



REGIONE DEL VENETO

CRRPS
Regional Centre for Health Promotion
ULSS 20 - Verona

Work Package 8

Report on the survey on diagnosis
and treatment among services
dealing with STI in the countries
participating in Bordernet

BORDER|NET



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Report on the survey on diagnosis and treatment
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I. Introduction

AIDS prevention campaigns in the late 1980s and the early 1990s, reduced the numbers of newly-reported diagnoses of gonorrhoea, infectious syphilis, and other sexually transmitted infections (STIs) in several countries in western Europe². The downward trends in gonorrhoea seen in England and Wales, France, the Netherlands, and Sweden were typical and paralleled reports of declining levels of sexual behaviours with a high risk of transmitting infection³. Available data indicate that the campaigns seemed to have been successful in either reducing transmission of HIV, or preventing it from rising⁴.

Surveillance systems differ from country to country, so data comparisons are difficult. Notwithstanding this, some papers addressed the issue of STI surveillance. In these papers, the need for a standardisation of data collection and management of STIs was highlighted.⁵

This need exists for many reasons. First, is the increasingly-globalised nature of the world in which we live. In Europe, this is seen most clearly in the expanded political and economic importance of the European Union, which has increased considerably in size. Second, are the epidemics of HIV and STIs in the countries of Eastern Europe and in the newly-independent states (NIS) of the former Soviet Union. Although the syphilis epidemic may have decreased somewhat since 1996/1997, the HIV epidemic has not. These epidemics have been documented by a plethora of epidemiological data. Since then, reported levels have stabilized or declined in the NIS. However, this may be as much, or more, due to a shift from public to private sector treatment - resulting in less-reliable notification - than to any real decline in the incidence of infection. These high rates of STIs are both a major public health problem in their own right and also a potentially important co-factor in the sexual transmission of HIV in these countries. It is therefore understandable that calls have been made for appropriate measures to be taken, including the promotion of international best practice, in the management of STIs⁶.

Urogenital infection with the pathogen *Chlamydia trachomatis* is the most common bacterial sexually-transmitted infection in both men and women in European countries. Asymptomatic infection is common, especially in women (as much as 80%) and often unrecognized, leading to infection in sexual partners and to long-term sequelae.

Neisseria gonorrhoea is a highly-infectious, bacterial sexually-transmitted pathogen, that is frequently identified and treated in STI clinics. For example, in the United Kingdom, its prevalence in heterosexuals is associated with age (<25 years), black ethnicity and socio-economic deprivation. Population-

² The epidemiology of Neisseria gonorrhoea in Europe. Van Duynhoven YT.. *Microbes Infect* 1999;1:455–64.

³ Stopping AIDS. AIDS/HIV public education and the mass media in Europe. Wellings K, Field B. London: Longman, 1996.

⁴ Assessing the impact of national anti-HIV sexual health campaigns—trends in the transmission of HIV and other sexually transmitted infections in England. Nicoll A, Donnelly M, Livingstone S, Hughes G, De Angelis G, Fenton K, et al. *Sex Transm Infect* 2001;77:242–7

⁵ Are trends in HIV, Gonorrhoea and Syphilis worsening in Western Europe? Nicoll A., Hamers F.F *British Medical Journal* 324:1.6.2002

⁶ European STD guidelines, Introduction. Radcliffe KW; *International Journal of STD & AIDS*. 2001 Oct;12 Suppl 3:2-3.

prevalence estimates from the Health Protection Agency in UK suggest that it may be more prevalent in men who have sex with men (MSM) than in heterosexual men. The same study pointed out that infection is frequently asymptomatic at the endocervix and urethra in women, and usually (>90%) asymptomatic in the rectum and oro-pharynx in both men and women. It is associated with significant morbidity. Testing for *Neisseria gonorrhoea* is a core component of screening for sexually-transmitted infection within STI clinics⁷.

With regard to the **diagnostic method**, the development and introduction of nucleic acid amplification (NAA) tests by commercial sources has improved the ability to diagnose chlamydial infections and other sexually-transmitted infections (e.g gonorrhoea). There has been a general acceptance of "rapid diagnosis" as a fundamental principle for STI diagnosis. Rapid diagnosis has been defined as tests "performed in a time period sufficient to yield a result that allows management or treatment close to 100% of patients tested". For STIs, this restrictive definition may eliminate culture and some serological tests. This focuses the efforts to develop rapid diagnostic tests on microscopy, detection of antibodies by rapid serological methods and specific detection of cellular components. The latter tests include antigens, enzymes, or nucleic acid sequences (especially with amplification)⁸.

Chlamydial diagnosis has rapidly developed. The ideal diagnostic test should have a sensitivity greater than 90% and a specificity greater than 99%. Nucleic acid amplification (NAA) assays approach these demands most closely. However, the test used should correspond to the available healthcare resources, which differ greatly in European countries. For screening programmes, techniques which are suitable for non-invasive samples (urine, introital) are preferred⁹. Most laboratories still use Gram stain and culture to test for **gonorrhoea**. The performance of these tests may vary considerably between laboratories, because of differing patient characteristics and such technical considerations as specimen transport. Nucleic acid-based tests, (NAH and NAA) which eliminate problems caused by specimen transport, have been developed. Their sensitivities are often similar to that of culture¹⁰.

With regard to **treatment**, the resistance of *N. gonorrhoeae* to antimicrobials is continuing to evolve, notably to penicillin, tetracyclines and quinolones. There are marked geographical variations in resistance and therefore therapy should be governed by close surveillance of local sensitivity to antibiotics. Infection acquired outside Northern Europe is very likely to be penicillin resistant and infection acquired in South-East Asia, to be both penicillin and quinolone-resistant¹¹.

⁷ Sexually Transmitted Infections: UK National Screening and testing Guidelines, Jonathan Ross, Cathy Ison, Caroline Carder, David Lewis, Danielle Mercey, Hugh Young (Screening Guidelines Steering Committee commissioned by Clinical Effectiveness Group), August 2006

⁸ Newly Available and Future Laboratory Tests for STDs Other Than HIV, Chernesky Max & al., Sexually Transmitted Diseases: Vol. 26 (4) April 1999 (pp S8-S11)

⁹ European guideline for the management of chlamydial infection, A.Stary; International Journal of STD & AIDS. 2001 Oct;12 Suppl 3: 30-33.

¹⁰ Id footnote 2

¹¹ European guideline for the management of gonorrhoea, C J Bignell; International Journal of STD & AIDS. 2001 Oct;12 Suppl 3: 27-29.

One of the activities of the European project “BORDERNET”, in which a number of countries from the Eastern borders of Europe are involved, is to collect information on local practices in terms of diagnosis and management of STIs. This information is obtained from all of the involved regions and compared with existing recommendations from **European and other guidelines** (see references). Such guidelines have been developed at national level in some countries but not in all.

The aim of this small pilot survey was to carry out a small-scale analysis, collecting information on local procedures for screening, treatment and management of STIs. After consulting the project partners, four STIs were included in this survey: Chlamydia, Gonorrhoea, Syphilis and Human Papilloma Virus.

II. Methodology

Originally, the proposed methodology for collecting information was to organise Focus Groups and in-depth interviews with health professionals in each country. After extensive discussions in a steering committee meeting where WP8 was discussed, it was decided to use a quantitative approach rather than a qualitative one, because the screening procedures and therapeutic management were sufficiently established in the literature (WHO and EU Guidelines). A list of items to be covered by the study was sent to the partners in order to have their input. After this consultation, a final version of the questionnaire was developed and piloted. The questionnaire was also prepared in an electronic version using epiinfo software (See Appendix 1). It collected data on each of the four diseases specified above in the following areas:

- Criteria for screening (target population)
- Diagnostic method (sample used and laboratory method)
- Treatment used

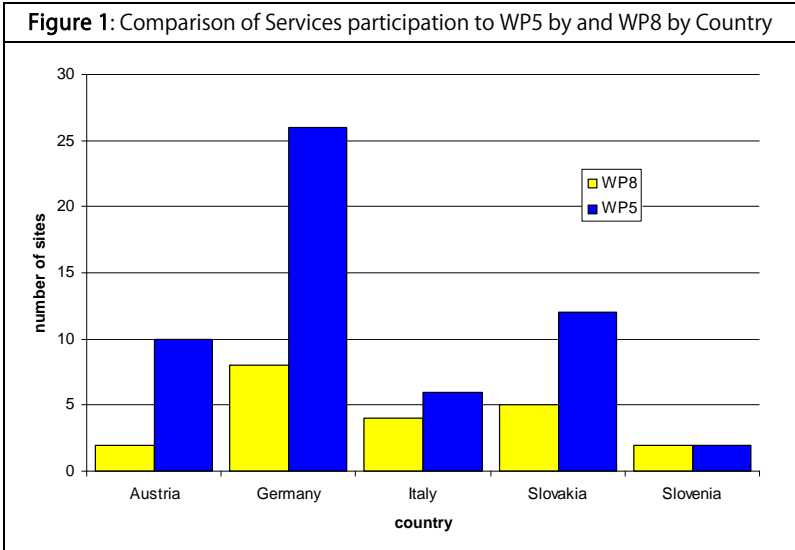
Before finishing the piloting of the questionnaire, one partner (Poland) started data collection through focus groups and personal interviews, so that when the questionnaire was ready (October 2006) their data collection was complete and they did not have the resources to repeat the study. The results of their focus groups and interviews are presented throughout the report sections and in a detailed report in Appendix 2.

