Clinical management guidance for individuals taking HIV PrEP within the context of a combination HIV (and STI) prevention approach in Ireland

October 2019

Table of Contents

1. Background and Development Process

Worldwide HIV remains a significant cause of morbidity and mortality with an estimated 36.9 million people living with HIV at the end of 2017 and an estimated 1.8 million new HIV infections in that year[1]. There were 528 HIV diagnoses in 2018 in Ireland, a rate of 11.1 per 100,000 population, according to provisional data from the Health Protection Surveillance Centre (HPSC)[2]. This represents a 7% increase over 2017 (n=492). In recent years, gay, bisexual, and other men who have sex with men (MSM) have borne a significant proportion of the burden of new HIV diagnoses in Ireland, with sex between men reported as the likely route of transmission in 262 (53%) of the 492 new HIV diagnoses in 2017[3]. A further 33% of cases were reported as being heterosexually acquired indicating that the vast majority of new cases of HIV (86%) in Ireland were sexually acquired.

There are a number of effective strategies to prevent sexual acquisition of HIV and other sexually transmitted infections (STIs). These include HIV testing; STI testing and treatment; condoms; vaccination; health promotion and risk reduction education; support and education around sexual behaviour, alcohol and substance misuse; pre-exposure prophylaxis (PrEP); post exposure prophylaxis following sexual exposure (PEPSE) and, treatment as prevention (TasP).

HIV PrEP is the most recently developed effective HIV prevention intervention. PrEP is the pre-emptive use of oral antiretroviral therapy by HIV-negative people to reduce the risk of HIV infection. In 2014, the World Health Organization (WHO) recommended PrEP for men who have sex with men. However, in 2015, on the basis of further evidence of the effectiveness and acceptability of PrEP, the WHO broadened its guidelines, recommending that people at substantial risk[4] of HIV infection be offered PrEP as part of a combination prevention approach[5]. More recently the European AIDS Clinical Society recommended that PrEP be used "in adults at high-risk of HIV infection when condoms are not used consistently" and "should be used in combination with other preventive interventions. PrEP should be supervised by a doctor, experienced with sexual health and use of HIV medicines, possibly as part of a shared care arrangement"[6]. Daily dosing with a combination tablet of tenofovir disoproxil and emtricitabine has been licensed in Europe for use for the prevention of sexually transmitted HIV as part of a combination HIV prevention approach since July 2016[7].

Generic PrEP became available in Ireland in December 2017, increasing the affordability of PrEP for individuals. The Health Information Quality Authority (HIQA) recently concluded a health technology assessment on the introduction of a PrEP programme in Ireland. From reviewing the evidence, HIQA has found that PrEP is safe and highly effective at preventing HIV in people at substantial risk. Additionally,

---

[1] https://www.hiv.gov/hiv-basics/overview/data-and-trends/global-statistics
[2] HSE Health Protection Surveillance Centre. HIV in Ireland: 2018 provisional data including latest trends. http://www.hpsc.ie/a-z/hivstis/hivandaids/hivdataandreports/
[3] HSE Health Protection Surveillance Centre. HIV in Ireland, 2017. Dublin: HSE HPSC; 2018. http://www.hpsc.ie/a-z/hivstis/hivandaids/hivdataandreports/2017reports/
[4] Populations with a HIV incidence of 3 per 100 person years or higher.
[5] http://www.who.int/hiv/pub/prep/policy-brief-prep-2015/en/
[6] http://www.eacsociety.org/files/guidelines_9.0-english.pdf
[7] http://www.ema.europa.eu/ema/index.jsp?curl=pages/news_and_events/news/2016/07/news_detail_002578.jsp&mid=WC0b01ac058004d5c1

implementing a PrEP programme would be considered cost saving compared with standard care[8]. PrEP is available through the HSE from Q4 2019.

One of the priority clinical actions in the National Sexual Health Strategy[9] is to develop and implement guidance on the use of antiretroviral therapy, including PrEP, for HIV prevention. Responsibility for implementation of the sexual health strategy lies with the HSE Sexual Health and Crisis Pregnancy Programme (SHCPP). To address PrEP, the programme convened a multisectoral HIV PrEP working group to develop recommendations in relation to PrEP in Ireland. The HIV PrEP working group's view is that PrEP should be available free of charge to those at substantial risk for sexual acquisition of HIV, as part of a combination HIV (and STI) prevention approach within services that meet national standards. Furthermore the view of the working group is that all individuals taking PrEP (including those not eligible for free PrEP who elect to pay for PrEP) should have appropriate assessment and follow up whilst on PrEP.

The PrEP working group has developed practical guidance and information for potential PrEP users in advance of availability of PrEP through the HSE[10].

In preparation for availability of PrEP through the HSE, the working group has developed evidence-based clinical eligibility criteria for free PrEP through the HSE. National standards[11] have been developed and agreed by both the Sexual Health Strategy Clinical Advisory and Implementation Groups. There are a number of core standards which must be met by services providing free PrEP. There are additional desirable standards for delivery of HIV PrEP as part of combination HIV prevention, which services are encouraged to meet.

