5.4 HIV INFECTION
NOTIFIABLE

RECOMMENDATIONS

Offer test for HIV Ag/Ab to:

- All women attending antenatal services
- All those with risk factors for HIV including but not limited to
  - From high HIV prevalence countries (>1%)
  - Concurrent sexually transmitted infection
  - People who inject drugs (PWID)
  - Sex workers and those who have been trafficked
  - Men who have sex with men (MSM)
- Concurrent TB infection

Refer all positive cases to specialist services for review

Human immunodeficiency virus (HIV) is a virus that infects cells of the human immune system and destroys or impairs their function.[1] HIV became notifiable in Ireland in September 2011.

Epidemiology

Data on the prevalence of HIV among adults aged 15 to 49 years by country is available from the World Health Organization, Global Health Observatory Data Repository at http://apps.who.int/gho/data/node.main.622?lang-en Figure 5.4.1 maps the global distribution of HIV in 2012.

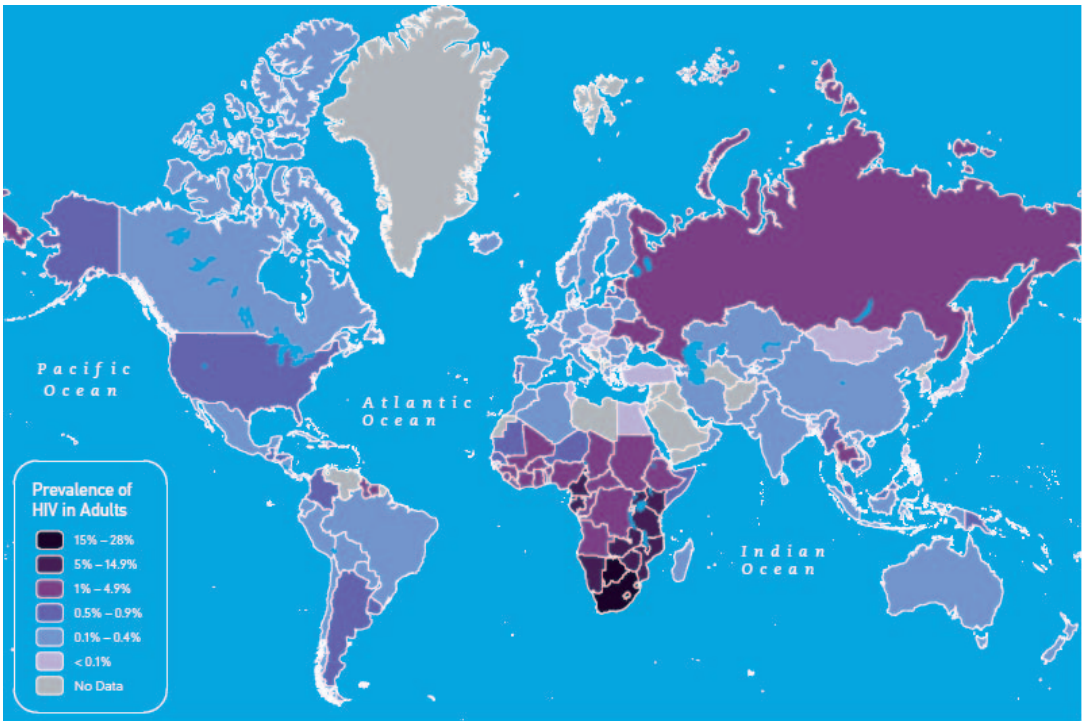

Figure 5.4.1 The global distribution of HIV infection 2012

Source: Centers for Disease Control and Prevention. CDC Health Information for International Travel 2012, New York: Oxford University Press; 2012

The following information on HIV infection in Ireland is from *HIV in Ireland 2013 Report, HPSC.*[2] In 2013, 344 people were newly diagnosed with HIV in Ireland. Half of the new HIV diagnosed cases in 2013 were in people born abroad. Of these, 43% were born in Sub-Saharan Africa, 20% born in Latin America, 19% born in central and eastern Europe and 9% born in western Europe.

Rationale for assessment

- Many migrants coming to Ireland are from countries with generalised HIV epidemics. This is where greater than 1% of the general population is HIV positive.[2]
- HIV is a significant cause of morbidity and mortality worldwide.[1]
- Treatment improves HIV disease outcomes.[3]
- Prevention and treatment of HIV reduces the spread of disease.[3]
- Advice on prevention of transmission can be given to those identified as HIV positive.

Assessment

The SAC sub-committee endorses the following indications for HIV assessment based on Public Health England Migrant Health guidelines.[4]

HIV testing should be offered to the following groups:

- All women who attend for antenatal services.
- Those deemed at risk following an assessment of their health needs e.g. persons from high HIV prevalence countries (>1% in the general population – broadly these countries are in Sub-Saharan Africa, eastern Europe, central Asia, and the Caribbean), persons diagnosed with a sexually transmitted infection, people who inject drugs (PWID), sex workers and those who have been trafficked, and men who have sex with men (MSM).
- Assessment for TB should include voluntary testing for HIV as TB is the most common opportunistic infection in HIV-infected individuals.