The experience of the pilot study paralleled that of the WP on surveillance, in that we did not receive the number of responses from the services that we expected. One of the possible reasons for this might have been insufficient time on the part of the health professionals to complete the questionnaire, which was probably too long and should be simplified for future use.

III. Results: presentation of data

1. General information on services

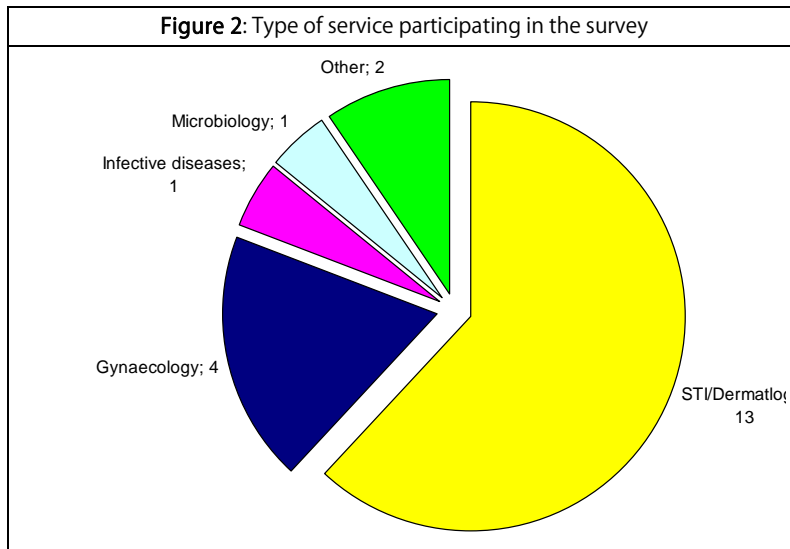
The total number of services from which data were received were 21: 2 in Austria, 8 in Germany (Model Region 1 and 2), 4 in Italy, 5 in Slovakia and 2 in Slovenia. For the reasons already stated in the section on methods, the only data processed quantitatively are those relating to countries that formulated their responses using the questionnaire. The services of Poland, therefore, do not appear in the tables. The number of services that participated in the survey should be compared with the number of services that were involved in the sentinel surveillance of WP5, that totalled 60, but out of which only 53 responded to the basic questionnaire¹¹. Excluding the 4 services of Poland that produced data of a qualitative type, the level of involvement in the present study, therefore, was 43% (53-4).



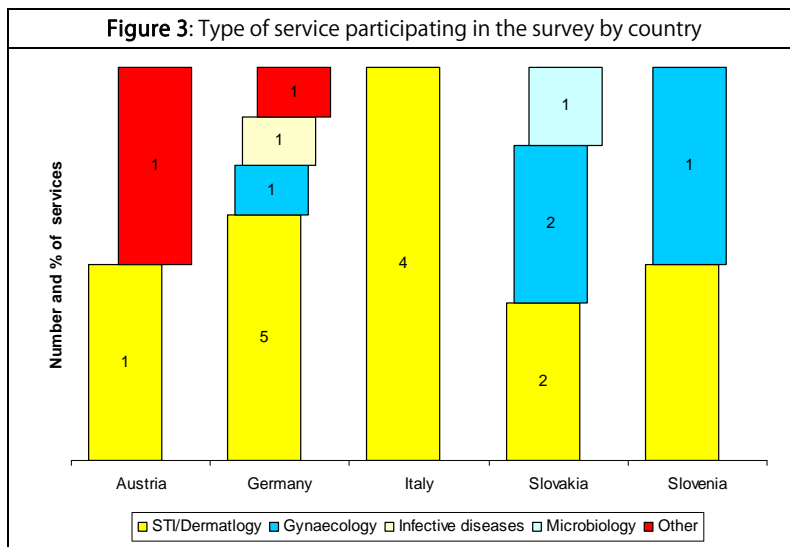
2. Type of service

With regard to the type of services that participated in the survey, most were STI/dermatological services (61%) and gynaecological services(25%). (Figure 2). With regard to the financial status (public-private) of the services, the majority, 18 (86%), were public services and only 3 were private.

It would have been useful to have obtained the return of more questionnaires from the gynaecological services, to improve, in particular, the quality of information on the screening of asymptomatic, pregnant women. In Figure 3, the types of services, as percentages with respect to each country, are given. As can be seen, the composition of respondents lacks homogeneity.



Unfortunately, it will be noted that in 2 countries (Italy and Austria) questionnaires from gynaecological services were not returned. This was probably due to the fact that the services most motivated to respond to the questionnaire were, for the most part, those that were part of the system of sentinel surveillance in the Bordernet project, comprising predominantly dermatology/STI services.



3. Chlamydia infection

Guidelines recommend screening of

- **women** ≤ 25 years, sexually active, or > 25 years with new or > 1 sex partner at least once a year.
- **pregnant women** at 1st visit, and at 1st visit and 3rd trimester if < 25 years or with new or > 1 sex partner
- sexually active **MSM**
- **sex partner** of patient with chlamydia (or alternatively the systematic treatment of the partner)
- patient after **treatment** for chlamydia infection

The recommended methods are **culture** or **amplification**. **Serological tests** are not advised for the diagnosis of genital *C. Trachomatis* and should not be used for screening because previous chlamydial infection frequently elicits long lasting antibodies that cannot be easily distinguished from the antibodies produced in a current infection (Screening tests to detect Chlamydia Trachomatis and Neisseria Gonorrhoea Infections – 2002 Centre for Disease Control and Prevention.. MMWR 2002; (No.RR-15): 3-37).

Screening of women for Chlamydia

In all the services, the biological sample used for screening was a cervical swab (100%). More than 50% of services (6/11) also used urine sample with amplification method.

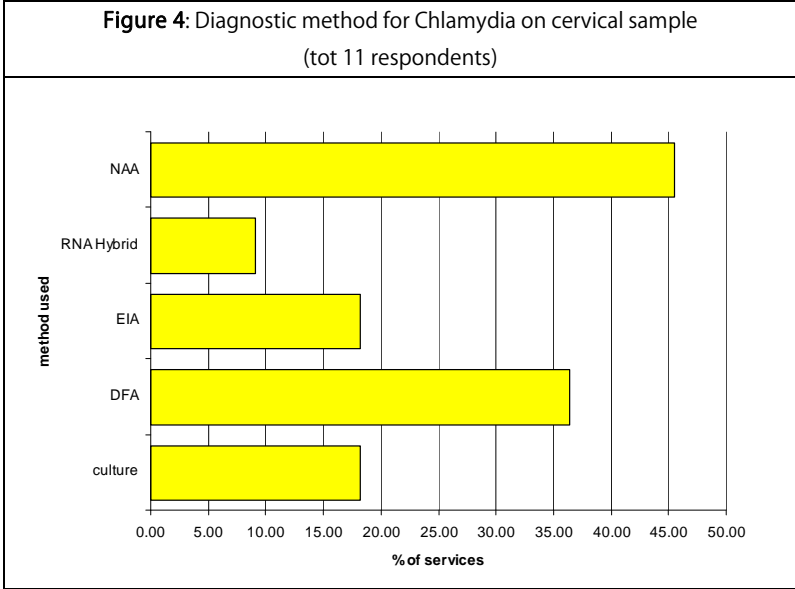
Data on the diagnostic method used is presented in Figure 4. Amplification methods were used by about half of the services and culture by only 2 services. Direct fluorescence antibody was used by 2 services. Out of 11 responses, 4 services did not use culture nor amplification as diagnostic methods for screening. These were 1 gynaecological and 2 STI/dermatology services from Germany and 1 gynaecological service from Slovenia. Again, it can be seen in these cases that the diagnostic methods recommended for screening (culture or NAA-amplification) are not followed by all services.

This demonstrates that the recommendations on testing for women are not, in practice, followed by all services and this is not limited to one specific country or region, at least with regard to the services that responded to the questionnaire. Obviously, though, this constitutes a selected sample and certainly not one that is representative.

After the treatment for **chlamydia infection**, women were re-tested in 59% of cases for treatment evaluation. An evaluation of the response to treatment is not undertaken by all the services, although

this is recommended in the guidelines even in cases in which it is not believed to be necessary. In particular, the guidelines recommend a check after treatment where patient's non-compliance is suspected.

Sex partner of patient with Chlamydia were tested in 75% cases. When the test was not performed, most of the partners received systematically a treatment (except in one case in Germany).