This current document sets out the clinical eligibility criteria for free PrEP and guidelines on the assessment and monitoring of those on PrEP. The guidelines on assessment and monitoring of those on PrEP are relevant to all those in receipt of PrEP, not just those who meet criteria for free PrEP. The BHIVA/BASHH PrEP guidelines[12] have been used as a reference in the development of this document, particularly in relation to evidence around PrEP dosing schedules and clinical monitoring of those on PrEP. Prior to publication this document was made available for review and consultation by relevant stakeholders.

This document is listed for review in October 2021. In the interim, urgent changes will be made where required. The programme has responsibility for arranging, coordinating and disseminating any changes to this document to all relevant stakeholders.

2. Scope and Purpose of this document

This document is intended for use by appropriately trained health care providers involved in the provision of care to individuals at substantial risk for sexual acquisition of HIV who may be eligible for free PrEP and

[8] HTA of a PrEP programme, https://www.hiqa.ie/reports-and-publications/health-technology-assessment/hta-prep-programme
[9] http://health.gov.ie/healthy-ireland/national-sexual-health-strategy-2015-2020/
[10] https://www.sexualwellbeing.ie/for-professionals/research/research-reports/
[11] www.sexualwellbeing.ie/prepproviders
[12] BHIVA/BASHH guidelines on the use of HIV PreExposure Prophylaxis, https://www.bhiva.org/PrEP-guidelines

to individuals who are taking PrEP but do not meet criteria to receive it free of charge. This document is intended for use alongside the national standards for PrEP.

This document sets out the agreed, evidence-based, clinical eligibility criteria for free PrEP through the HSE in Ireland.

Additionally, this document sets out guidance on assessment and follow up of those taking PrEP. It is anticipated that the clinical guidance aspect of this document may be adapted within services as local clinical protocols are developed.

This document does not address the use of PrEP in non-sexual contexts. The PrEP working group does not currently recommend PrEP for the prevention of HIV through injecting drug use. People who inject drugs may be at risk of sexual acquisition of HIV and therefore may otherwise be suitable for PrEP.

3. How is PrEP available in Ireland?

PrEP is available free of charge through the HSE to those who meet clinical eligibility criteria and are deemed to be at substantial risk of acquiring HIV.

In developing clinical eligibility criteria for free PrEP, the working group has considered the available evidence around risk of sexual acquisition of HIV across a range of situations in a variety of populations. A summary of the evidence is presented in **Appendix 1**.

Other individuals who do not meet eligibility criteria for PrEP may elect to pay for PrEP themselves. There are certain situations in which PrEP is not recommended as set out in section 3.2. Regardless of how individuals avail of PrEP, the assessment and monitoring principles as set out in later sections are recommended.

3.1 Who is eligible for free PrEP?

HIV negative individuals who are aged 17 years or older[13] , have a PPSN[14] and fall into one of the categories set out below:

1. **Men who have sex with men[15] or transgender women who have sex with men who are:**
    - sexually active with likelihood of remaining sexually active in the next 3 months

    AND one of the following:
    - reported condomless anal sex with at least two partners[16] over the last 6 months
    - episode of documented or reported acute STI[17] over the last 12 months
    - documented or reported use of HIV post-exposure prophylaxis following sexual exposure (PEPSE) over the last 12 months
    - reported engagement in chemsex[18] over the last 6 months

2. **Individuals having condomless sex with a HIV positive person who is not stably suppressed on antiretroviral therapy, specifically:**
    - where the person living with HIV is not on antiretroviral therapy

---

[13] In Ireland the age of consent for sexual intercourse is 17 years. The age of consent for medical treatment is 16 years. A combination of tenofovir disoproxil and emtricitabine is licensed for use as HIV PrEP in adolescents. Individuals under 17 years of age who are otherwise eligible for PrEP should be offered PrEP with due regard to child protection and safeguarding in line with current legislation and local clinic policy.

[14] Personal Public Service Number

[15] This term includes transgender men, recognizing that whilst there is an absence of data in this group, the risk is likely to be substantial as they are in the same sexual networks as other men who have sex with men.

[16] Where the HIV status of the partner(s) is unknown to the potential PrEP candidate

[17] Acute STIs include (but are not necessarily limited to) gonorrhoea, chlamydia, LGV, primary HSV, acute sexually acquired hepatitis B, acute sexually acquired hepatitis C and early infectious syphilis. Available evidence indicates that rectal bacterial infections are associated with a greater risk of HIV infection than overall bacterial STIs, see **Appendix 1**. Acute STIs do not include anogenital warts or non-primary HSV.

[18] Chemsex is intentional sex under the influence of psychoactive drugs, mostly among MSM and particularly associated with crystal methamphetamine, GHB/GBL, mephedrone and sometimes ketamine

- where the person living with HIV has initiated antiretroviral therapy but has not yet achieved virological suppression[19]
- where the person living with HIV has loss of virological control on antiretroviral therapy and the risk of HIV transmission has been deemed by a consultant physician specialising in HIV Medicine to be substantial and warrant PrEP for the HIV-negative partner

Additional Guidance for these situations:

- In these circumstances, the HIV-negative person and the person living with HIV may be attending the same clinical service and present for assessment together. Both parties should be advised to use condoms and made aware of post exposure prophylaxis (PEPSE).
- Where they are not attending the same clinical service, liaison between services is recommended before making decisions regarding PrEP. Consent for sharing of information from both parties should be sought before information is shared.
- In exceptional circumstances, where an individual is known to be at risk and consent for sharing of information, from either party, with other clinicians is not forthcoming, information may need to be shared without consent between clinicians in line with Irish Medical Council guidance.[20]

3. Other heterosexual men, heterosexual women considered by a senior clinician specialising in HIV Medicine[21] to be at substantial risk for sexual acquisition of HIV.

