HIV and STI trends in Wales

Notes on data sources and interpretation, November 2019

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Purpose and Summary of Document:

These notes accompany the *HIV and STI trends in Wales* report which summarises trends in the epidemiology of sexually transmitted infections (STI) in Wales up to the end of December 2018.

Publication/Distribution:

- Publication on Public Health Wales intranet and internet
- E-mail notification of publication to stakeholders
- Link from Public Health Wales e-Bulletin
- Publication in Public Health Wales Document Database (Community surveillance)

Notes on data sources and interpretation

Although laboratory and clinic data indicate that the incidence of STIs is increasing in Wales, the magnitude of the changes detected by surveillance in recent years needs to be interpreted with caution in light of concurrent developments in testing, treatment services, and reporting systems, all of which occurred between 2011 and 2016. These changes include:

- Implementation of a single Laboratory Information Management System common to all laboratories across Wales
- The inclusion of former Family Planning or Community Contraceptive Services clinics in the surveillance system
- The introduction of dual chlamydia/gonorrhoea NAAT testing in sexual health clinics (SHCs), and in some GP practices
- The improvements in reporting completeness from SHCs
- The change in reporting from paper-based to computer-based clinical management systems in Hywel Dda University Health Board in March 2016

Years 2017 and 2018 are generally more comparable, although the implementation of the pre-exposure prophylaxis for HIV (PrEP) programme in mid-2017 may have attracted high risk groups to SHCs: between 1st July 2017 and 31st December 2018, 1419 patients were assessed as eligible for PrEP, of whom 29% (n=414) were relatively new to the service (not more than 2 months).

Main data source:

Sexual health in Wales Surveillance system (SWS) extracts results of testing of STIs in all healthcare settings from all Welsh NHS laboratories via Datastore, and receives clinical and risk factor data on STI diagnoses from SHCs across Wales.

- **SWS-Datastore** data: Between June 2012 and January 2015, a new Laboratory Information Management System (LIMS) common to all laboratories across Wales was rolled out, and therefore laboratory trend data may not be comparable before, during and after the change. One of the main advantages of the new system is that duplicates resulting from samples moving between different laboratories across Wales are less likely. However, duplicates were more likely during the roll out period. For this reason, we compare data from 2011 (old system) to data from 2018 (new system) to assess recent change, bearing in mind that any increase may be slightly underestimated.
- **SWS-Clinic** data: SWS also receives SHHAPT (sexual health and HIV activity property type) data (formerly KC60) electronically submitted from SHCs in Wales. Whilst data from SHCs do not include records from other healthcare settings such as general practice, they do provide a greater breadth of clinical information on patients. When SWS started it received reports from those clinics formerly known as genitourinary medicine (GUM) clinics, although new SHCs from former Family Planning or Community Contraceptive Services have been gradually included into the system. The number of clinic attendances received in SWS has more than doubled between 2011 and 2018, with a 178% increase in attendances by females and a 70% increase in attendances by males. The SHCs data used in this report are as at 15/04/2019.

  The clinical module of SWS replaced the KC60 forms submitted by computerised SHCs from 1st April 2011. Historical data availability varies by clinic, although it is complete for all computerised clinics from 2007. Historical data will vary from those seen in KC60 forms due to variability in coding practices between clinics. Clinics in Carmarthenshire or Pembrokeshire were computerised in March 2016, prior to this we received aggregated, quarterly SHHAPT paper forms from these clinics. For this reason, reports from these clinics are not included in some of the tables and figures in this report.

KC60 diagnosis coding was replaced by SHHAPT coding from 1st April 2011. Codes for chlamydia and gonorrhoea changed during this replacement, meaning that trend data are not exactly comparable. For example, the SHHAPT code for all chlamydia diagnoses is now C4, which incorporates the old KC60 codes for uncomplicated chlamydia (C4A, C4C), complicated chlamydia including PID and epididymitis (C4B) and chlamydial ophthalmia neonatorum (C4D). The KC60 data forms (prior to SWS) only collated data by age for uncomplicated chlamydia infection and so, to allow for the inclusion of the non-computerised clinics, we have included in our trend data only C4, C4A and C4C.

The completeness of SHC data varies over time. Attendances which are received in SWS may or may not have diagnosis or service codes associated with them, as most of the time there is a lag between the patient's attendance and the codes being introduced in the system. As there are codes to report "no service and/or treatment required" and "other conditions requiring treatment", in time virtually all 'new' patient attendances or 'rebook' patient attendances (where patients who are known to the clinic return for an unrelated episode of care) should have at least one code. We use an indicator that measures the percentage of new and rebook attendances with at least one code to estimate the completeness of the data received. This indicator shows similar data completeness in recent years (93% in 2018) as compared to 2012 (94%).