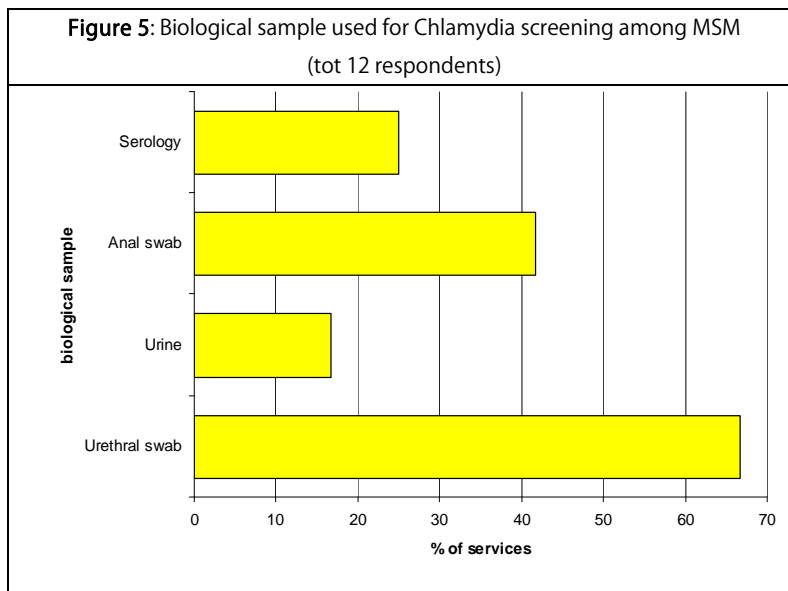


Sexually active MSM

Urethral or urine test (culture or NAA) in men with oral-genital exposure are recommended annually. **Also rectal gonorrhoea and Chlamydia culture** for men who have had receptive anal intercourse. (CDC guidelines). For rectal sample, NAATs are increasingly being used but remain unlicensed (UK National Screening and Testing Guidelines)

MSM are tested in 80% of the services (12/15) excluding obviously gynaecological services. The sample used for screening MSM is urethral swab in 66.6% of services, anal swab in 41.7%, and serology in 25%. In Figure 5, the histogram of the biological sample used for screening is given.

Few services responded to the questions on the methods used for the screening of MSM, which makes data interpretation difficult.



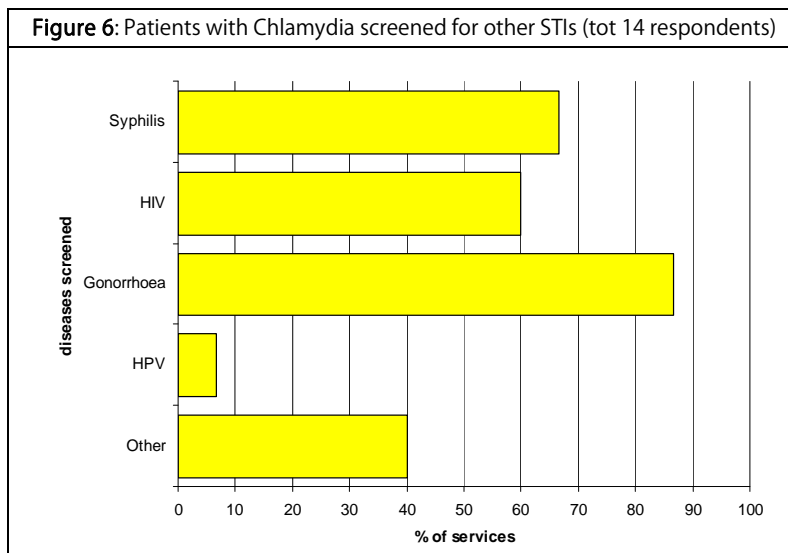
For urethral swab (8 responses) 7 services out of 8 used culture or amplification method for diagnosis on MSM. The method recommended by the European guidelines, therefore, seemed to be the one used in most cases.

The services that stated they did screening on MSM for Clamidy unfortunately did not indicate the method used. Only 5 services responded to the question related to the diagnostic method on the anal-rectal samples. Of these, 4 services used NAA or RNA/DNA hybridization and 2 services used DFA. In this instance, no service seemed to have used the recommended method, that is, culture examination. It should be noted, though, that the method of NAA is always used more commonly than anal swabs.

Overall, 5 services stated they used a serological method for screening (1 STI service in Austria and 4 STI services in Germany). Such a method is not, however, recommended by the guidelines that, rather, question its use in the context of screening.

Patients diagnosed with chlamydia infection are also tested for other STIs. Data are presented in Figure 6. The screening for gonorrhoea is undertaken in almost all cases (86.7% - 13/14), for syphilis in 10 cases (66.7%), for HIV in 9 cases (60%) and for HPV in 1 case. Six services undertake tests for other (non-specified) STIs. As can be seen, the screening for other STIs on patients with infections from Chlamydia is not standardised. It would be useful to unify the screening criteria (list of tests to be performed for patients with Chlamydia).

In the Polish report on their qualitative research (see Appendix 2), it seems that there are not guidelines that are applied in their practice for the screening of Chlamydia in women, their sexual partner and MSM.



Patients with chlamydia infection

Women with cervicitis

These data almost repeat the data on the methods used for the screening of women. Three services (23 % of cases) do not use culture nor amplification method for diagnosis of cervicitis, these are 1 STI and 1 gynaecological service from Germany and 1 gynaecological service from Slovenia.

Anorectitis

The test for Chlamydia in patients with anorectitis is undertaken in 62% of the services (10/16). In half of the cases, (4/8 responses, 1 gynaecological and 2 STI/dermatology services from Germany and 1 gynaecological service from Slovenia), no method of culture nor of amplification is used for the diagnosis. This fact prompts the thought that probably there is a lack of diagnostic efficiency with respect to anorectitis in Chlamydia.

In Poland, in clinical practice cultures are not performed or performed only occasionally for diagnosis of complicated chronic infections. The most widely used methods are DFA (Direct fluorescence antibody) from swabs and enzyme immunoassays from blood. Molecular methods have not been implemented so far in the region at all. No testing for pharyngitis is done. Chlamydial anorectitis is also not diagnosed (see annex 2).

Treatment

The treatment recommended by guidelines is used by all services. Doxycycline and Azithromicin are used by 72% of the services. Only 1 service uses Oxfloracin.

Conclusions

- There is a lack of screening for Chlamydia in both women and men (MSM). Actually guidelines recommend systematic screening of young women and women at risk and sexually active MSM.
- The screening methods for other STIs in patients with Chlamydia are not homogeneous and vary from one service to another.
- Recommended methods (culture - amplification) are not always used; serology is used for screening in some cases, although this method is not recommended.
- Chlamydia anorectitis is not routinely diagnosed in Poland and screening for Chlamydia in patients with anorectitis is not systematically performed.
- Treatment is generally provided according to guideline's recommendations.

4. Gonorrhoea

Indication for testing includes:

- **Sexual partner** of person with STI or PID
- Testing at **patient's request** or recent new sex partner
- at 1st prenatal visit for **pregnant women at risk** (i.e with a new or with more than one sex partner) or for pregnant women living in an area in which the prevalence of N. Gonorrhoea is high. To be repeated during third trimester for those at continued risk. (CDC guidelines).
- Sexually active **MSM** (this is recommended at least annually - urethral culture or NAA for gonorrhoea, pharyngeal culture in men with oral-genital exposure and rectal gonorrhoea culture in men who have had receptive anal intercourse- CDC guidelines)
- **Culture, amplified antigen detection tests or nucleic acid amplification tests** should be performed on all samples. They offer high sensitivity and provide confirmation of the diagnosis. Culture allows sensitivity testing. In asymptomatic patients nucleic acid amplification tests may be more sensitive than culture (European STD Guidelines)

Gonorrhoea testing of partners of patient with an STI

75% of services (15) perform screening on partners of patient with an STI, 25% do not (5 services), these are 1 STI service in Italy, 3 STI services in Germany and 1 gynaecological service from Slovenia.

Testing at patient's request

60% of services (12) are testing patient at their request. It would be interesting to investigate the motives for which screening is not done at the request of the patient. The 8 services that replied "No" are: 4 STI services from Germany, 1 STI service from Italy, 2 STI services from Slovakia and 1 gynaecological service from Slovenia.

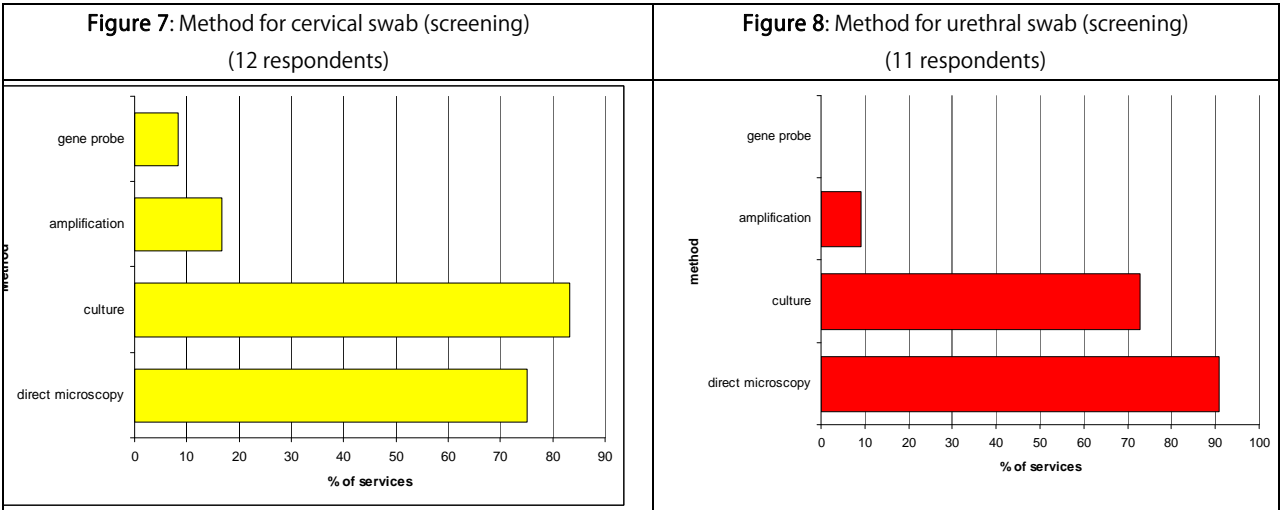
Testing pregnant women

Forty percent of services stated they implemented the screening test for gonococcus on women who were pregnant or who were sexually promiscuous¹¹.