3.2 Who is not eligible for free PrEP?

A person who is:

- in a monogamous relationship with a HIV-positive partner who is confirmed to be virally suppressed on ART
- in a monogamous relationship with a partner who is known to be HIV negative
- unwilling to attend for follow up.

3.3 Situations where PrEP may be harmful

- Individuals who report sub-optimal adherence (for daily dosing schedules - less than 4 days a week for anal sex protection and less than 6 days a week for vaginal sex protection) with continued significant risk for sexual acquisition of HIV.
    - There is a substantial risk for acquisition of HIV and subsequent development of antiretroviral resistance.
    - Support may be required around adherence, modification of HIV risk through support on other risk reduction strategies, alcohol and substance misuse (including chemsex).
    - Where there is continued suboptimal PrEP adherence with continued risk of HIV acquisition, PrEP should not be continued
- Significant renal impairment at baseline or that develops while taking PrEP

[19] HIV viral load below the limit of detection of the assay being used
[20] https://issuu.com/mcirl/docs/guide_to_professional_conduct_and_e?e=12642421/35694606
[21] On the Medical Council Specialist Division Register in Genitourinary Medicine or Infectious Diseases

- Such situations should be managed by a physician with experience in PrEP delivery. Potential options include, where clinically appropriate, reducing a daily dosing schedule to 4 days per week or moving to an event-based dosing schedule. Switching to TAF may be clinically appropriate but TAF for PrEP is not currently funded. See **Appendix 2** for additional detail on renal monitoring and thresholds.

3.4 Contraindications to PrEP (at baseline and in follow up)

If a person:

- is HIV positive
- has an undocumented HIV status
- is allergic to tenofovir disoproxil and/or emtricitabine

3.5 PrEP and pregnancy

HIV seroconversion in pregnancy represents a significant risk for vertical transmission of HIV[22] [23].

The antiretroviral pregnancy registry collects information on pregnancy outcomes in HIV-positive women taking antiretroviral therapy in pregnancy. The most recent report from January 1989 through to 31st of July 2017 did not identify increased birth defect rates compared to two general population registers in the United States (Metropolitan Atlanta Congenital Defects Programme, 2.72%, 95% CI 2.68-2.76 and Texas Birth Defects Register 4.17%, 95% CI 4.15-4.19) following first trimester exposure to tenofovir disoproxil fumarate (76/3342, 2.27%, 95% CI 1.8 – 2.84) or emtricitabine (60/2614, 2.30%, 95%CI 1.76-2.95)[24].

Limited information on the use of PrEP in pregnancy in women at risk for HIV did not identify any PrEP-related pregnancy complications with a median duration of PrEP exposure of 30 weeks in 16 women[25].

Pregnant people at substantial risk of sexual acquisition of HIV should be informed of the protective effect of PrEP in averting HIV infection and informed of the available information in relation to the safety of use of tenofovir disoproxil and emtricitabine in pregnancy. People at substantial risk of HIV who meet eligibility criteria should be offered PrEP as part of combination HIV prevention regardless of pregnancy status or risk of conception. Pregnancy status should be established in people who can become pregnant who are being considered for PrEP and taking PrEP.

---

[22] Paediatric HIV: the experience in Ireland 2004-2011. Al-Assaf N1, Maoldomhnaigh CO, Gavin P, Butler K. Ir Med J. 2013 Jul-Aug;106(7):198-200.

[23] Targeting points for further intervention: a review of HIV-infected infants born in Ireland in the 7 years following introduction of antenatal screening. Ferguson W, Cafferkey M, Walsh A, Butler K. J Int Assoc Physicians AIDS Care (Chic). 2008 Jul-Aug;7(4):182-6. doi: 10.1177/1545109708320685. Epub 2008 Jul 14

[24] http://www.apregistry.com/forms/interim_report.pdf

[25] Use of HIV pre-exposure prophylaxis during the preconception, antepartum and postpartum periods at two United States medical centers. Seidman DL et al. Am J Obstet Gynecol. 2016 Nov;215(5):632.e1-632.e7. doi: 10.1016/j.ajog.2016.06.020. Epub 2016 Jul 19

3.6 Other situations

Some individuals may not meet the eligibility criteria for free PrEP but elect to pay for PrEP themselves. In such circumstances, individuals are encouraged to attend an appropriate service at least every three months for ongoing assessment whilst taking PrEP.

4. Clinical assessment

This section outlines the potential steps in a patient journey from being identified as being at substantial risk of HIV through to being assessed for PrEP, taking PrEP and being followed up whilst on PrEP.