Note: Anyone with a positive HIV test needs to be referred to a specialist infectious diseases service. They may need culturally sensitive counselling.

Vaccination

People with HIV infection should generally receive all routine (except BCG) and some additional vaccines (see Table 5.4.1). The timing of immunisation depends on the type of vaccine and the level of immune suppression. The decision to use live viral vaccines depends on the degree of immunosuppression. For those who are severely immunosuppressed, live viral vaccines should be delayed until immune recovery. **BCG is contraindicated regardless of CD4 count.**

Table 5.4.1 Vaccination schedule for HIV exposed and infected children[5]

	HIV exposed but uninfected infants	HIV infected infants & children
Birth	Hep B	Hep B
>6 weeks	BCG if 2 HIV PCR tests, one at ≥6 weeks of age, are negative	**Do not give BCG**
2, 4 and 6 months	Routine schedule	
Annually (from 6 months of age)		Influenza vaccine
12 months	PCV Hepatitis A vaccine (if HCV or HBV infected)	
	MMR	MMR (if on treatment and CD4 count >15%)
13 months	MenC, Hib	
15 months		Varicella (if CD4 count is ≥15%) MenACWY
18 months		Varicella
24 months		PPV
4-5 years	DTaP/IPV	
4-5 years	MMR	MMR (if on treatment and CD4 count >15%)
12 years	HPV **girls** (3 doses)	HPV **girls and boys** (3 doses)
11-14 years	Tdap	

Source: Immunisation Guidelines for Ireland 2013, Chapter 3

NIAC recommends that inactivated vaccines can be given to all **HIV infected children**, even those who are significantly immunosuppressed.[5] However, as responses may be blunted, revaccination after recovery of immune function is recommended. If antiretroviral treatment is being initiated, to optimize the vaccine response, delay vaccination until the child has had 6 months of undetectable viraemia and the % CD4 is ≥15%. The decision to delay vaccination must be balanced against the urgency of attaining protection.

MMR is contraindicated for those who are severely immunosuppressed (see Table 5.4.2) but can be given when the patient is on specific HIV therapy and the % CD4 is ≥15%.

Varicella vaccine is recommended for susceptible HIV infected children ≥12 months with asymptomatic or mildly symptomatic HIV infection and % CD4 ≥15%. BCG is contraindicated. For specific recommendations see Table 5.4.1.

Table 5.4.2 CD4 counts indicative of severe immunosuppression[5]

If aged:	%CD4	CD4 count ($x10^6$/L)
<1 year	<15%	<750
1-5 yrs	<15%	<500
≥1-5 yrs	<15%	<200

Source: Immunisation Guidelines for Ireland 2013, Chapter 3

The NIAC recommendations for vaccinating adults with HIV infection are:[5]

- Ensure that the primary DTaP vaccine course has been completed. Give a booster Tdap if none was received within 10 years and repeat Td every 10 years.
- Pneumococcal:
  - For those who have never received PCV13 or PPV, give a single dose of PCV followed by PPV after a minimum interval of 8 weeks.
  - For those who have received 1 or more doses of PPV, give a single dose of PCV at least 1 year after PPV.
  - A once only booster dose of PPV can be given at least 5 years after the previous dose.
- MenACWY, 1 dose. For those who have received Men C, give 1 dose MenACWY after an interval of at least 4 and preferably 8 weeks.

- Influenza: Give annually.
- Hepatitis A: Give to susceptible patients, 2 dose schedule.
- Hepatitis B: Give to susceptible patients, 3 dose schedule (combined Hepatitis A/ Hepatitis B vaccines may be used).
- HPV: 3 dose schedule at appropriate intervals to male and female patients <26 years.
- MMR (unless laboratory evidence of immunity or documented prior vaccination):
  - If CD4 count ≥200 cells x10^6/l: 2 doses (1 month interval).
  - If CD4 count <200 cells x 10^6/l: MMR is contraindicated.
- Varicella for susceptible patients:
  - If CD4 count ≥400 cells x10^6/l: give 2 doses (1 month interval).
  - If CD4 count ≥200 but <400 x10^6/l: patients can receive varicella vaccine if stable on antiretroviral therapy
  - If CD4 count <200 cells x10^6/l: varicella vaccine is contraindicated.
- **BCG is contraindicated for all HIV infected persons.**

More detailed information on the immunisation of HIV infected adults can be found from the British HIV Association website.[6]

References

(1) Heymann D. Control of communicable diseases manual. 19th ed. Washington: American Public health Association; 2008.

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(3) World Health Organization. WHO Fact Sheet on HIV no 360 [Internet]. 2012.
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(4) Public Health England. Migrant Health Guidelines for HIV Assessment [Internet]. Public Health England; 2012.
Available from: http://webarchive.nationalarchives.gov.uk/20140714084352/http://www.hpa.org.uk/migranthealthguide

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(6) British HIV Association. British HIV Association guidelines for immunisation of HIV-infected adults [Internet]. 2008; 9:795-848.
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