In the cases mentioned above (partner, patient's request, pregnant women), the sample used was cervical swab for women and urethral swab for men in all services. About half of services use also pharyngeal and anal swab for the screening and 14% use urine sample.

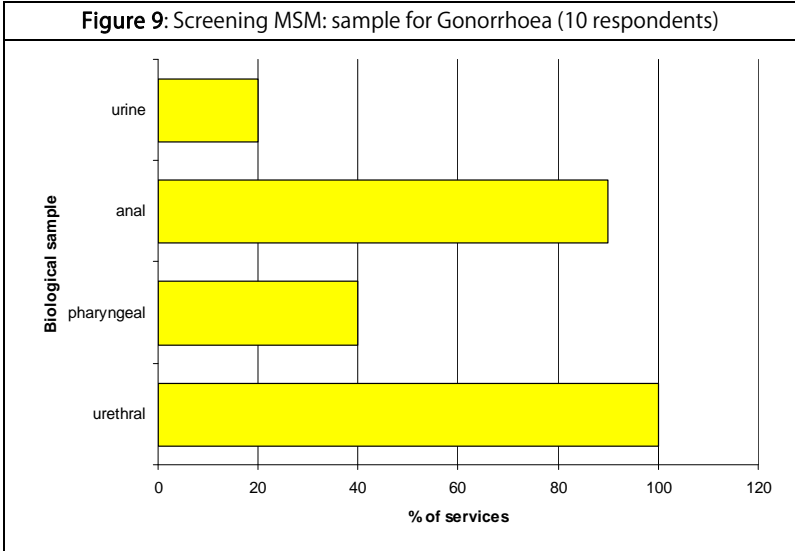
With respect to the method, 4 services used only direct microscopy on the urethral sample (1 gynaecological and 3 STI services from Germany), even if this method alone is not recommended by the

guidelines. For the cervical sample, almost all the services (except 1 STI service in Germany) used a recommended method (culture or amplification, in addition to direct microscopy). See Figures 7 and 8.



Gonorrhoea testing in sexually-active MSM

73 % of services (11/15) tested sexually-active MSM for gonorrhoea. A urethral sample is used in all cases and 90% perform the test on an anal sample too and 40% on pharyngeal sample (Figure 9).



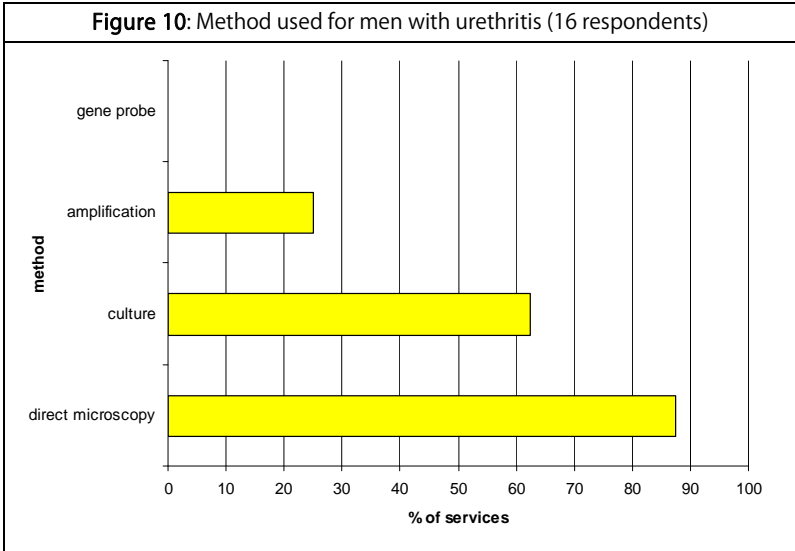
Here, again, recommended methods are not always used. Four services used only direct microscopy (3 STI services in Germany and 1 in Slovenia) for both urethral and anal swab on MSM. As mentioned above, for anal/rectal swab, the method of choice is culture, but if not available, amplification may be also considered¹².

¹² Sexually Transmitted Infections: UK National Screening and testing Guidelines, Johnathan Ross, Cathy Ison, Caroline Carder, David Lewis, Danielle Mercey, Hugh Young (Screening Guidelines Steering Committee commissioned by Clinical Effectiveness Group), August 2006

Symptomatic patients

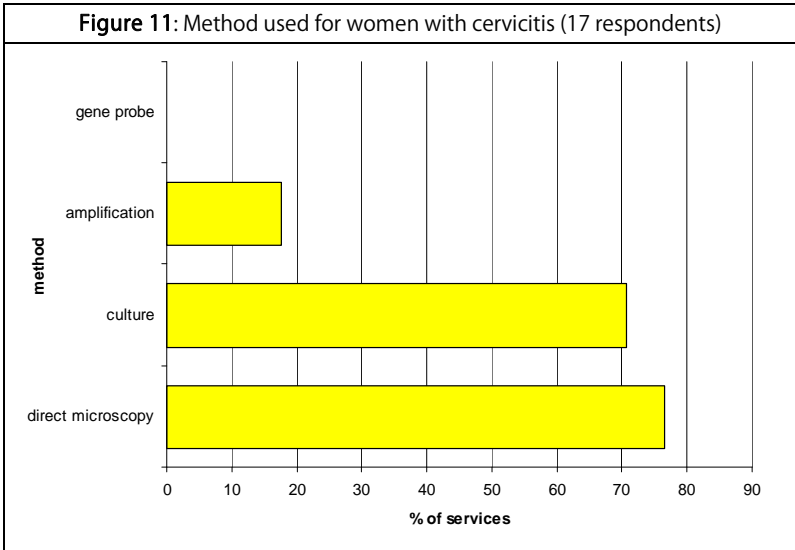
Men with urethritis

Direct microscopy is used by 87.5% of services, culture by 62.5% and amplification by 25% (Fig.10). Direct microscopy alone in men with urethritis is used as diagnostic method by 4 STI services from Germany.



Women with cervicitis

Direct microscopy is used by 76.5% of services, culture by 70.5% and amplification by 17.6% (Fig.11). Here again, direct microscopy alone is used in women with cervicitis by 1 gynaecological service and 3 STI services in Germany.



In Poland, cultures are performed occasionally and in women only. Molecular biology testing is not implemented at all.

Treatment for gonorrhoea

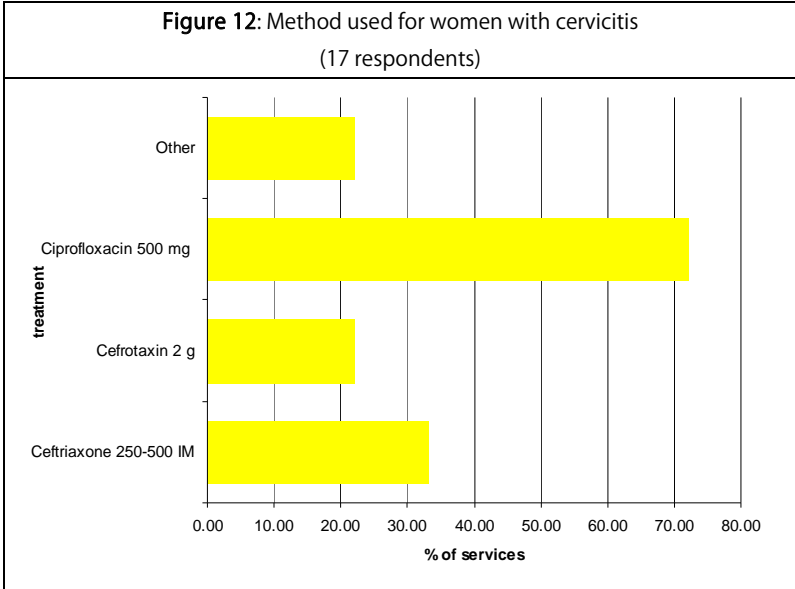
According to European STD Guidelines:

The resistance of *N. gonorrhoeae* to antimicrobials is continuing to evolve, notably to penicillin, tetracyclines and quinolones. There are marked geographical variations in resistance and therefore therapy should be governed by close surveillance of local sensitivity to antibiotics. Infection acquired outside Northern Europe is very likely to be penicillin resistant and infection acquired in South-East Asia, to be both penicillin and quinolone-resistant

Recommended regimens for infections of the uretra, cervix and rectum:

- Ceftriaxone 250 mg IM as single dose, or
- Ciprofloxacin 500 mg oral as single dose, or
- Ofloxacin 400 mg oral as single dose, or
- Cefixime 400 mg oral as single dose, or
- Spectinomycin 2g IM as single dose

As can be seen in Figure 12, the treatment mostly used is Ciprofloxacin per os (72%). 33% of services use Ceftriaxone IM, 22% Cefrotaxin and 22% another treatment (Taroflox, Cefixime, Doxycyclin).