Syphilis is reported as primary and secondary syphilis (codes A1 and A2), and early latent syphilis (code A3). However, A3 figures are not available by age from the non-computerised clinics, and therefore only A1 and A2 were counted for these clinics in young people's data.

In past reports, only STI diagnoses in 'new' patient attendances or 'rebook' patient attendances were included, as any new episode of care in the clinics should be coded in these attendance types. However, due to an increase in the complexity of the data received from the clinics, this method became unreliable. Since 2016, all reports have included all diagnosis and service codes regardless of the attendance type and, to reduce the risk of duplicates, these have been deduplicated within predefined time windows ("episode periods"), shown in Table 1 below.

In this report we have refined our definition for person, which may have had the effect of changing (lowering) the figures for past years. A person was defined by a patient identification number and the Health Board of the service, rather than the clinic.

Other data sources:

- The usual data sources for HIV -Public Health England's **Survey of Prevalent HIV Infections Diagnosed** (SOPHID) and clinical reporting of **newly diagnosed HIV** to PHE- were not available for 2018 when this report was being prepared. Therefore, we have used new diagnoses of HIV reported from SHCs in Wales to SWS. These data may not represent the trend of new HIV diagnoses in Wales, as it may include diagnoses that are not new, and HIV is also diagnosed in other care settings. PHW is in the process of reviewing HIV surveillance in Wales.
- Results of **Enhanced Surveillance of Syphilis in Wales**: anonymous clinical reports of infectious syphilis to Public Health Wales CDSC from SHCs.
- Results of the PHE Sexually transmitted bacteria reference unit (STBRU), Bacteriology reference department (BRD): **laboratory reports of lymphogranuloma venereum (LGV).**
    - Results of Public Health Wales' Specialist Antimicrobial Chemotherapy Unit: high-level azithromycin-resistant *N.gonorrhoeae* and dual ceftriaxone and azithromycin resistance. UK level data is from PHE's Gonococcal Resistance to Antimicrobials Surveillance Programme (GRASP) report.

Methods:

- Rates were calculated using **StatsWales mid-year population estimates**. The 2017 population estimate was used for 2018.
- Ethnicity-specific rates were calculated using the **Office for National Statistics 2011 Census data table KS201EW**. It is worth noting that ethnicity-specific rates may be affected by changes in the underlying populations since 2011.
- In the geographical analyses, 95% confidence intervals (Poisson, exact) were calculated using Stata 14.1.