4.1 Identifying people at risk of HIV

See Appendix 2: PrEP clinical assessment checklist

Some people may recognise their risk of HIV and self-refer for PrEP assessment and some may have been referred for PrEP assessment. Others may not recognise that they are at substantial risk of HIV or may not be aware of PrEP. In such circumstances HIV risk and eligibility for PrEP will become apparent on sexual history taking.

- Consultations should be able to identify people at substantial risk of HIV (and eligible for PrEP) from their sexual history, history of STIs, history of PEPSE use, history of chemsex by determining:
    - Last sex
        - Type of sex (anal, vaginal, oral and insertive, receptive or both[26])
        - Use of condoms
    - Number of sexual partners in the last 3 months
        - Type of sex (anal, vaginal, oral and active, passive or both)
        - Use of condoms
    - For MSM or trans women having sex with men
        - Number of condomless anal sex partners in the last 6 months
    - HIV status of sexual partners
        - If partner is HIV positive, document treatment status and virological suppression status
    - STIs in the last 12 months
    - PEPSE in the last 12 months
    - Use of chems during sex in the last 6 months
        - Individuals who engage in chemsex should be asked about "slamming" [27] and informed of safe injection and needle sharing practise.
        - More information on chemsex and support services is available through the HSE Drugs and Alcohol helpline[28] and on the drugs.ie[29] and Man2Man.ie websites.[30]

[26] Insertive sex is also referred to as active or "top". Receptive sex is also referred to as passive or "bottom". Some individuals engage in insertive and receptive sex and are sometimes described as "versatile".
[27] "slamming" refers to injecting drugs
[28] The HSE Drugs and Alcohol helpline is the national database for addiction services. Tel 1800 459 459

- For information or referral in regard to GHB/Crystal Meth Detoxification, contact the National Drug Treatment Centre on 01 6488600 and ask for the Club Drug Clinic, see Appendix 3. NDTC Referral form.

4.2 Addressing HIV risk and baseline assessment of those eligible for free PrEP or otherwise wishing to take PrEP

See Appendix 2: PrEP clinical assessment checklist

For individuals eligible for free PrEP or considering paying for PrEP, consultations should include:

- Provision of information on HIV/STI risk reduction
    - safer sex practices, provision of condoms, where indicated brief intervention regarding alcohol, drugs (including information around safer injecting and needle exchange for individuals "slamming" chems) and further support/referral if required
- Documentation of medical conditions
    - If PrEP is being considered, renal conditions and other medical conditions that may impair renal function, for example, diabetes mellitus and hypertension
    - If PrEP is being considered, bone conditions or risk factors for low bone mineral density (see **Appendix 2**)
- Documentation of current medication(s)
    - If PrEP is being considered, medications (including over the counter drugs and supplements, particularly protein supplements) that may be nephrotoxic. Long term use of PrEP in combination with medicines that may impact on bone metabolism, for example for example phenytoin and carbamazepine, may warrant assessment of bone density.
- Documentation of drug allergy status
- Clinical examination as required
- Baseline investigations include
    - HIV testing
    - 4th generation venous blood HIV test
    - In addition, rapid HIV testing[31] can be performed (3rd generation or higher) to enable same day PrEP initiation
    - HIV viral load testing should be performed in individuals reporting symptoms and signs suggestive of HIV seroconversion[32]. PrEP should not be started until HIV infection has been excluded in those with symptoms and signs of HIV seroconversion
    - HIV viral load testing should be considered in individuals reporting a high risk exposure in the preceding 4 weeks
    - Hepatitis B sAg testing and additional markers as directed by history unless documented as hepatitis B immune

---

[29] http://drugs.ie/ghb
[30] http://man2man.ie/alcohol-drugs-cigarettes/chemsex/
[31] Oral rapid HIV tests are not recommended in this circumstance
[32] Common symptoms of HIV seroconversion are rash and fever. Other symptoms include arthralgia, sore throat, malaise and headache. Not all individuals' experience or report symptoms of HIV seroconversion.

    - Hepatitis A IgG testing if previous vaccination not reported or not documented as hepatitis A immune
    - syphilis serology
    - Hepatitis C testing in line with national guidelines
        - All MSM should have baseline and at least annual hepatitis C testing
        - see **Appendix 2** for further details on hepatitis C testing
    - chlamydia and gonorrhoea NAAT testing from all relevant anatomical sites (can be self-taken or provider taken)
        - where indicated gonorrhoea culture from urethra, pharynx and rectum
    - Check serum creatinine, eGFR and urinalysis[33].
- Provide treatment as required, including PEPSE
- Offer vaccination as indicated, in line with national guidelines, see **Appendix 2**
    - Hepatitis A and B, HPV
- Confirm contact details and preferred mechanism for contacting where need arises
- Discuss PrEP and provide written information (see Patient Information Leaflet[34]) and offer/arrange starting PrEP visit and document patient's decision. The starting PrEP visit must be within 4 weeks of the baseline HIV test and if not, a repeat HIV test must be performed. For patients requiring PEPSE, arrangements should be made for the starting PrEP visit at the end of the PEPSE course.

In addition, if eligible for free PrEP:

- Document PrEP eligibility.