In Poland, standard treatment for gonococcal infection is procaine penicillin 4,8 mln IU or 9,6 mln IU (one or two doses). Alternative treatment is Ciprofloxacin 500 mg - single dose. As stated previously, penicillin is no longer recommended for the treatment of gonorrhoea because of the resistance of the gonococcus.

HIV testing in patient with gonorrhoea

The HIV testing is offered systematically in 81% of cases for patients with gonorrhoea. Given the association between HIV and STIs, the fact that not all services offer testing for HIV clearly shows room for improvement in diagnostic-clinical practice.

Combined therapy for Chlamydia

Treatment for gonorrhoea should routinely be followed with effective treatment for chlamydial infection or sensitive testing to exclude co-infection (European STD Guidelines)

63% of services provides treatment for Chlamydia to patients with Gonorrhoea. The interpretation of this information is difficult as the question enquired whether patients with gonorrhoea systematically received treatment for Chlamydia infection. It is not known if services that responded negatively (37%), undertake a systematic partner screening.

Treatment of sexual partner

Treatment of patients' sexual partners is done in 68% of services. Here again, it is not known if those services that did not treat sexual partners did so because they had performed a screening test on them and had therefore excluded infection, or because they had not actually undertaken it.

Conclusions

- There are less disparities between countries in the application of screening criteria compared to Chlamydia. MSM, partners of patients with gonorrhoea and patients requesting test are not always screened.
- Direct microscopy alone is still used for screening and for symptomatic patients by some services. Culture or amplification methods should be used on all samples.
- Treatment is used according to guidelines in most cases; services from Poland are still using Penicillin for treatment of Gonorrhoea and this regimen is not recommended by any guideline.

5. Syphilis

Test used for screening and confirmation

For screening: TPHA or EIA are recommended; additionally VDRL can be used (European STD Guidelines)

For confirmation:

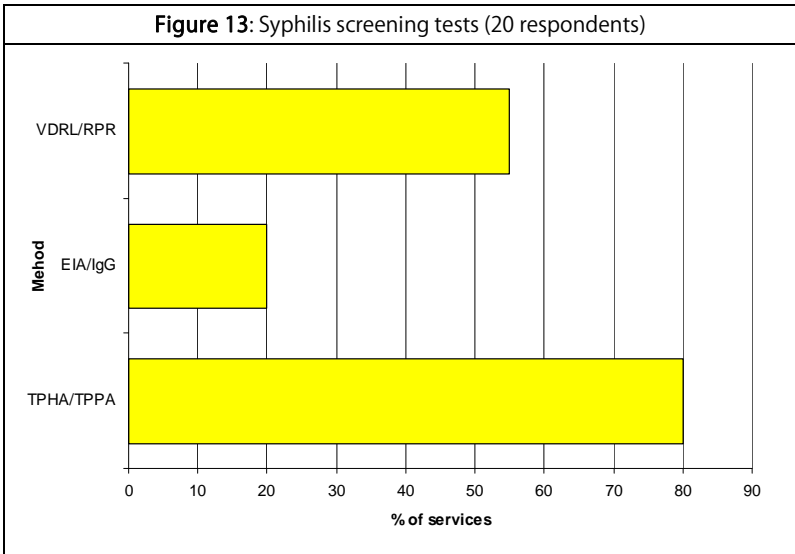
If any screening test is positive:

- Treponemal EIA, FTA-abs test (i.e. another treponemal test; TPHA if EIA is used for screening; EIA if TPPA is used for screening)
- IgG Immunoblot for T. Pallidum if suspected false –positive, TPHA/MHA-TP and/or FTA-Abs test

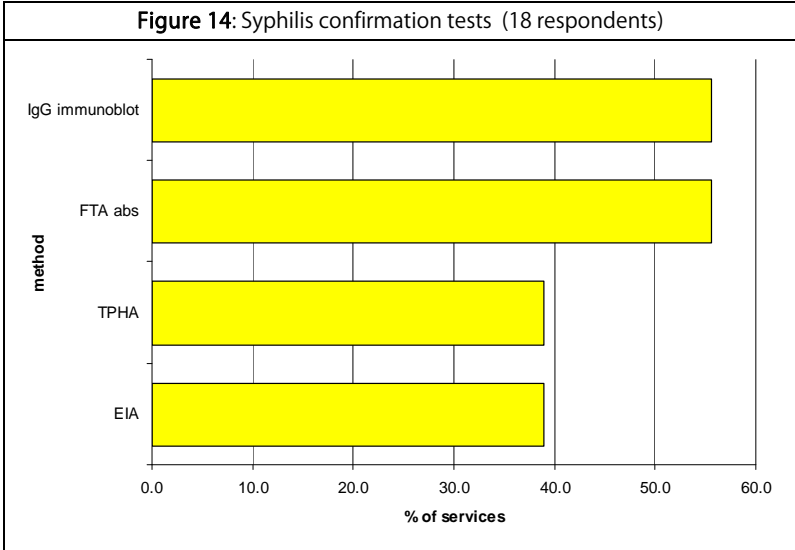
Screening is recommended for:

- Sexual partner of patient with syphilis
- Patient who requests STI screening (because having recent new sex partner)
- Pregnant women
- Sexually active MSM

In Figure 13, the data relating to the screening method for syphilis are given. TPHA/TPPA tests are used by 80% of services for the screening activity. VDRL is used by 55% while the EIA test is used by 20%. 2 services used only VDRL test for screening (1 gynaecological service from Slovakia and 1 STI service from Italy).



With regard to the confirmation test used in the services that responded to the questionnaire, Figure 14 shows the percentages used. As presented in the graph, all the services undertake a confirmation test for syphilis, either with a repetition of the screening test, or with a more specific test to confirm its presence (FTA-ABS test or IGG ImmunoBlot).



Systematic screening of partner of patient with syphilis

European STD guidelines: recommend to test partner at 1st visit, after 6 weeks and after 3 months

Figure 15 presents data on testing procedure of patients’ partners. The 84% (16/19) of Services screens partners of patients with Syphilis. The 3 services that do not systematically implement a test of partner are 2 STI services in Germany and 1 gynaecological service in Slovenia.

Most services (91%) perform the test at 1st visit, but only 18% at 6th week and 18% after 3rd month.

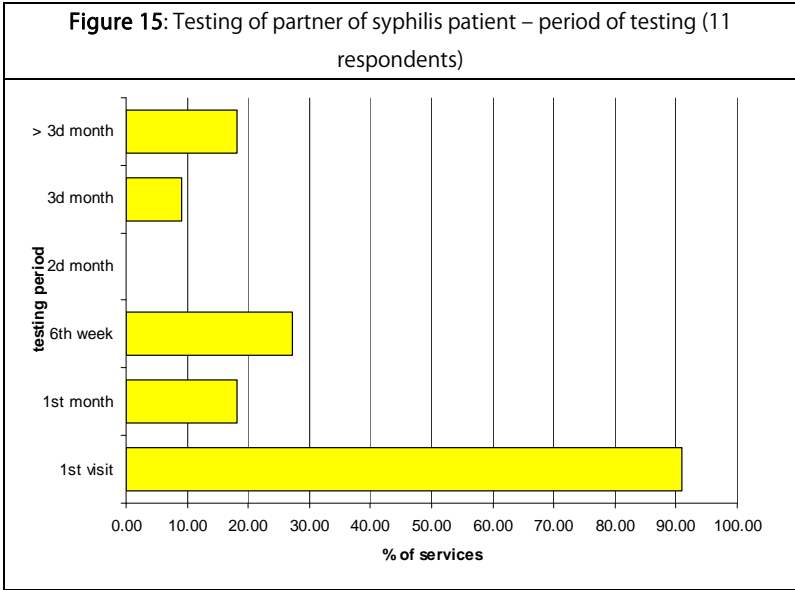
Testing at patient request

In case of recent sexual partner, testing is done in 67% of cases (12/18). The 6 services that do not perform a test upon patients’ request are: 3 STI services from Germany, 2 STI services from Slovakia and 1 gynaecological service from Slovenia.

Testing pregnant women

CDC recommend testing for syphilis in all cases at least at 1st visit

Testing is systematically done in 72% of services (13/18). In this case, probably all the services that perform checks on pregnant women undertake the test for syphilis (it is a routine test). The 5 services that responded negatively to the question enquiring whether pregnant women are systematically screened for syphilis are dermatology clinics/STI services (they do not have this kind of patients).



Testing of MSM

CDCs recommend that testing should be performed at least annually in sexually active MSM

Syphilis testing of MSM is systematically performed in only 60% of cases.

HIV testing in patients with syphilis

When syphilis is diagnosed, an HIV test is always performed. This shows that the recommendations of the literature about the increased risk of infection from HIV in the presence of a present or past co-infection of syphilis have clearly been followed.

Conclusions

- There are still gaps in screening for syphilis in MSM. It is not systematically done, even if it is recommended by all guidelines
- It would be useful to standardise screening criteria for the partners of patients with syphilis (see the schedule).
- The screening test should always be performed on a patient who requests it.
- Diagnostic methods are almost used as recommended by guidelines.

