed cases presented at a late stage of infection.
- HIV testing should be offered to all of the following groups:
  - Adults ⩾21 years old, especially if sexually active;
  - pregnant women at their first antenatal visit;
  - individuals with TB, STIs, viral hepatitis or AIDS defining illnesses.
  - Those engaging in high-risk behaviours for HIV transmission should be offered more frequent screening.
- HIV testing should be voluntary and with individual's consent. Pre- and post-test counselling should be offered. For individuals who test positive, linkage to care should be arranged and status disclosure to sexual partners should be encouraged.
- The HIV self-testing pilot programme has been successfully implemented at Afa and DSC.
- An average of 171 kits were sold to 100 clients per month. 27% were first-time HIV testers. Afa has linked 4 clients to care.

Critical assessment/Recommendations:

- Increase rates of HIV testing are required in Singapore.
- The HIV self-testing pilot programme is promising but wider distribution to the general population, with different and more effective HIVST kits made available and lower barriers of entry to care are necessary.

Presentation title: HIV Destigmatisation and Online Outreach marketing efforts from FY21 to FY23

Presenter Name: Ms Sylvia Chin

Presentation summary/highlights:

- Goals of HPB's marketing campaign for FY21 – 23 include: Increasing acceptance of people living with HIV among the general population, change perception among the general population that they are not at risk and that HIV only affects certain groups and increasing voluntary HIV testing to drive early detection.
- In FY21, two key areas were addressed:
  - To increase acceptance of people living with HIV, the marketing campaign featured a person living with HIV for relatability and reality.
  - To increase voluntary HIV testing, use of social media slang was used to incorporate testing into everyday vocabulary.
- The FY21 campaign saw improvement in knowledge of anonymous testing and openness to consider HIV testing among the population. However, acceptance of people living with HIV in the community still saw room for improvement.
- In FY22 – 23, various lifestyles and behaviours were depicted in the marketing campaign to deliver key message that HIV does not discriminate among individuals and that HIV testing should be encouraged.

Critical assessment/Recommendations:

- HPB's marketing campaigns from FY21 – 23, incorporating messaging over various platforms (e.g. social media, print, online, etc.), has seen success in increasing understanding and acceptance of HIV testing.