4.3 Before starting PrEP[35]

See Appendix 2: PrEP clinical assessment checklist

- Confirm the individual meets eligibility criteria
- As appropriate, reiterate HIV/STI risk reduction strategies
    - safer sex practices, provision of condoms, brief intervention regarding alcohol, drugs and further support/referral if required
- Confirm negative HIV status
    - Confirmed negative 4th generation venous blood HIV test within last 4 weeks
    - OR same day negative point of care HIV test with a 4th generation venous blood test in process
- Determine if need for repeat HIV test at 4 weeks, i.e. if in HIV window period at time of test, for example, if have just completed PEPSE

[33] If considering same day initiation of PrEP it is not necessary to wait for these results before PrEP initiation but may be prudent to do so in those at risk of chronic kidney disease (for example hypertension, diabetes, >40 years)
[34] PrEP patient information leaflets can be ordered through www.healthpromotion.ie
[35] In some individuals it may be appropriate to initiate PrEP at the time of their initial PrEP assessment

    - Determine if symptoms or signs of HIV seroconversion (see 4.2 re HIV viral load testing and deferring PrEP initiation in this situation)
- Check results from previous visit, if applicable
    - Treat STIs, offer vaccination where required
- Check serum creatinine, eGFR and urinalysis results, where available (see footnote 30 above)
    - Review medical history and determine when next creatinine check indicated
    - See clinical assessment checklist, **Appendix 2**, for frequency of renal monitoring and recommendations in the setting of impaired renal function
    - Discuss the importance of renal monitoring and risk of renal function decline in the setting of PrEP
- Discuss PrEP and document patients decision regarding starting
    - Discuss lead in times, adherence and dosing schedule, see **Appendix 2**
- Address any queries in relation to PrEP and follow up
- Prescribe 1-3 months[36] tenofovir disoproxil/emtricitabine one tablet once daily or for event based dosing if appropriate
- Confirm contact details and preferred mechanism for contacting where need arises.

4.4 Subsequent visits

See Appendix 2: PrEP clinical assessment checklist

- Determine if still taking PrEP
    - If no longer taking, determine and document reason(s) for stopping
- Reassess eligibility criteria
    - Document if still eligible or no longer eligible
    - If eligible, document whether or not wishes to continue PrEP
- Reiterate HIV/STI risk reduction
    - safer sex practices, provision of condoms, brief intervention regarding alcohol, drugs and further support/referral if required
- Take sexual history
    - Document sexual exposure history in last 3 months
    - Determine if symptoms of STI
    - Determine if symptoms or signs of HIV seroconversion (see 4.2 re HIV viral load testing and deferring PrEP in this situation)
- Examination as required
- Investigations
    - 4th generation venous blood HIV test, syphilis serology
    - Hepatitis C testing (annually unless otherwise indicated)

[36] One month for those who are in the HIV window period when starting and 3 months for others

    - chlamydia and gonorrhoea NAAT testing from all relevant anatomical sites (can be self-taken or provider taken)
        - where indicated, gonorrhoea culture from urethra, pharynx and rectum
- Vaccination follow-up as required.

4.4.1 Continuing PrEP

- Serum creatinine, eGFR
    - See clinical assessment checklist for frequency of renal monitoring and recommendations in the setting of impaired renal function
- Assess and document dosing schedule and adherence
    - Reinforce adherence where required
- Prescribe 3 months tenofovir disoproxil/emtricitabine one tablet once daily or for event based dosing if appropriate
- Confirm contact details and preferred mechanism for contacting where need arises.

4.4.2 Discontinuing PrEP or already discontinued

- Confirm contact details and preferred mechanism for contacting where need arises
- Recommend re-attendance for further STI/HIV testing and reassessment for PrEP if required
- Ensure aware of PEPSE.

4.4.3 Self-discontinued PrEP but eligible

- Ensure aware of benefits of PrEP
- Ensure aware of PEPSE
- Confirm contact details and preferred mechanism for contacting where need arises
- Make follow up appointment for three months for further STI/HIV testing, sooner if history indicates the need.

5. Surveillance, reporting and data collection

5.1 Statutory notification HIV and STIs

Statutory notification of incident HIV and STIs should be undertaken in a timely manner, see http://www.hpsc.ie/notifiablediseases/notifyinginfectiousdiseases/.

5.2 Adverse drug events

Any adverse events occurring in individuals on PrEP should be reported through the HPRA, via https://www.hpra.ie/homepage/about-us/report-an-issue/human-adverse-reaction-form.

5.3 National monitoring of PrEP

The HIV PrEP working group has determined the key outcomes that are necessary for monitoring PrEP. The data required for national PrEP monitoring will be achieved through a combination of HSE PCRS data collection, service provider based data collection, established HIV and STI surveillance data collection and periodic, nationally coordinated audit. Further detail is provided in the PrEP monitoring framework document.