6. Human Papilloma Virus

Clinical evaluation: recommendations (European STD guidelines)

- Use of a **lens** is highly recommended to detect small lesions
- All women with anogenital warts should have a speculum examination to identify the presence of coexisting vaginal and/or cervical warts
- In contrast to vulvar lesions, routine **histological assessment** is mandatory whenever cervical lesions are treated, the biopsy being taken under **colposcopic** guidance. Biopsy is recommended in atypical cases for differential diagnostic purposes or in any cases where the benign nature of a papular or macular lesion is unclear.
- **Anoscopy** should be carried out (up to the dentate line) if anal warts are present (concurrent perineal and perianal warts exist in one third of patients)

All services use a **lens** for inspection of warts. **Speculum and colposcopy** examination in case of anogenital warts in women is performed by all gynaecological services, and not always by STI services. **Cervical biopsy** is performed by all gynaecological services. **Meatoscopy** is performed only by 2 services (STI services). **Anoscopy** in case of anal warts is performed by 42% of services. Half of services (50%) use **acetic acid** for targeted biopsy.

Other diagnostic methods (PCR, Hybrid Capture, Lugol- schiller) are used by 4/12 services (2 gynaecology and 2 STI services).

Figure 16 shows the data relating to the screening that is undertaken for other STIs when a genital wart is diagnosed. **Tests for other STIs** are offered by 81% of services (13/16) as follows: 83.3% of services perform test for syphilis, 66.7% of services are testing patients for HIV, half of services test patient for Chlamydia and Gonorrhoea.

IN Poland, HPV infections remain largely undetected – only histopathology of clinically significant lesions is performed.

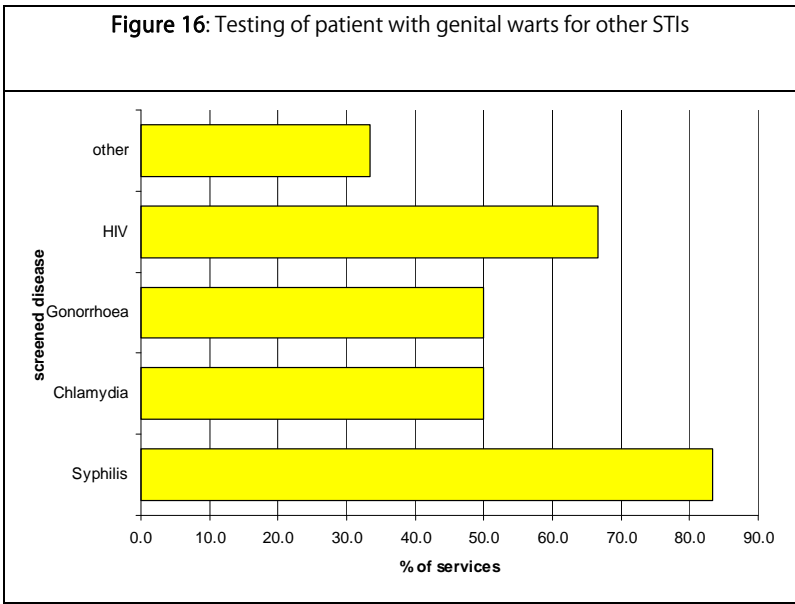
Treatment

Home treatment

Imiquimod is the most frequently used treatment in home therapy (71.4% of services). Podophyllotoxin solution is used by 42% of services and cream by 35.7%.

Clinic treatment

In Clinic/outpatient setting, Cryotherapy (60%) and curettage (53.3%) are the most frequently used treatment, electro-surgery is used in 33% of services, Trichloroacetic acid in 27% of services, scissor excision in 20% of services and laser in 7% of services.



IV. Conclusions

Based on these data it seems that there is a need for:

- Improving Chlamydia screening in women. This should be systematically performed in young women (≤ 25 years) and in women at risk (with new or more than one sex partner)
- Adopting recommended diagnostic methods for Chlamydia. Culture and amplification methods should be used, whereas serology should not be used at all.
- Improving systematic screening for Chlamydia, Gonorrhoea and Syphilis in sexually active MSM. Targeting MSM in Poland should be a priority for STI screening as this group is a hard to reach target for clinicians.
- Adopting recommended diagnostic methods for Chlamydia and Gonorrhoea anal/rectal samples (culture/amplification). Direct microscopy should not be used alone for screening and/or diagnostic of Gonorrhoea

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Glossary

Anoscopy: procedure used to visualize the wall of the anus and lowest portion of the rectum, using a tube called anoscope.

CDC (Centre for Disease Control and Prevention): In the U.S., the federal public health agency serving as the centre for preventing, tracking, controlling and investigating the epidemiology of STIs, AIDS, and other diseases.

Colposcopy: instrumental inspection of cervix through a special magnifying device called a colposcope.

Cryotherapy: cryotherapy involves freezing a wart using a very cold substance (usually liquid nitrogen).

Curettage: removal of tissue using a spoon-shaped instrument called a curette.

EIA (Enzyme ImmunoAssay): an assay that uses an enzyme-bound antibody to detect antigen. The enzyme catalyzes a color reaction when exposed to substrate.

FTA-abs: Fluorescent treponemal antibody absorption test.

Meatoscopy: instrumental inspection of urethral meatus.

MSM: Men who have sex with men (category that was defined because not all men who have sex with men define themselves as homo- or bisexual due to cultural or religious reasons).

Nucleic Acid Hybridisation or Amplification tests (NAATs): tests that probe or amplify specific nucleic acid sequences, they have the ability to detect small amounts of nucleic acid and are highly sensitive and specific. These tests can be used with non-invasive samples such as urine or self taken swabs.

PCR (Polymerase Chain reaction) test: a very sensitive test that measures the presence or amount of RNA or DNA of a specific organism or virus (for example HPV, HIV) in the blood or tissue.

Sentinel (sentinel site): an institution of medical care that is part of a sentinel surveillance reporting system.

Types of sentinel sites:

- Hospital based STI-clinics: STI-clinics that are affiliated to a hospital or university which do not hospitalize patients, but only diagnose and treat them outpatient
- Infective diseases department of public hospitals
- Gynaecological services: can be private or public

- Private practitioners: physicians that are not employed by a public health office, a university or a hospital, but work on a private basis
- Public health offices: health care institutions that are run by the local government

Sentinel-surveillance: monitoring system for gathering epidemiological data to detect trends and outbreaks of monitored events in selected sentinel sites.

STDs: sexually transmitted diseases.

STIs: sexually transmitted infections.

STI services: services in charge of diagnostics and treatment of STIs. Those services are in general dermatological services.

TPHA/TPPA: T.Pallidum haemagglutination assay, T.Pallidum particle agglutination assay

Annex 1

Questionnaire on Diagnostic Methods for Sexually Transmitted Infections

- **Country:**

- Germany
- Poland
- Austria
- Slovakia
- Italy
- Slovenia

- **Type of service:**

Your service is *(please select only one option)*:

- A public organisation
- A private/profit organisation
- A Non-governmental/non-profit organisation (NGO)
- Other

Kind of service

- STI/Dermatology
- Gynaecology
- Urology
- Infective diseases
- Microbiology (laboratory)

- Other specify_____

1. Chlamydia infection

Available tests for *Chlamydia Trachomatis*:

- **Culture:**
 - ✓ sensitivity 40-85%
 - ✓ highly specific
 - ✓ only for invasive sample (cervical, urethral)
- **DFA (Direct fluorescent antibody):**
 - ✓ sensitivity 50-90%
 - ✓ suitable for invasive and non invasive samples (urine)
 - ✓ time consuming
- **Enzyme Immunoassays**
 - ✓ sensitivity 20-85%
 - ✓ rapid and automatable, low price
 - ✓ only for invasive samples
- **RNA-DNA hybridization**
 - ✓ sensitivity 70-85%
 - ✓ rapid and automatable
 - ✓ only for invasive samples
- **Nucleic acid amplification test**
 - ✓ sensitivity 70-90%
 - ✓ high specificity
 - ✓ testing of large number is practicable
 - ✓ invasive and non invasive samples (urine, vulvovaginal)
 - ✓ expensive
- **Serology as screening test**

Low specificity

1.1 Screening

➤ Do you perform screening test for Chlamydia Trachomatis in the following categories of patients?

1.1.1 Women <=25 years, sexually active

Yes No If yes when? Once a year Less than once a year

1.1.2 Women >25 years, with new or > 1 sex partner

Yes No If yes when? Once a year Less than once a year

1.1.3 Pregnant women > 25 years old

Yes No If yes when? At 1st visit At 1st visit and 3d trimester

1.1.4 Pregnant women <25 years

Yes No If yes when? At 1st visit At 1st visit and 3d trimester

1.1.5 Pregnant women with new or >1 sex partner

Yes No If yes when? At 1st visit At 1st visit and 3d trimester

1.1.6 Women with treated chlamydial infection

Yes No

➤ Which tests are used in the previous categories of patients?

Please indicate the sample and the test used. (If you don't know which kind of test is performed, please ask the laboratory). More than one answer is possible.

Sample	Test Used				
	Culture	Direct Fluorescence Antibody	Enzyme Immunoassays	RNA – DNA hybridization	Nucleic acid amplification test
<input type="checkbox"/> 1.1.7 Cervical swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 1.1.8 Urine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 1.1.9 Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

➤ Which tests are used for these other categories of patients?

For each category of patient: please indicate if the test is performed (Tested: yes/no) the sample and the test used. (If you don't know which kind of test is performed, please ask the laboratory). More than one answer is possible.