Table 1: Episode periods within which KC60/SHHAPT codes are deduplicated

KC60/SHHAPT Code and description		Episode period	Further cleaning
A1	Primary infectious syphilis	42 days	42 days between A1 and A3
A2	Secondary infectious syphilis	182 days	42 days between A2 and A3
A3	Early latent syphilis	728 days	42 days between A1 or A2 and A3
A4	Cardiovascular syphilis	Patient's lifetime	-
A5	Neurosyphilis	Patient's lifetime	-
A6	Other late and latent syphilis	Patient's lifetime	-
A7A	Congenital Syphilis	Patient's lifetime	-
A9	Epidemiological treatment of suspected syphilis	42 days	-
B, B1, B2	Gonorrhoea (SHHAPT) / Uncomplicated gonorrhoea infection	42 days	-
B3	Gonococcal ophthalmia neonatorum	Patient's lifetime	-
B4	Epidemiological treatment of suspected gonorrhoea	42 days	-
B5	Complicated gonococcal infection - including PID and	42 days	-
C1	Chancroid	42 days	-
C2	LGV	42 days	-
C3	Donovanosis	42 days	-
C4, C4A, C4C	Chlamydia (SHHAPT) / Uncomplicated chlamydial infection	42 days	-
C4B	Complicated Chlamydial infection - including PID and	42 days	-
C4D	Chlamydial ophthalmia neonatorum	Patient's lifetime	-
C4E	Epidemiological treatment of suspected chlamydia	42 days	-
C4I	Epidemiological treatment of NSGI	42 days	-
C4N, C4H	Non-Specific genital infection	42 days	-
C5	Complicated infection (non-chlamydial/non-gonococcal)	42 days	-
C5A	Pelvic inflammatory disease / epididymitis	42 days	-
C5B	Ophthalmia neonatorum	Patient's lifetime	-
C6A	Trichomoniasis	42 days	-
C6B	Anaerobic/Bacterial vaginosis & anaerobic balanitis	42 days	-
C6C	Other vaginosis/vaginitis/balantis	42 days	-
C7, C7A	Anogenital candidosis	42 days	-
C7B	Epidemiological treatment of C6 and C7	42 days	-
C8	Scabies	42 days	-
C9	Pediculosis pubis	42 days	-
C10A	Anogenital herpes simplex - first attack	Patient's lifetime	Subsequent episodes replaced by recurrence code
C10B	Anogenital herpes simplex - recurrence	84 days	84 days between 1st diagnose and 1st
C11A	Anogenital warts - first attack	Patient's lifetime	Subsequent episodes replaced by recurrence code
C11B, C11C, C11D	Anogenital warts - recurrence	84 days	84 days between 1st diagnose and 1st
C12	Molluscum contagiosum	2 years	-
C13, C13A, C13B	Hepatitis B – 1st diagnosis	Patient's lifetime	-
C13C	Viral hepatitis B: subsequent presentation	84 days	-
C14	Viral hepatitis C: first diagnosis	Patient's lifetime	-
C15	Viral Hepatitis A: Acute Infection	Patient's lifetime	-
D2A	Urinary tract infection	42 days	-
D2B	Other episodes requiring treatment at a GUM clinic	42 days	-
D3	Other episodes not requiring treatment	Same attendance	-
E1A	New HIV diagnosis: asymptomatic	Patient's lifetime	Only one code new HIV diagnosis code
E1B, E2B	Subsequent HIV presentation (not AIDS)	Same attendance	-
E2A	New HIV diagnosis: symptomatic (not AIDS)	Patient's lifetime	Only one code new HIV diagnosis code
E3A1	AIDS: first presentation - new HIV diagnosis	Patient's lifetime	Only one code new HIV diagnosis code
E3A2	AIDS: first presentation - HIV diagnosed previously	Patient's lifetime	-
E3B	AIDS - subsequent presentation	Same attendance	-
H	HIV positive	Same attendance	-
H1	New HIV diagnosis	Patient's lifetime	Only one code new HIV diagnosis code
H1A	New HIV diagnosis: Acute	Patient's lifetime	Only one code new HIV diagnosis code
H1B	New HIV diagnosis: Late	Patient's lifetime	Only one code new HIV diagnosis code
H2	Attendance for HIV related care	Same attendance	-
P1A	HIV antibody test (no sexual health screen)	42 days	-
P1B	HIV antibody test offered and refused	42 days	-
P1C	HIV test inappropriate	42 days	-

Table 1 continued…

KC60/SHHAPT Code and description		Episode period	Further cleaning
P2, P2A	Hepatitis B vaccination: 1st dose	Patient's lifetime	-
P2B	Hepatitis B vaccination: 2nd dose	Patient's lifetime	-
P2C	Hepatitis B vaccination: 3rd dose	Patient's lifetime	-
P2D	Hepatitis B vaccination: 4th dose	Patient's lifetime	-
P2E	Hepatitis B vaccination - Booster	5 years	-
P2I	Hepatitis B immune	Patient's lifetime	-
P3	Contraception	Same attendance	-
P4	Cervical cytology done	Same attendance	-
P4A	Cervical Cytology - minor abnormality	182 days	-
P4B	Cervical Cytology - major abnormality	182 days	-
PEPD	PEPSE discussed but not given	Same attendance	-
PEPS	Post exposure prophylexis after sexual exposure (PEPSE)	28 days	-
PN	Partner notification initiated	42 days	-
PNC	Partner notification related attendance: Chlamydia	42 days	-
PNG	Partner notification related attendance: Gonorrhoea	42 days	-
PNH	Partner notification related attendance: HIV	42 days	-
PNN	Partner notification related attendance: NSGI	42 days	-
PNP	Partner notification related attendance: PID/epididymitis	42 days	-
PNS	Partner notification related attendance: Syphilis	42 days	-
PR1	Pregnant - 1st trimester	9 months	-
S1	Sexual health screen (no HIV antibody test)	42 days	-
S2	HIV antibody test and sexual health screen	42 days	-
SW	Sex Worker	Same attendance	-
T1	Chlamydia test	42 days	-
T2	Chlamydia and gonorrhoea tests	42 days	-
T3	Chlamydia, gonorrhoea and syphilis tests	42 days	-
T4	Full sexual health screen including HIV antibody test	42 days	-
T5	HSV Test	42 days	-
T6	Hepatitis A/B/C Test	42 days	-
T7	Syphilis & HIV test	42 days	-
T9	STI tests not required	42 days	-
W1	HPV vaccination: 1st dose	Same attendance	-
W2	HPV vaccination: 2nd dose	Same attendance	-
W3	HPV vaccination: 3rd dose	Same attendance	-
Z	Prisoner	Same attendance	-