Appendix 1. Evidence supporting the agreed eligibility criteria for free PrEP

1) Behaviour, conditions and associated HIV incidence in men who have sex with men

In Ireland gay, bisexual, and other men who have sex with men (MSM) represent the greatest proportion of newly-diagnosed HIV infections. There is no data available in Ireland on behaviour or conditions and incident HIV. Available epidemiological information on newly diagnosed cases of HIV does not include information on sexual behaviour or drug use during sex (chemsex). In 2016, of the 151 new diagnoses in MSM, which excludes those previously diagnosed abroad, 27.4% of cases had an acute STI at the time of the HIV diagnosis (11.8% syphilis, 13.3 % chlamydia and 9.8% gonorrhoea) [37]. Information on STI diagnoses in these individuals in the year or six months prior to their HIV diagnosis is not currently available.

There is no information on HIV risk in transgender women in Ireland. However, worldwide they are estimated to be at a 49 times greater risk of HIV than the general population[38].

The table below presents information from a range of sources on behaviour, conditions and associated HIV incidence in MSM.

HIV-negative men (and transgender women) having sex with men		
	Associated HIV incidence	
Risk Factor	Per 100 person years	95% CI
1. data source: Health in Men Study, New South Wales, Australia (2001-2007)		
Overall, regardless of practice	0.78	0.59 – 1.02
Rectal GC in the last 6 months	7.01	2.26 – 21.74
Rectal CT in the last 6 months	3.57	1.34 – 9.52
Methamphetamine use in the last 6 months	1.89	1.25 – 2.84
2. data source: GUMCAD, Public Health England MSM attendees (2014)		
Overall	1.8	1.7 – 2.0
Recent bacterial STI	3.3	2.9 – 3.9
Recent rectal bacterial STI	4.3	3.9 – 6.2

[37] http://www.hpsc.ie/a-z/hivstis/hivandaids/hivdataandreports/HIVIreland_2016.pdf

[38] Baral SD et al. Worldwide burden of HIV in transgender women: a systematic review and meta-analysis. Lancet Infect Dis. 2013 Mar;13(3):214-22. doi: 10.1016/S1473-3099(12)70315-8

3. data source: PROUD study, HIV incidence in the deferred PrEP arm and baseline characteristics		
Overall	9.1	
Rectal STI in the last 12 months	17.4	10.8 – 28.0
2 -4 condomless anal sex partners in the preceding 90 days	12.8	7.17 – 22.9
PEPSE in the preceding 12 months	10.9	6.07 – 19.4
Participating in chemsex in preceding 90 days	10.4	6.19 – 17.5

2) Impact of suppressive antiretroviral therapy on risk of HIV acquisition

The HPTN 052 clinical trial and the HIV Partner cohort studies have demonstrated the efficacy of suppressive antiretroviral therapy in preventing onward transmission of HIV in HIV serodifferent sexual couples, over a range of different sexual exposure types.

1. HPTN 052 randomised controlled trial of early versus deferred ART initiation[39]			
	Number of infections	**HIV incidence per 100 person years**	**95% CI**
Overall, linked partners	46		
Early, linked partners	3	0.07	0.01 – 0.2
Deferred, linked partners	43	1.03	0.74 – 1.38
Relative risk reduction early versus delayed, 93%			
2. HIV PARTNER 1 observational study[40]			
	Number of infections	**HIV incidence per 100 couple years**	**Upper limit 95% CI**
Overall	0	0	0.3
Heterosexual women			
Any condomless sex	0	0	0.97
Condomless vaginal sex ejaculation	0	0	1.50
Condomless vaginal sex no ejaculation	0	0	1.55

[39] Cohen MS et al. Prevention of HIV-1 infection with early antiretroviral therapy N Engl J Med. 2011 Aug 11;365(6):493-505. doi: 10.1056/NEJMoa1105243. Epub 2011 Jul 18.

[40] Rodger AJ et al. Sexual Activity Without Condoms and Risk of HIV Transmission in Serodifferent Couples When the HIV-Positive Partner Is Using Suppressive Antiretroviral Therapy. JAMA. 2016 Jul 12;316(2):171-81. doi: 10.1001/jama.2016.5148. Erratum in: JAMA. 2016 Aug 9;316(6):667. Erratum in: JAMA. 2016 Nov 15;316(19):2048.

Condomless anal sex ejaculation	0	0	12.71
Condomless anal sex no ejaculation	0	0	8.14
Heterosexual men			
Any condomless sex	0	0	0.88
Condomless insertive anal sex	0	0	7.85
MSM			
Any sex	0	0	0.84
Condomless insertive anal sex	0	0	1.00
Condomless receptive anal sex ejaculation	0	0	2.70
Condomless receptive anal sex no ejaculation	0	0	1.68
3. HIV PARTNER 2 observational study[41]			
Condomless anal sex	0	0	0.23
Condomless insertive anal sex	0	0	0.27
Condomless receptive anal sex with ejaculation	0	0	0.57
Condomless receptive anal sex no ejaculation	0	0	0.43
Any condomless anal sex with STI	0	0	3.17

3) Time Limited PrEP in HIV serodifferent couples

Temporary PrEP for HIV negative partners of people living with HIV who are initiating antiretroviral therapy has been shown to be acceptable and effective in averting sexual acquisition of HIV in resource limited setting [42]

[41] Rodger AJ et al. Risk of HIV transmission through condomless sex in serodifferent gay couples with the HIV-positive partner taking suppressive antiretroviral therapy (PARTNER): final results of a multicentre, prospective, observational study. Lancet. 2019 May 2. pii: S0140-6736(19)30418-0. doi: 10.1016/S0140-6736(19)30418-0.