Target	Sample	Test Used				
		Culture	Direct Fluorescence Antibody	Enzyme Immunoassays	RNA – DNA hybridization	Nucleic acid amplification test
Sex partner of persons with chlamydial infection 1.1.10 Tested? <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 1.1.11 Cervical swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 1.1.12 Urethral swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 1.1.13 Urine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 1.1.14 Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sexually active MSM 1.1.15 Tested? <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 1.1.16 Urethral swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 1.1.17 Urine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 1.1.18 Anal swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 1.1.19 Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

➤ 1.1.20 Do you use serology for **screening** of Chlamydia.T.?

Yes In which case ? _____

No

➤ Are patients with chlamydial infection screened for other STDs? Which?

More than one option is possible

1.1.21	<input type="checkbox"/> Gonorrhoea
1.1.22	<input type="checkbox"/> HIV
1.1.23	<input type="checkbox"/> HPV
1.1.24	<input type="checkbox"/> Syphilis
1.1.25	<input type="checkbox"/> (other) _____

1.2 Symptomatic patient

➤ Which tests are used in your service for diagnosis of Chlamydia in the following categories of symptomatic patients?

Target	Campione	Test Used				
		Culture	Direct Fluorescence Antibody	Enzyme Immunoassays	RNA – DNA hybridization	Nucleic acid amplification test
Women with cervicitis 1.2.1 Tested? <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 1.2.2 Cervical swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 1.2.3 Urine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 1.2.4 Other_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Women with PID 1.2.5 <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 1.2.6 Cervical swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 1.2.7 Urine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 1.2.8 Other_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Women with acute dysuria /pyuria without bacteriuria 1.2.9 <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 1.2.10 Cervical swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 1.2.11 Urine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 1.2.12 Urethral swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Men with urethritis or epididymitis 1.2.13 <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 1.2.14 Urethral swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 1.2.15 Urine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 1.2.16 Other____ —	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Men/Woman with pharyngitis 1.2.17 <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 1.2.18 Pharyngeal swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 1.2.19 Urine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 1.2.20 Urethral swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 1.2.21 Cervical swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Target	Sample	Test Used				
		Culture	Direct Fluorescence Antibody	Enzyme Immunoassays	RNA – DNA hybridization	Nucleic acid amplification test
Men/Woman with anorectitis 1.2.22 <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 1.2.23 Urine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 1.2.24 Urethral swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 1.2.25 Anal swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 1.2.26 Other_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1.3 Treatment

➤ Which treatment regimen do you use for Chlamydia infection?

More than one option is possible

	Drug	Dose	Duration
1.3.1 <input type="checkbox"/>	Azithromycin	1g	1 dose
1.3.2 <input type="checkbox"/>	Doxycycline	100 mg x 2 daily	14 days
1.3.3 <input type="checkbox"/>	Doxycycline	200 mg x 1 daily	14 days
1.3.4 <input type="checkbox"/>	Other	_____	_____

➤ 1.3.5 Do sexual partners of patients with Chlamydia infection receive treatment for Chlamydia?

Yes

No

2. Gonorrhoea

Tests for *Gonorrhoea*:

- Direct Microscopy (gram / methylen blue stain), high sensibility for urethritis in men only
- Culture (recommended if direct is negative or positive without urethritis in men)
- Amplification test (PCR, SDA, TMA)
- Gene probe (DNA / RNA)

2.1 Screening

➤ Which tests are used by your service for **screening** of Gonorrhoea?

Target	Sample	Test Used			
		Direct Microscopy	Culture	Amplification test	Gene probe
Sexual partner of person with STI or PID 2.1.1 Tested? <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 2.1.2 Cervical swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.1.3 Urethral swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.1.4 Urine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.1.5 Pharyngeal swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.1.6 Anal swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.1.7 Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Patient request STI screening / recent new sex partner 2.1.8 Tested? <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 2.1.9 Cervical swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.1.10 Urethral swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.1.11 Urine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.1.12 Pharyngeal swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.1.13 Anal swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.1.14 Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Target	Sample	Test Used			
		Direct Microscopy	Culture	Amplification test	Gene probe
Pregnant women 2.1.15 Tested? <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 2.1.16 Cervical swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.1.17 Urethral swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.1.18 Urine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.1.19 Pharyngeal swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.1.20 Anal swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.1.21 Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sexually active MSM 2.1.22 Tested? <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 2.1.23 Urethral swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.1.24 Urine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.1.25 Pharyngeal swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.1.26 Anal swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.1.27 Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.2 Symptomatic patient

➤ Which tests are used in your service for diagnosis of Gonorrhoea in the following categories of symptomatic patients?

Target	Campione	Test Used (metodo)			
		Direct Microscopy	Culture	Amplification test	Gene probe
Men with urethritis or epididymo-orchitis 2.2.1 <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 2.2.2 Urethral swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.2.3 Urine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.2.4 Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Women with cervicitis 2.2.5 <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 2.2.6 Cervical swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.2.7 Urine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.2.8 Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Women with urethritis 2.2.9 <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 2.2.10 Cervical swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.2.11 Urethral swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.2.12 Urine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.2.13 Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Men/Women with pharyngitis 2.2.14 <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 2.2.15 Pharyngeal swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.2.16 Cervical swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2.2.17 Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Men/Women with	<input type="checkbox"/> 2.2.19 Anal swab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

anorectitis 2.2.18	<input type="checkbox"/> 2.2.20 Urine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Yes	<input type="checkbox"/> 2.2.21 Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> No	_____				

2.3 Treatment

➤ For uncomplicated gonorrhoea which treatment do you use?

	Drug	Dose	Duration
2.3.1 <input type="checkbox"/>	Ceftriaxone	250-500 mg i.m.	1 dose
2.3.2 <input type="checkbox"/>	Cefrotaxin	2 g i.m. or i.v.	1 dose
2.3.3 <input type="checkbox"/>	Ciproflaxacin	500 mg oral	1 dose
2.3.4 <input type="checkbox"/>	(Other) _____	_____	_____
2.3.5 <input type="checkbox"/>			
2.3.6 <input type="checkbox"/>			

2.4 HIV test, combined therapy, partner, follow up

2.4.1 Is the HIV and syphilis test systematically proposed to patients with gonorrhoea? When?

- Yes (specify) days after treatment
 No

2.4.2 Do patients with Gonorrhoea receive systematically combined therapy for Chlamydia?

- Yes No

2.4.3 Do sexual partners receive treatment for Gonorrhoea?

- Yes No

2.4.5 Is a clinical and/or laboratory control done after treatment? (*more than one option is possible*)

- No
 Yes, in all cases
 Yes, in case of persistence of symptoms
 Yes, in case of re-exposure to infection
 Yes, in case of resistance to therapy given
 Yes, in case of reassurance of the patient (psychological)
 Yes, in case of non-adherence
 Yes, because stipulated by local practices or local guidelines

3. Syphilis

Tests

- Reaginic (cardiolipin / non treponemal tests)
 - VDRL
 - RPR

- Specific / treponemal tests
 - TPHA (haemagglutination assay)
 - MHA-TP (micro-haemagglutination)
 - TPPA (TP particle agglutination)
 - FTA-abs (fluorescent treponemal antibody absorption test)
 - EIA/IgG (treponemal enzyme immunoassay)
 - IgG immunoblot for TP

- Specific anti treponemal IgM antibody test
 - 19S-IgM-FTA abs test
 - IgM immunoblot for TP
 - IgM-antibody (EIA)

3.1 Screening

➤ Which tests are used for screening and which for confirmation of diagnostic?

More than one answer is possible

SCREENING tests used

3.1.1 TPHA / MHA-TP / TPPA

3.1.2 EIA/IgG test

3.1.3 VDRL / RPR

CONFIRMATION tests used

3.1.4 EIA (if TPHA used in screening)

3.1.5 TPHA (if EIA used in screening)

3.1.6 FTA-abs test

3.1.7 IgG immunoblot (if suspected false+ TPHA / MHA and/or FTA)

➤ Are the following patients **systematically screened** for *Syphilis*?

-3.1.8 Sexual partner of patient with Syphilis : Yes No

In which moment? *(more than one option is possible)*

- At 1st visit
- At 1st month
- At 6th week
- At 2d month
- At 3d month
- After 3d month

-3.1.9 Patient who requests STI screening/recent new sex partner: Yes No

- 3.1.10 Pregnant women NOT at risk: Yes No

In which moment? *(more than one option is possible)*

- At 1st visit
- 1st visit + 3d trimester
- 1st visit + 3d trimester + at delivery

-3.1.11 Pregnant women at risk : Yes No

In which moment? *(more than one option is possible)*

- At 1st visit
- 1st visit + 3d trimester
- 1st visit + 3d trimester + at delivery

- 3.1.12 Sexually active MSM: Yes No

In which moment? more than once a year *(more than one option is possible)*

- less than once a year
- once a year

3.2 HIV test, follow up

3.2.1 Is the HIV test proposed systematically to patients with *Syphilis*?

- Yes No

3.2.2 Follow-up after treatment: which test is used in early *Syphilis*?

- Non treponemal test
 Treponemal test
 No one

3.2.3 Follow-up after treatment: when? (*more than one answer is possible*)

- 1st month (after treatment)
 2d months
 3d months
 4th months
 5th months
 6th months
 9th months
 12th months
 18th months
 24th months

3.2.4 Follow-up after treatment in case of HIV co-infected patient: when? (*more than one answer is possible*)

- 1st month (after treatment)
 2d months
 3d months
 4th months
 5th months
 6th months
 9th months
 12th months
 18th months
 24th months

4. HPV – Anogenital Warts

4.1 When you inspect the outer genitals do you use a lens?

Yes No

4.2 For women with anogenital warts do you systematically perform speculum examination?

Yes No

4.3 For women with anogenital warts do you systematically perform colposcopy?

Yes No

4.4 In case of cervical lesions, do you perform routine histological assessment (biopsy)?

Yes No

4.5 Do you perform meatoscopy in men with wart on penis?

Yes No

4.6 In case of anal warts, do you systematically perform anoscopy?

Yes No

4.7 Do you use acetic acid test for targeted biopsy?

Yes No

4.8 Do you use acetic acid test for demarcating lesions during surgery?

Yes No

4.9 Do you use another method of diagnosis?

Yes (indicate which) _____

No

4.10 Do you offer test for other STDs to patients with genital warts?

Yes (indicate which) _____

No

➤ Which treatment do you use? (*more than one answer is possible*)

Home therapy (*more than one answer is possible*)

4.11 Podophyllotoxin (0.15% cream)

4.12 Podophyllotoxin (0.5% solution)

4.13 Imiquimod (5% cream)

Clinic / office therapy (*more than one answer is possible*)

4.14 Electrosurgery

4.15 Laser

4.16 Curettage

4.17 Scissors excision

4.18 Cryotherapy

4.19 Trichloroacetic acid

Annex 2

Report from Poland: WP8 Improvement of diagnostics

Report: Bordernet study

Background

The survey was carried out for Szczecin, the capital city of the Zachodniopomorskie Voivodeship of Poland. The voivodeship is inhabited by 1 693,7 thousand of people (official statistics, 2006), Szczecin populated by 411,1 thousand people.

STI diagnostics and treatment is carried out by the following major centres: Skin Diseases and Venerology Department, Pomeranian Medical University, Powstańców wlkp 72, Szczecin, Poland and Regional Hospital, Arkońska 4, Szczecin (both in-hospital treatment) with out patient's counselling, diagnostics and treatment being carried out in Regional Skin and Venerology Clinics, Piłsudskiego 12, Szczecin.

Occasional STI treatment is also carried out in Infectious Diseases and Hepatology Clinics, Pomeranian Medical University, Arkońska 4, Szczecin mostly among HIV (+) patients, or patients with systemic complications of STIs.

The important point in STI diagnostics to be mentioned are private clinics and practices: gynaecological, dermatological and venereological – several of these exist in the city. The number of STI cases diagnosed and treated in them us unknown and difficult to obtain.

It must be emphasised here that both HIV/AIDS and Syphilis, Gonorrhoea , non- gonococcal urethral infections, chlamydiasis and trichomonas infections are to be **obligatorily** reported to regional sanitary inspectorate or other indicated by this institution unit appropriate for SIT infection reporting. Anonymity of reporting is possible only in case of HIV infection, in STI name, surname, personal ID number, address, sex, and epidemiological data **must** be included.

Methods

WP 8 research methods aiming at improvement of diagnostics of STI is using methods of RAR – based on collection of epidemiological data from the selected sites, personal communication, surveys, and focus groups (collective interviews). Data collected in this way are included in this short report.

The focus group interview and survey data collection regarding STI was performed among the following health professionals: dermatologists/venerologists, gynaecologists, epidemiological nurses, infectious diseases specialists.

Data was amended with the personal knowledge and integrated by people involved in the Bordernet project.

For the project diagnostics of four pathogens: Chlamydia Trachomatis, Neisseria gonorrhoea, Treponema pallidum and Human Papilloma Virus was studied.

Results

Chlamydia infection

Despite availability of various techniques for chlamydia diagnostics, it still remains significant diagnostic challenge. In clinical practice cultures are not performed or performed only occasionally for diagnostics of complicated chronic infections. The most widely used methods are DFA (Direct fluorescence antibody) from swabs and enzyme immunoassays from blood. Molecular methods have not been implemented so far in the region at all. DFA is performed by the microbiological laboratory, University Hospital no 2, Powstanców Wilkp 72, Szczecin (possible free in-patient diagnostics and additionally paid out-patient diagnostics). Immunoassays are performed by the laboratory in Regional Hospital, Arkońska 4, Szczecin and Regional Skin and Venerology Clinics, Piłsudskiego 12, Szczecin. Private immunoassay blood tests for IgG, IgM and IgA Chlamydia trachomatis antibodies are also possible in Szczecin (MEDICUS)

During data collection the following issues related to the chlamydia diagnostics were identified: No unified clinical practice or guidelines regarding testing (both screening and confirmation tests) of sexually active women and their partners, pregnant women and MSM are implemented.

Testing

Tests are suggested (additionally paid only) during diagnostics of infertility and recurrent spontaneous abortions. Free of charge test for out-patients are performed basing on the **decision** of the specialist: venerologists /dermatologist / gynaecologist with no special guidelines so far. Indications include non-gonococcal urethral discharge in both men and woman (cervicitis, acute dysuria, urethritis or epididymitis). In-patient chlamydia DFA testing is usually performed in case of Reiter's syndrome or other systemic complications of chlamydial infection. No testing for pharyngitis is done. Chlamydial anorectitis is also not diagnosed.

Treatment

If diagnosed treatment with doxycycline 2x100mg/10 days is implemented. No data for follow-up were available – testing if the treatment was effective is mostly neglected.

Additional screening

Additional screening includes syphilis only – based on the individual decision of the physician.

Gonorrhoea

Gonococcal urethritis is diagnosed mostly by venerologists/dermatologists, both in- and out-patient diagnostics is possible.

Testing

Direct Microscopy (gram/ methylen blue stain) is performed in both men and women in case of urethritis or epididymo- orchitis in men and PID, cervicitis, urethritis in women, as routine basic diagnostics.

Cultures are performed occasionally and in women only. Molecular biology testing is not implemented at all.

Screening is routinely performed in partners of patients with diagnosed gonorrhoea, or other STI/women with PID (direct microscopy, urethral or cervical swabs). Additionally it may be performed on request in MSM, pregnant women, HIV infected, in case of STI phobia/fear of infection (direct microscopy, urethral or cervical swabs, depending on clinical data).

Treatment

Standard treatment for gonococcal infection is procaine penicillin 4,8 mln IU or 9,6 mln IU (one or two doses). Alternative treatment : Ciprofloxacin 500 mg - single dose.

Additional screening

Patients with gonorrhoea are additionally routinely screened for Syphilis with HIV testing suggested if clinical data indicate possibility of infection. No screening for chlamydia is offered.

Follow-up

Sexual partners of patients with diagnosed gonorrhoea are always screened and treated. Laboratory and clinical follow up is implemented – direct microscopy from swabs after 7 days, serology after 3 months.

Syphilis

Syphilis in Poland is epidemiologically divided into early, late, congenital with additional clinical division into symptomatic and latent infection. Number of tests is declining which results in poorer diagnostics of syphilis than several years before. Screening is currently performed mostly among blood donors and pregnant women (with the national guideline requiring for two tests in pregnancy).

Testing

For the screening VDRL test is used as a gold standard. In case of positive result confirmation test with TPHA (haemagglutination assay) and FTA-abs (fluorescent treponemal antibody absorption test) are used. As described before obligatory systemic tests are performed among pregnant women, blood donors, among sexual partners of patients with diagnosed syphilis (as soon as possible and 3 months after the diagnosis), and on request in case of fear of infection.

Additional testing and follow up

If syphilis is diagnosed, HIV test is always offered. Follow up tests include VDRL and FTA-Abs control 2,4,6,9,12,18,24 months after treatment.

HPV

HPV diagnostics remains largely undeveloped in Poland. Examination of outer genitals is performed solely on request or during routine gynaecologic exams. Speculum examination – also only in pregnancy or routine gynaecological follow-ups. Histological assessment after lesion biopsy is performed in case of suspicion of neoplastic changes or in immunocompromised hosts (e.g. HIV (+)) Therapy is often empiric with no aetiology confirmed.

Treatment

If large changes occur – cryotherapy or surgical treatment (in-hospital) is offered. Small lesions are home-treated by Imiquimod or Podophyllotoxin.

Additional screening

If genital warts are diagnosed screening for syphilis is offered.

Summary

STI diagnostics in Poland is generally easily accessible- referral from GP is not necessary, patient may meet the specialist directly. Clinical practice for syphilis and gonococcal infections is well established. Partners and contacts are screened and treated if necessary, with wide range of tests offered if a single agent STI infection is diagnosed.

Unfortunately chlamydia diagnostics is poorly developed, with large number of cases untested no screening guidelines especially among sexually active young people and with other STI diagnosed. Generally STI diagnostics is based on serological tests or direct immunofluorescence methods with no molecular techniques implemented. There are no national guidelines developed regarding groups to be screened (this situation relates to all four analysed pathogens). Young, sexually active people remain uneducated as there are no education or screening programs aimed at this group. HPV infections remain largely undetected – only histopathology of clinically significant lesions is performed. Additional problem for STI diagnostics is targeting MSM in Poland – a group which still remains hidden and is not open for contacts with clinicians.