[42] Integrated Delivery of Antiretroviral Treatment and Pre-exposure Prophylaxis to HIV-1-Serodiscordant Couples: A Prospective Implementation Study in Kenya and Uganda. Baeten JM et al. PLoS Med. 2016 Aug 23;13(8):e1002099. doi: 10.1371/journal.pmed.1002099. eCollection 2016 Aug.

Appendix 2. PrEP Clinical Assessment Checklist

	Baseline assessment before starting PrEP[43]	Follow up			Comments
		1 month after starting PrEP (will be required for some)	Every 3 months on PrEP (for all)	Annually on PrEP (for all)	
Discuss HIV risk and assess eligibility for PrEP	X	X	X		
Discuss HIV and STI risk reduction strategies	X	X	X		
Offer and provide condoms	X	X	X		
Discuss chemsex and alcohol use and offer support and referral	X	X	X		
Discuss and agree dosing schedule	X	X	X		➢ PrEP is licensed for daily use and can be offered to all people who are eligible for PrEP ➢ Event based dosing[44] has been shown to be effective for men having anal sex with other men. EBD can be considered in men

[43] Where possible the baseline assessment should not delay PrEP initiation. Where there are concerns for potential exposure to HIV within the preceding 4 weeks patients should be seen one month post initiation of PrEP. PrEP should not be started until HIV infection has been excluded in those with symptoms and signs of HIV seroconversion. HIV viral load testing should be considered in individuals reporting a high risk exposure in the preceding 4 weeks. Patients initiating PrEP who are completing a course of HIV PEP should be seen at a service that has experience in PEP and PrEP service delivery.

[44] Sometimes referred to as on demand dosing or 2+1+1 dosing

					having sex with other men where sex is infrequent (for example less than 2 times per week) and where the individual is able to allow adequate time for taking the first dose before having sex[45]. ➢ Event based dosing is not recommended for women (including transgender women); transgender men having vaginal sex; men having vaginal sex or anal sex with women. ➢ Event based dosing is not recommended in people who are hepatitis B surface antigen positive
Discuss lead in time and stopping PrEP	X	X	X		1. Daily dosing schedule *Anal sex* ➢ Starting: 2 tablets between 2 and 24 hours before sex ➢ While on PrEP take one tablet every 24 hours ➢ Stopping: continue one tablet every 24 hours until two tablets have been taken after last sexual episode *Vaginal sex* ➢ Starting: 1 tablet daily for 7 days before vaginal sex ➢ While on PrEP one tablet every 24 hours ➢ Stopping: continue one tablet every 24 hours for 7 days after last vaginal sex 2. Event based/On demand dosing schedule **only where appropriate as outlined above** One sexual episode ➢ take 2 pills 2 – 24 hours before sex ➢ take 1 pill 24 hours later ➢ take 1 more pill 24 hours after that Multiple sexual episodes over a number of days

[45] EVENT-DRIVEN ORAL PRE-EXPOSURE PROPHYLAXIS TO PREVENT HIV FOR MEN WHO HAVE SEX WITH MEN: UPDATE TO WHO'S RECOMMENDATION ON ORAL PREP, https://apps.who.int/iris/bitstream/handle/10665/325955/WHO-CDS-HIV-19.8-eng.pdf?ua=1

					➢ take 2 pills 2 – 24 hours before sex ➢ take 1 pill 24 hours later ➢ continue one tablet every 24 hours until two tablets have been taken after the last sexual encounter
Discuss and assess adherence. **Provide support where adherence suboptimal**	X	X	X		If on daily PrEP and taking fewer than recommended doses (<4 doses per week for men having anal sex; <6 doses per week for people having vaginal/frontal sex) and at substantial risk for acquisition of HIV, serious consideration should be given to stopping PrEP
4th generation HIV testing **Consider HIV point of care test to enable more timely PrEP initiation** **HIV viral load testing where concerns for recent HIV seroconversion**	X	+/-	X		A negative 4th generation venous blood HIV test must be documented within four weeks prior to first starting PrEP or negative start day point of care HIV test with a 4th generation venous blood HIV test in progress . Where an individual is within the window period at first starting PrEP a repeat test should be done at 4 weeks. Discuss symptoms of HIV seroconversion with patient and advise to attend if such symptoms develop Where there are concerns for HIV seroconversion discuss with a doctor with experience in seeing and managing patients with acute HIV infection. PrEP should not be continued if there the risk of seroconversion is considered real.
Hepatitis A testing	X				All patients who are hepatitis A non-immune should be offered and encouraged to avail of hepatitis A vaccination
Hepatitis B testing **All patients to have HBsAg at baseline and follow up if not documented as hepatitis B immune (sAb >100 MIU/ml)**	X		+/-		Any patient identified with active hepatitis B infection should have their hepatitis B and PrEP assessment and care provided by a physician with experience and expertise in management of this scenario All patients who are hepatitis B non-immune should be offered and encouraged to avail of hepatitis B vaccination

Additional hepatitis B markers as indicated from history					Any patient who is hepatitis B non-immune and potentially exposed to hepatitis B should be managed in line with the hepatitis B PEP guidelines[46]
Hepatitis C testing	X		+/-	X	Annual hepatitis C testing is recommended for MSM. Please read footnote for further information on hepatitis C testing[47]
Syphilis serology	X	+/-	X		Where an individual is within the window period at first starting PrEP a repeat test should be done at 4 weeks.
Serum creatinine/ eGFR[48]	X		X		**eGFR >60 mls/min/1.73m^2** [49] ➢ Measure creatinine and eGFR three monthly whilst on PrEP **eGFR <60 mls/min/1.73m^2** ➢ **At baseline** if eGFR is <60mls/min/1.73m^2 commencement of PrEP is not recommended. Assess for relevant medical conditions, nephrotoxic drugs and strongly consider renal referral. ➢ **In follow up** if eGFR falls to <60mls/min/1.73m^2 whilst on PrEP, continuation is not recommended. Reassess for relevant

[46] Emergency Management of Injuries Guidelines, www.emitoolkit.ie

[47] Hepatitis C testing should be considered part of routine sexual health screening in the following circumstances: People who are HIV positive; Commercial sex workers; PWID; If indicated by the clinical history e.g. unexplained jaundice; When other risk factors for hepatitis C are present, for example MSM. The full set of recommendations around hepatitis C testing are available in the national hepatitis C screening guidelines, http://health.gov.ie/wp-content/uploads/2017/08/HepC-NCG-15_Summary_v8.pdf

[48] It is important to note that in general laboratory reported eGFR's do not take account of an individual's weight or muscle mass. At the extremes of body mass and muscle mass non-weight based eGFR calculations are less reliable and may not accurately reflect renal function. In these circumstances it is recommended that the weight is checked and the eGFR calculated using the Cockcroft Gault equation http://www.mdcalc.com/creatinine-clearance-cockcroft-gault-equation/. In addition there is racial variation in GFR such that in Black-African populations a correction factor should be applied. It is recommended that in assessing and monitoring Black-African patients for or on PrEP that the appropriate correction factor is checked with the local laboratory.

[49] The working group notes that in the product datasheets for PrEP medication, the recommendations around renal monitoring have different eGFR thresholds. The variance with the thresholds reflects the way eGFR is reported in some laboratories whereby in some institutions the eGFR is not quantified above 60 mls/min/1.73m^2 and is simply reported as >60 mls/min/1.73m^2. The working group sought specialist renal physician input in drafting this section on renal monitoring.

					medical conditions, nephrotoxic drugs and consider renal referral. **For services where eGFR is reported to >90ml/min/1.73m^2 if the eGFR falls from a baseline of >90ml/min/1.73m^2 whilst on PrEP but remains >60ml/min/1.73m^2 consideration should be given to discontinuing PrEP**
CTNG multisite testing	X	+/-	X		Where an individual is within the window period at first starting PrEP repeat testing should be done at 4 weeks. Multisite gonorrhoea culture where indicated
Vaccination review	X	X	X		Vaccination in line with NIAC recommendations[50] 1. Hepatitis B vaccination is recommended for all people attending STI clinics 2. Hepatitis A vaccination is recommended for MSM 3. HPV vaccination is recommended for MSM up to and including 45 years of age
Assess LMP, contraception and do urine pregnancy test where indicated	X	X	X		Pregnancy or trying to conceive is not considered a contraindication to PrEP in those at substantial risk of HIV
Bone health for patients taking PrEP	Bone loss is associated with use of tenofovir disoproxil and is usually reversible on cessation of tenofovir disoproxil. Individuals taking tenofovir disoproxil based PrEP should be informed of this risk. Individuals with pre-existing low bone mineral density or risk factors for low bone mineral density (>50 years, smoking, alcohol excess, low body weight, some medication and in particular steroids) should be advised to reduce their risk for low bone mineral density by stopping smoking, reducing alcohol intake, increasing weight bearing exercise and ensuring an adequate intake of calcium and vitamin D. Tenofovir disoproxil based PrEP in individuals with documented osteoporosis should only be prescribed following careful consideration of the risks and where the individual is engaged with appropriate care for their osteoporosis.				

[50] HSE Immunisation Guidelines, http://www.hse.ie/eng/health/Immunisation/hcpinfo/guidelines/

Appendix 3. HSE-National Drug Treatment Centre Referral Form

For Admission to the Club Drugs Clinic, Ireland, HSE-NDTC

Name: ..... Name of Referrer:.....

Address:..... Referrer's Contact:.....

..... Name of GP:.....

Date of Birth:..... GP's Contact:.....

Contact Number(s):..... Date of Referral:.....

Current GHB/Crystal Meth Usage (How much & How often):.....

Use of other substances (Urine tox screen where available):.....

.....

Medical History:.....

Concerns re: Substance Misuse & Related Behaviours:.....

.....

Prescribed Medication:.....

Psychiatric History:.....

.....

Accidental/Intentional Overdoses & Outcomes:.....

.....

Social Circumstances (Accommodation & who living with):.....

.....

Counselling & Support History & current Engagement:.....

.....

Post Detoxification Rehabilitation Plan:.....

.....

For Office Use:	Outcome of Referral: