

# **STIs UPDATE JULY 2017**

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# SEXUAL HISTORY



## **Sexual health history: make it sound normal!**

- the 5 Ps: Partners, Practices, Protection, Past history of STIs, Prevention of pregnancy
- a standard medical history with some extra questions
- sexually active? yes/no
- last sexual intercourse – when? regular (how long?) or casual partner? gender of partner(s)? consensual? oral, vaginal, anal? condoms? contraception?
- last 3 months? number/gender of partners, etc. (as above)
- last 12 months? as above...

**IVDU? tattoos/piercings? prison? sexual assault ever? sex work?  
sex overseas?**

**Vaccinations – HBV, HAV, HPV...**

# SEXUAL HISTORY – WHEN TO TAKE ONE

**A sexual health history should be taken when seeing patients:**

- as part of a well check in primary care settings;
- as part of asymptomatic opportunistic screening for STIs, particularly in those aged < 25 years;
- who are sexual contacts of someone with an STI, pelvic inflammatory disease (PID) or epididymo-orchitis;
- who have had a recent partner change or multiple partners;
- for routine contraceptive or smear visits;
- for antenatal testing;
- pre-termination of pregnancy (TOP) or intrauterine device (IUD) insertion;
- with specific ano-genital symptoms;
- who have had non-consenting sexual encounters;
- who request a sexual health check.

# **SEXUAL HISTORY – HOW TO BREACH THE SUBJECT**

**“As part of a general health check I ask my patients about their sexual health, and I offer testing for infection. Do you have any sexual health concerns that you would like to discuss?”**

**“I offer all my patients aged 25 and under the opportunity to have a test for chlamydia, which is a very common sexually transmitted disease. Would you be interested in testing?”**

**“Chlamydia is a very common STI, which often doesn’t cause any symptoms. Testing can be done by a urine sample (or a swab that you take yourself) if you would prefer not to be examined. Would you be interested in doing a test?”**

# EXAMINATION

## Examination:

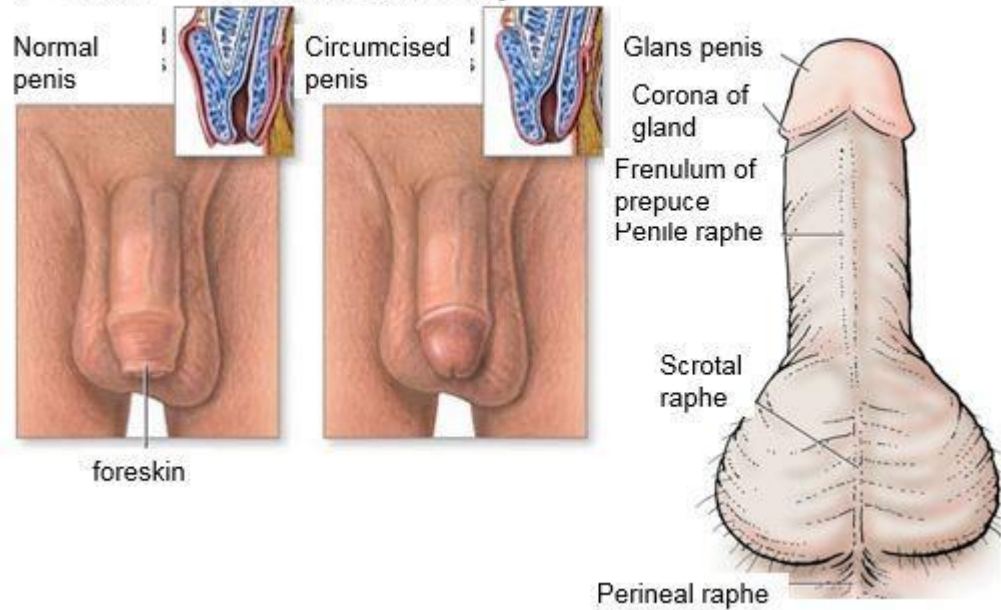
- males: penis, testes, lymph nodes
- females: external genitals, internal (speculum) if symptomatic
- both: perianal skin, anus; DRE/DARE and/or proctoscopy if symptomatic

## Always offer a chaperone if:

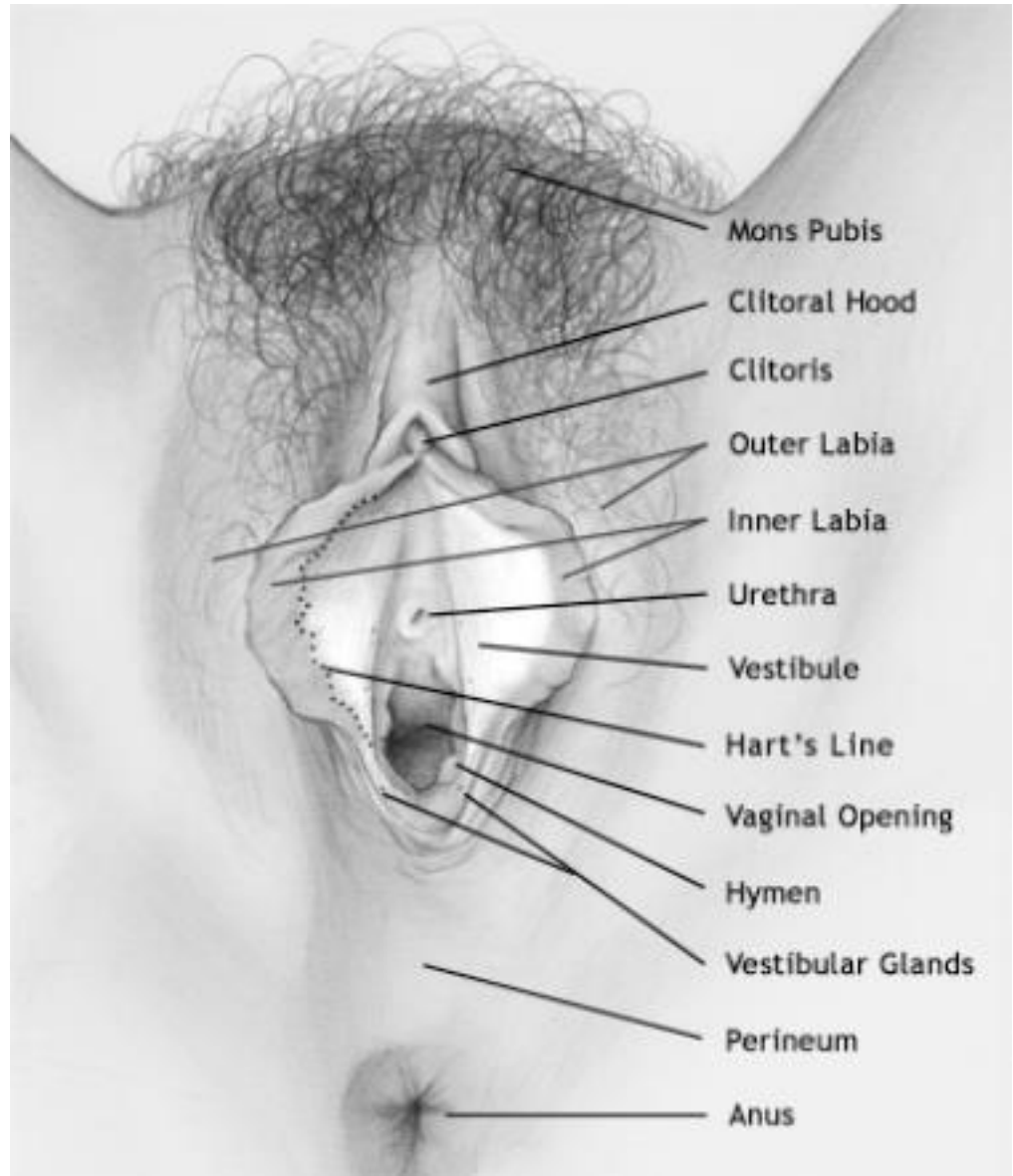
- your practice set-up allows for it
- male healthcare provider/female patient
- every time the patient asks for it
- every time the healthcare provider feels it's needed/helpful
- always, for patients <16 years
- always document who is chaperoning, or "chaperone offered & declined".

# MALE GENITAL ANATOMY REMINDER

## Penis – external anatomy



# FEMALE GENITAL ANATOMY REMINDER



# THE THREE MOST IMPORTANT THINGS FOR A GOOD FEMALE GENITAL EXAMINATION



Light source



Magnification



Position



# “SEXUAL HEALTH CHECK” (ASYMPTOMATIC STI SCREENING)

## Heterosexual males:

- FVU for C.t. and N.g.
- serology for HIV & syphilis

## Men who have sex with men (MSM):

- as above plus:
- throat & rectal swabs for C.t. and N.g.

## Females:

- serology as above
- self-collected vaginal swabs for C.t./N.g./T.v.
- consider throat & rectal swabs as above if unprotected receptive oral and/or anal sex.

# “SEXUAL HEALTH CHECK” – THE SELF-COLLECTED SWABS (1)

- Not suitable for bacterial vaginosis (BV) or for thrush
- If women are symptomatic (discharge/pain/bleeding/itching) examination (incl. speculum) is mandatory
- No empiric Rx for BV/thrush should be handed over/prescribed on reported symptoms without examination and healthcare professional-collected swabs
- Empiric Rx can be handed over/prescribed by experienced HCPs on the basis of the impression after examination, while swabs are pending.

# How to take your Vaginal Swab

Wash and dry your hands first.

The pack contains a swab stick and a plastic container.

Do not place the swab stick directly on any surface.

Do not touch the cotton wool tip of the swab.

Ask for a new kit if you drop the swab or touch the tip or spill any of the liquid in the container.

## 1. Getting ready:

Peel open the pack. Take out the container, carefully unscrew the top and place it on a flat surface.



## 2. How to hold the swab:

Take the swab stick out of its packet and hold the plastic shaft in the middle.



## 3. Taking the sample:

- With your legs apart, spread the opening of your vagina.
- Rub the cotton bud around the upper part of the entrance to the vagina (where the red arrow is) a couple of times.
- Then insert it 1-2 inches into your vagina. Your fingers on the middle of the shaft will stop you going in too far.
- Rotate the swab around your vagina, making sure it touches the inside wall of your vagina for 5 seconds (count to 5 slowly).
- Carefully pull the swab out.



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## 4. To finish off:

Put the swab in the container. Make sure you do not spill any of the liquid.



Snap the stick off at the black line.



Screw the lid back on tightly.





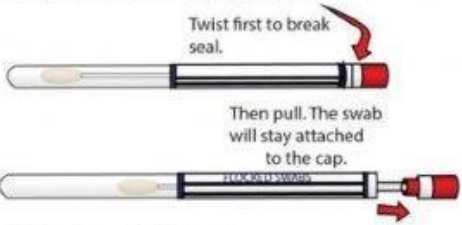

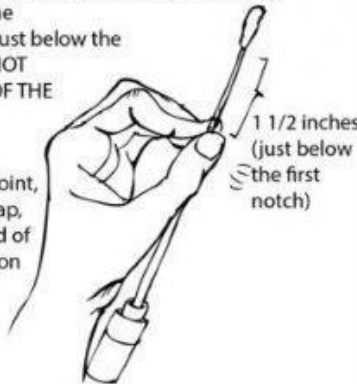

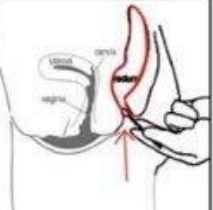
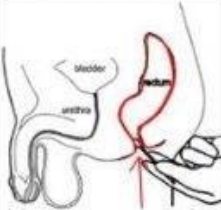




# “SEXUAL HEALTH CHECK” – THE SELF-COLLECTED SWABS (2)

If men or women have anorectal symptoms (discharge/pain/bleeding/tenesmus) :

- examination (incl. proctoscopy) is mandatory
- in MSM with acute proctitis on proctoscopy, a viral swab for HSV DNA should also be collected.

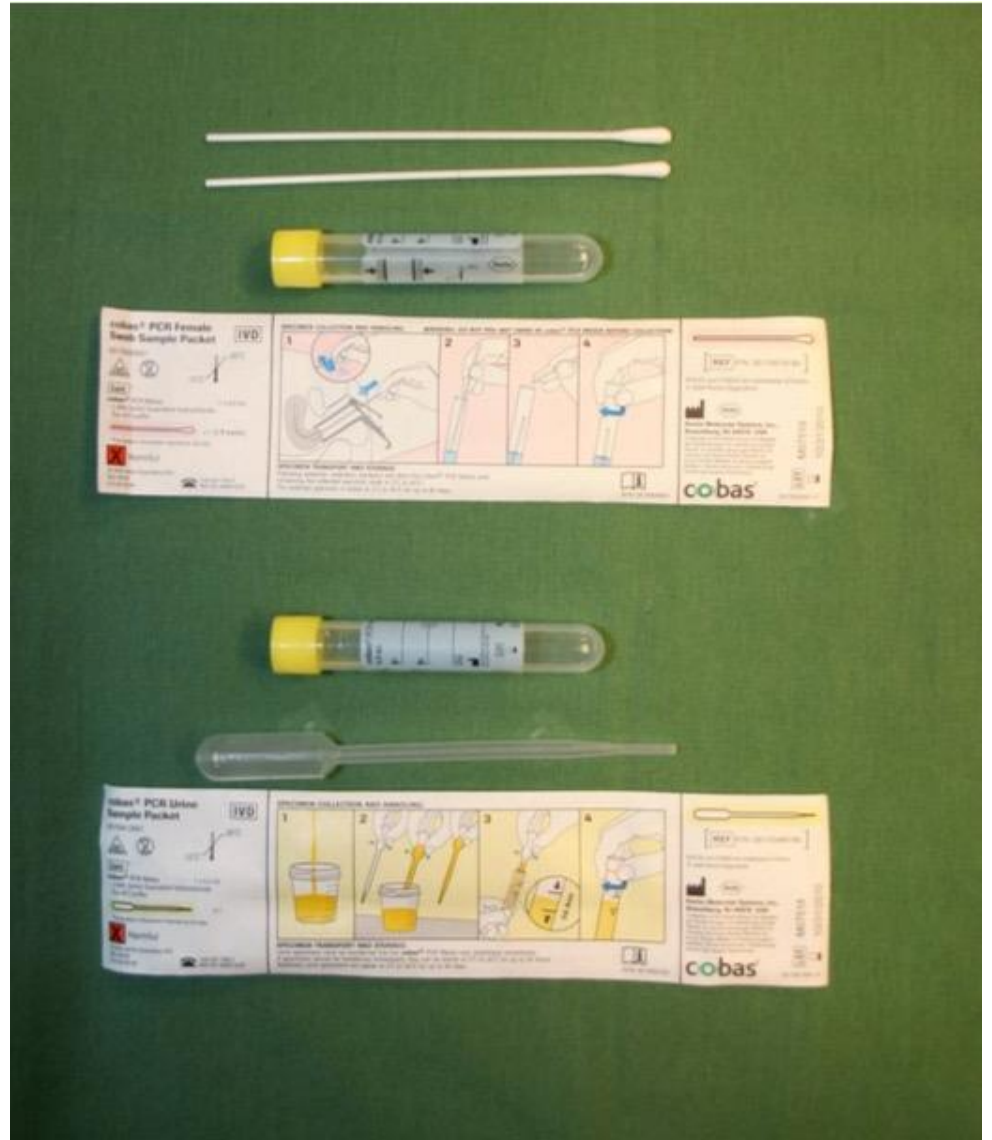
# Self-Collection of Rectal Swab

ATTENTION: Read ALL instructions before you begin!

<p><b>STEP 1</b></p>  <p>Wash your hands thoroughly.</p>	<p><b>STEP 2</b></p> <p>Unopened Swab</p>  <p>Either squat down, or lift one leg on a toilet, ledge, or chair (as shown). Pull underwear down or off.</p>	<p><b>STEP 3</b></p> <p>Open the swab. DO NOT TOUCH THE TIP OF THE SWAB.</p>  <p>Twist first to break seal.</p> <p>Then pull. The swab will stay attached to the cap.</p> <p>Do NOT throw the plastic tube away! You will need to put your swab in it after you have collected the sample.</p> 	<p><b>STEP 4</b></p> <p>With your dominant hand (right if you're right-handed, left if you're left-handed), grip the opened swab 1.5" away from the tip of the swab (just below the first notch). DO NOT TOUCH THE TIP OF THE SWAB.</p>  <p>1 1/2 inches (just below the first notch)</p> <p>Do NOT, at any point, use anything (soap, saliva, or any kind of lubricant) either on your body or on the swab.</p>
<p><b>STEP 5</b></p>  <p>With your other hand, position your bare buttock and lift one cheek for easy access to the rectum. (DO NOT use anything on your rectum or the swab.)</p> <p>Female Anatomy</p>  <p>Male Anatomy</p> 	 <p><b>STEP 6</b></p> <p>Insert the swab 1.5 inches into your rectum until you feel your fingers touch your anus.</p> <p><b>STEP 7</b></p> <p>Once the swab is in, walk your fingers halfway down the swab (away from your body) and grip it there, for stability. (The swab should stay where it is—only your fingers should move.)</p> <p><b>STEP 8</b></p> <p>Gently rub the swab in a circle, touching the walls of your rectum, to collect the specimen.</p> <p><b>STEP 9</b></p> <p>When removing the swab from your rectum, slowly turn it in a circle while pulling it out.</p>	<p><b>STEP 10</b></p> <p>Place used swab back into the transport tube. Close tightly to prevent leakage.</p>  <p><b>STEP 11</b></p> <p>Place closed tube into the red plastic zip-lock bag. Seal the bag.</p>  <p><b>STEP 12</b></p> <p>Place sealed zip-lock bag into the return mailer (white envelope with a blue diamond-shaped sticker on the front). Seal the envelope and drop it in any mailbox.</p>  <p>Peel off adhesive to reveal seal.</p>	

Source: [iwantthekit.org](http://iwantthekit.org)

# CT/NG SWAB & URINE TUBE



# “SEXUAL HEALTH CHECK” – HEPATITIS VIRUSES

- Immunity or chronic carrier status for HBV should be assessed at the first encounter for everyone (unless already documented in the records) – non-immune pts. should be offered (unfunded) vaccination
- All MSM should be tested for HAV immunity and offered (unfunded) vaccination if not immune
- HCV:
  - MSMLWHIV: it behaves like an STI and regular screening should happen at 1-year intervals
  - HIV neg. MSM: controversial, screening at 5 to 10-year intervals unless risk factors (see below)
  - heterosexuals: sexual transmission very uncommon, screening should not generally happen in a sexual health setting unless risk factors are present (IVDU, medical treatment overseas, non-professional tattoos/piercing, been in prison...).

# “SEXUAL HEALTH CHECK” – TIMING

- Note: If patient is asymptomatic and is concerned about a specific recent sexual event – the recommended testing interval for CT/NG/TV is 2 weeks from time of last unprotected sexual intercourse; for HIV 6 weeks after (with the modern tests); for syphilis 3 months after
- If the patient is unlikely to return and has not been previously tested then test opportunistically at the time of presentation and offer a re-check in due course.



# WHO & WHERE TO REFER TO SECONDARY CARE (1)

## Bacterial/protozoan STIs:

- syphilis (ascertained and suspected): to Sexual health – always welcome
- PID: if Dx in doubt, or severe symptoms ?suspect of tubo-ovarian abscess: ring Obs & Gynae
- epididymo-orchitis: if Dx in doubt (?torsion ?mass), or severe symptoms and unlikely to be due to STI (age>35): ring Urology
- any recurrent/difficult to manage STI (CT/NG/TV/NSU): to Sexual health.

# WHO & WHERE TO REFER TO SECONDARY CARE (2)

## Viral STIs:

- HIV: always – to the HIV Team
- HSV (difficult to manage, discordant couples/pregnancy etc.): to Sexual health
- HPV & molluscum: usually to be managed in primary care – possible exception: immunosuppressed pts.

**Pubic lice & scabies:** usually to be managed in primary care

## Recurrent vulvovaginal candidiasis :

- definition: > 4 proven symptomatic episodes < 1year
- happy to see in Sexual health particularly if non-albicans or otherwise ?Dx or difficult to manage

## Recurrent BV:

- definition: > 3 proven symptomatic episodes < 1year
- happy to see in Sexual health if ?Dx or difficult to manage.

# WHO & WHERE TO REFER TO SECONDARY CARE (3)

- **Genital dermatology:** happy to see in Sexual health – will refer to Dermatology if we need to
- **Sexual dysfunction:**
  - male: usually to be managed in primary care – to Urology if beyond oral meds
  - female: aka vulvodynia/dyspareunia – can do but limited resources in secondary care too (no pelvic physio, no counselling available)
- **Difficult contraception** – to Family Planning
- **“Office Gynae”** – i.e. bleeding issues – follow the BayNav pathway
- **Transgender patients** – yes to Sexual health.

# SEXUALLY TRANSMISSIBLE INFECTIONS

- 2 infestations
- 1 protozoan
- 1 fungus
- 7 bacteria
- 8 viruses.

# INFESTATIONS

- Scabies:
  - *Sarcoptes scabiei* (a mite)
  - (mainly) nocturnal itch; unusual persistent rashes; web space burrows, *vésicules perlées*
  - always ask: who else is itching at home, do they share the same bed?
  - Rx: Permethrin 5% cream/lotion, **repeat after 1 week**
- Pubic lice (“crabs”):
  - *Phthirus pubis*
  - **currently on the verge of extinction due to habitat destruction**
  - Rx as above or removal of pubic hair.

# PROTOZOAN

- *Trichomonas vaginalis*:
  - mobile, flagellate organism
  - irritating, profuse vaginal discharge with pH>4.5
  - Dx: wet film in normal saline, culture in liquid medium
  - PCR on first-catch urines (males) or vaginal swabs (females)
  - Rx: Metronidazole 2g po stat or 400mg po BD x 7/7 (pregnancy category B2) or Ornidazole 1.5g po stat (not recommended in pregnancy)
  - Treat the male partner(s)!
  - T.v. increases HIV transmission rates and women LWHIV need multiple-dose azole regimens.

## ALTERNATIVES TO AZOLES BECAUSE OF ALLERGY OR RESISTANCE

Agent and regimen	Cure rates
Intravaginal boric acid (applied in a gelatin capsule containing 600 mg boric acid) twice daily×2 months <sup>27</sup>	1/1 cured (100%)
Intravaginal paromomycin cream (5 g of a 5% cream administered nightly) and high-dose oral tinidazole (1 g orally three times a day)×14 days <sup>24</sup>	2/2 cured (100%)
Intravaginal furazolidone (100 mg per 5-g applicator of 3% nonoxynol-9) twice daily×12 days <sup>28</sup>	1/1 cured (100%)
Intravaginal boric acid (applied in a gelatin capsule containing 600 mg boric acid) alternating nightly with intravaginal clotrimazole cream×1–5 months <sup>25</sup>	2/2 cured (100%)
Intravaginal 6.25% paromomycin cream (250 mg per 4-g applicator, one applicator used nightly)×2–3 weeks <sup>23</sup>	6/9 cured (66.6%)
Intravaginal povidone–iodine (Betadine) douches, 20 ml of a 10% solution twice daily for 2 days per week×2 weeks (left in the vagina for 10 min) <sup>36</sup>	1/1 cured (100%)
Nonoxynol-9, 100-mg intravaginal suppository <sup>29</sup>	1/1 cured (100%)

# FUNGUS

- *Candida albicans*, or *non-albicans* species:
  - not an STI
  - more frequent in DM
  - typical presentation: itch & white, thick vaginal discharge
  - Dx: wet film in KOH, swabs on Sabouraud-dextrose plate or broth
  - **don't treat if asymptomatic positive culture**
  - Rx: topical antifungals in vaginal preparations (e.g. Clotrimazole 2% vaginal cream, Nystatin vaginal cream, Miconazole 2% vaginal cream)
  - for RVVC: Fluconazole 150mg/weekly superior to placebo.



# BACTERIA: CHLAMYDIA

- Will it be a new target?
  - YOUTH SYSTEM MEASURE
  - Domain chosen: Sexual and Reproductive Health with an emphasis on reducing chlamydia
  - Baseline: Baseline data for chlamydia rates will be collected from the BOPDHB sexual and reproductive health service review and from providers.
  - Milestone: A decrease in the prevalence of chlamydia, based baseline data collected in 2017/18 and out years, as services are contracted and bedded in. Note that some measures may initially show an increase as access to services is improved, before the new service starts to have a positive impact on measures, e.g. strategies.

## Actions:

- Establish a sexual and reproductive health working group.
- Young people in rural communities who have sexually transmitted infections, particularly chlamydia, are treated in a timely and user friendly manner.
- Improve access to age appropriate sexual and reproductive information for young people through a wide range of youth-friendly sources. A focus is placed on transgender youth.
- Improve our collective understanding of available data, including its integrity, source and opportunities to improve collection.

## Contributory Measure:

- Increased chlamydia testing coverage for 15 to 24 year olds BOP wide.
- Development of additional rural sexual health clinics to respond to needs identified through data analysis
- Identify and implement funding strategies to support general practice led sexual health clinics.

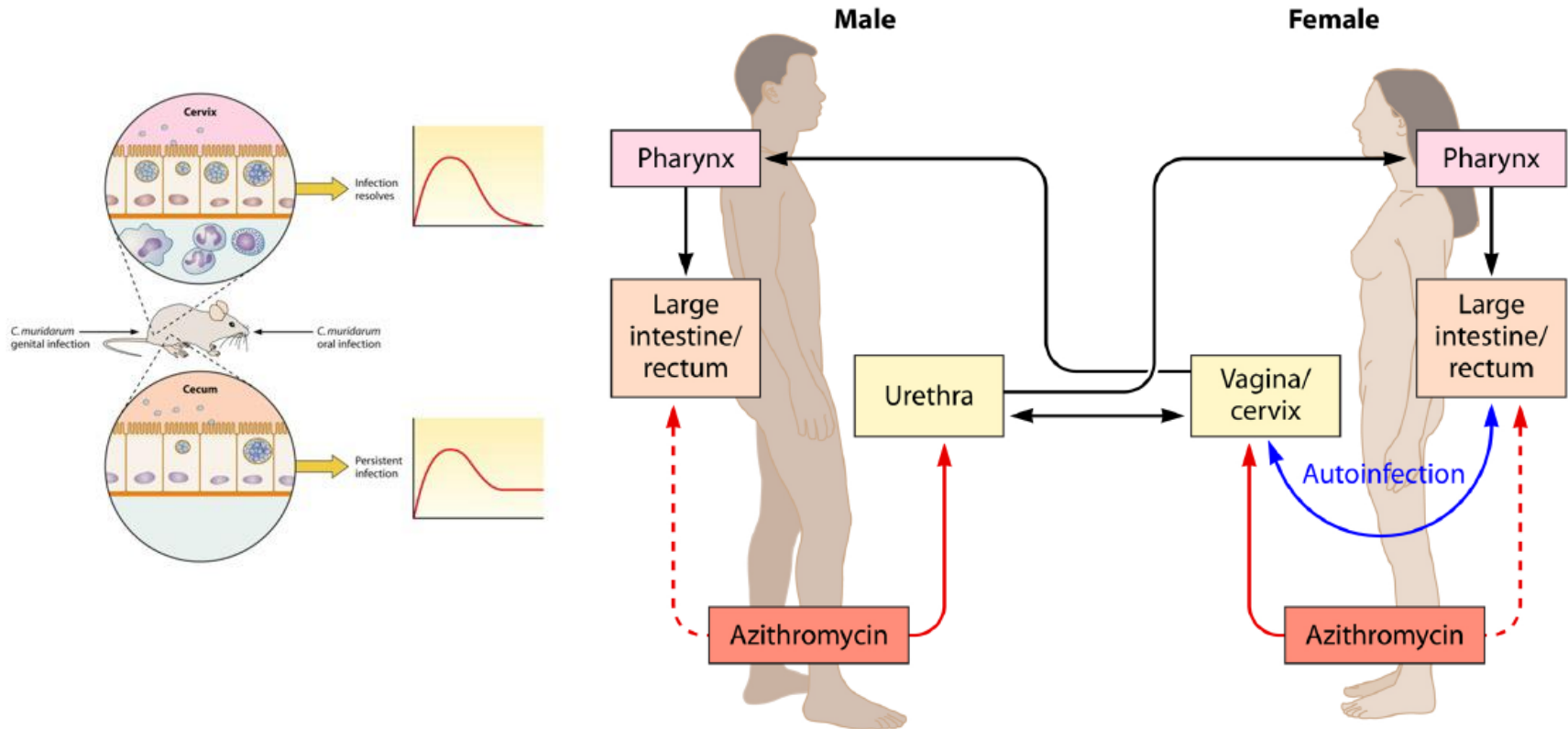
# BACTERIA: CHLAMYDIA

- *Chlamydia trachomatis* (serovars D to K)
- Commonest bacterial STI
- Mostly asymptomatic
- May cause: cervicitis, urethritis, proctitis, epididymo-orchitis
- Complications: PID, tubal infertility, ectopic pregnancy
- Dx: Nucleic Acid Amplification Test (NAAT) on first-catch urines (males), cervical or (self-collected) vaginal swabs, throat swabs if history of receptive oral sex, rectal swabs if receptive anal sex (women) or MSM
- Rx:
  - Doxycycline 100mg BD x 7 days if urethritis in men or rectal infection (new) ; preferred for PID x 14/7 (new)
  - Azithromycin 1g stat still appropriate for non-PID genital infections in women and for PID in pregnancy (1g x 2 doses 1 week apart)
- Always treat the partner(s), test of cure at 3 months (6 weeks if pregnant).

# MICROBIOLOGY REFRESHER

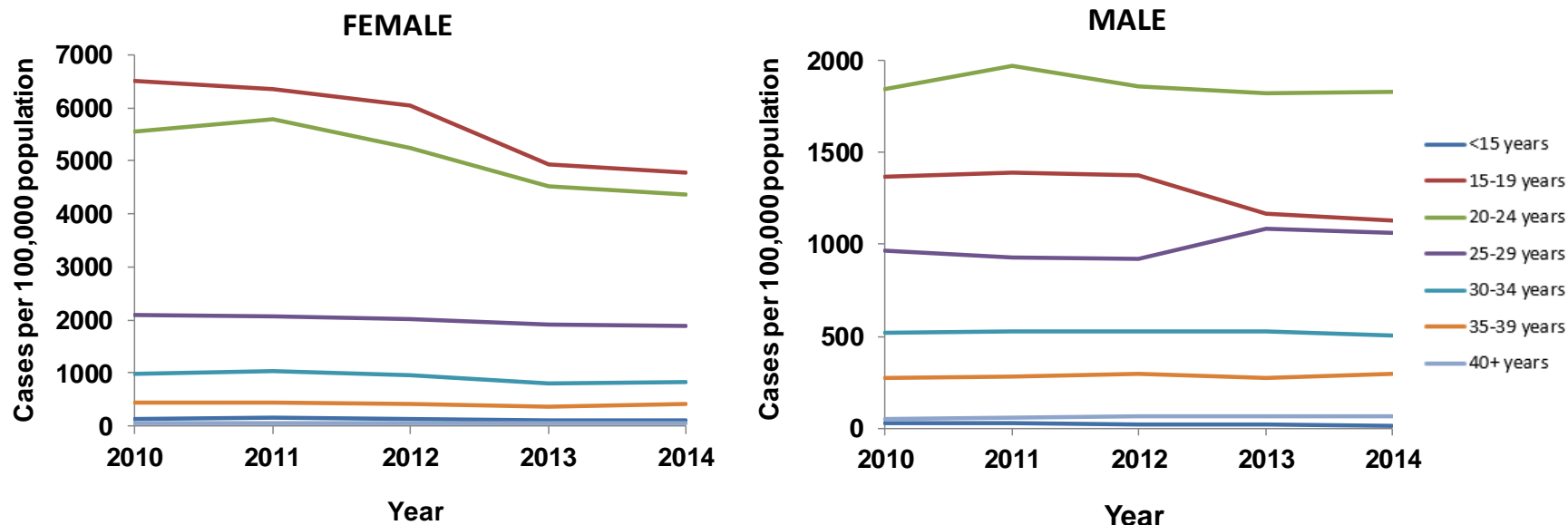
- Domain: *Bacteria*, class/phylum: *Chlamydiae*, order: *Chlamydiales*, family: *Chlamydiaceae*
- 2 medically relevant *genera*:
  - *Chlamydia*, with 3 species: *C. muridarum* (rodents), *C. suis* (pigs), *C. trachomatis* (humans)
  - *Chlamydophila*, with 6 species: *C. pneumoniae* (humans), *C. psittaci* (birds, mammals), *C. pecorum* (ruminants), *C. abortus* (mammals), *C. felis* (cats), *C. caviae* (Guinea pigs)
- Trachoma, inclusion conjunctivitis, and sexually transmissible human chlamydiosis are due to *Chlamydia trachomatis*
- 18 serovars:
  - A, B, Ba, C cause trachoma (B & Ba occasionally isolated from the genital tract)
  - D, Da, E, F, G, H, I, Ia, J, K cause genital disease & inclusion conjunctivitis
  - L1, L2, L2a, L3 cause lymphogranuloma venereum.

# “HIDDEN IN PLAIN SIGHT:” CHLAMYDIAL GASTROINTESTINAL INFECTION AND ITS RELEVANCE TO “PERSISTENCE” IN HUMAN GENITAL INFECTIONS



# BACTERIA: CHLAMYDIA

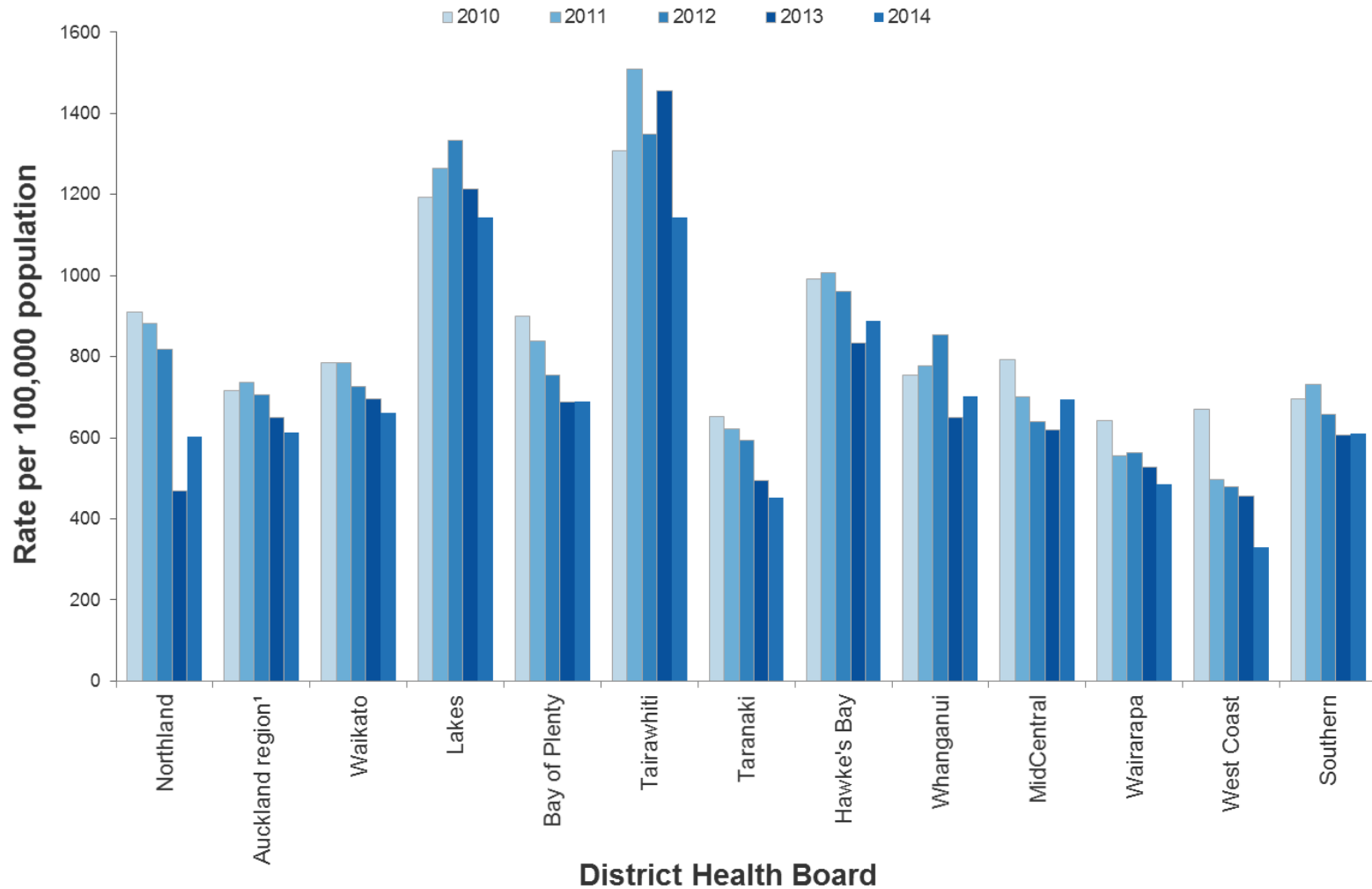
Chlamydia rates per 100,000 population by age group and sex, 2010–2014



Source: Sexually Transmitted Infections in New Zealand: Annual Surveillance Report 2014, available from [www.surv.esr.cri.nz](http://www.surv.esr.cri.nz)



# Chlamydia rates by DHB, 2010–2014



<sup>1</sup>Waitemata, Auckland and Counties Manukau DHBs.

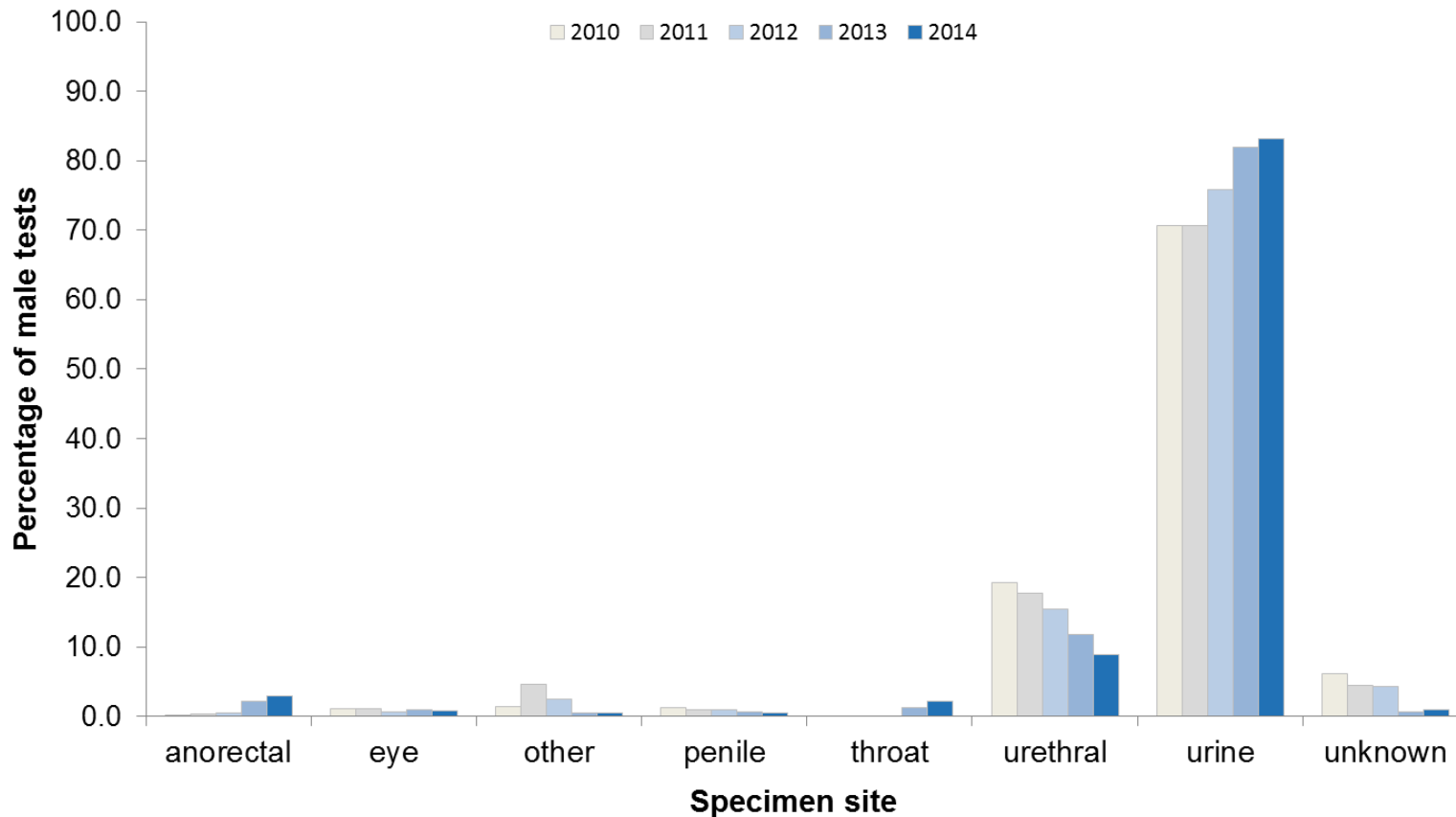
Note: New data processing methods introduced in 2013 allow for exclusion of repeat tests within a defined period.

Source: Sexually Transmitted Infections in New Zealand: Annual Surveillance Report 2014, available from: [www.esr.cri.nz](http://www.esr.cri.nz)



# BACTERIA: CHLAMYDIA

Specimen site, as a percentage of all positive chlamydia tests in males, 2010–2014

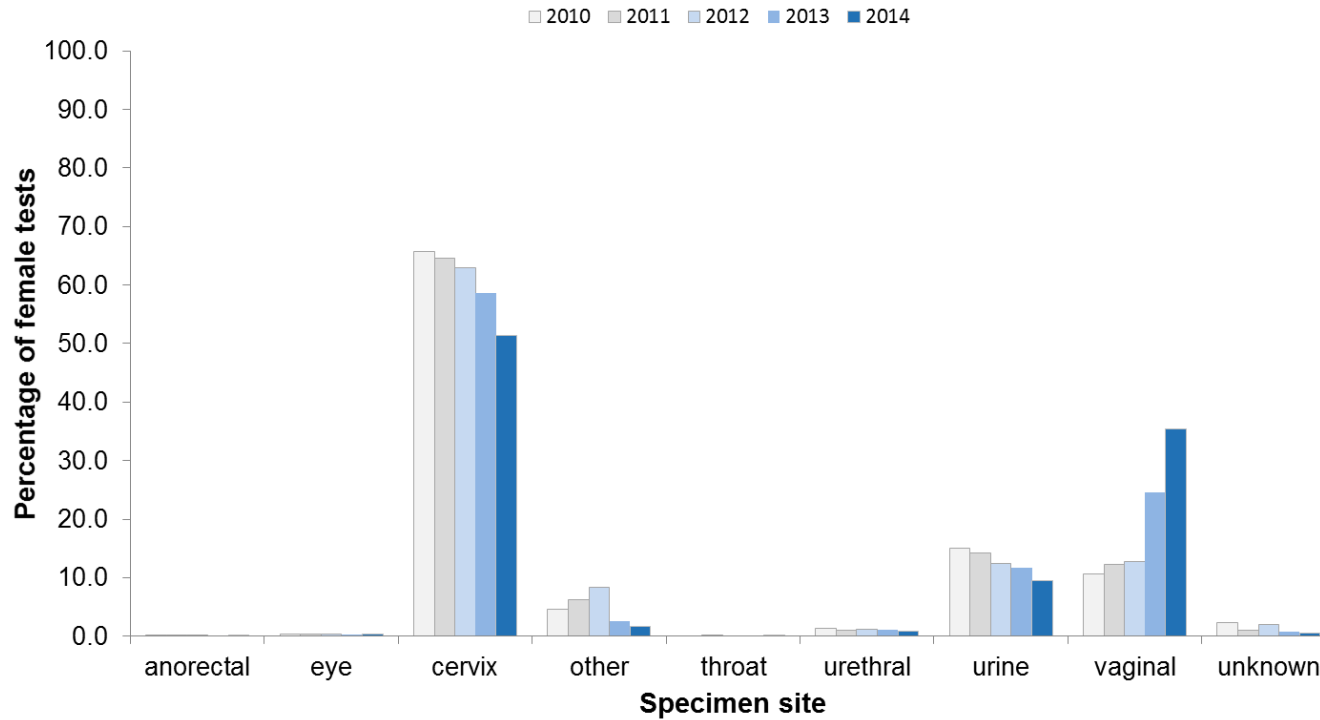


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# BACTERIA: CHLAMYDIA

Specimen site, as a percentage of all positive chlamydia tests in females, 2010–2014



Source: Sexually Transmitted Infections in New Zealand: Annual Surveillance Report 2014, available from: [www.surv.esr.cri.nz](http://www.surv.esr.cri.nz)



# ANY EVIDENCE THAT C.T. CAN DEVELOP RESISTANCE TO AZITHROMYCIN? (1)

- Lessons from mass-treatment of trachoma:
  - after 3 yearly mass drug administration (MDA)s in 32 communities in Tanzania, 107 children were identified 1 year later with infection
  - all were provided MDA again, and 90 were seen again at 2 months, of whom 30 had infection
  - C.t. isolates were obtained before and after MDA in 15 paired samples and were tested for antimicrobial susceptibility
- For the consistently infected, the average minimum inhibitory concentration was 0.26  $\mu\text{g}/\text{mL}$  for azithromycin before and 0.20  $\mu\text{g}/\text{mL}$  after MDA
- All isolates had minimum inhibitory concentration  $\leq 0.50 \mu\text{g}/\text{mL}$ .

*JID 2014; 210: 65–71*

# ANY EVIDENCE THAT C.T. CAN DEVELOP RESISTANCE TO AZITHROMYCIN? (2)

- A more recent Japanese study tested 18 strains of C.t. from urethral swabs and 7 from pharyngeal swabs
- All were susceptible to Azithromycin
- Reduced response to Azithromycin in certain clinical presentations seems to be correlated with different compartmentalized pharmacokinetics of Azithromycin vs. Doxycycline and perhaps to more exotic mechanisms like the interaction with the microbiome of the pharynx and rectum.

# THE RISE OF MYCOPLASMA GENITALIUM

- At the moment we still live in a “blessed ignorance” status re the other causes of NGU/PID
- This is probably going to change soon as the molecular diagnostic techniques improve
- When looked for, *Mycoplasma genitalium* is very frequent, perhaps more than C.t.
  - 217 men (UK) with NGU: 16.7% pos for M.gen. vs. 14.7% for C.t.
  - 41% of the M.gen. R to macrolides  
*CID 2014; DOI: 10.1093/cid/cit752*
  - Denmark: 3.8% of samples (women) and 10.3% (men) pos for M.gen.
  - 38% macrolide-R  
*CID 2014;59(1):24–30*

# TIME FOR NZSHS GUIDELINES FOR M.GEN.?

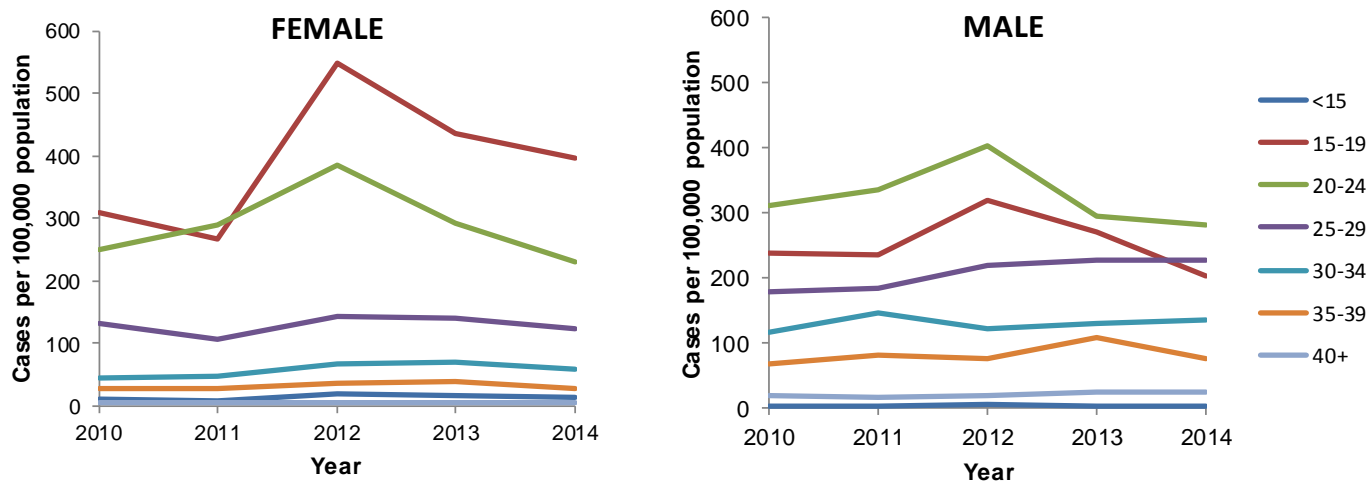
- If the prevalence of macrolide-R M.gen. is confirmed in New Zealand as internationally, in the future we might see new national guidelines for it:
  - M.gen. PCR with simultaneous macrolide-R testing for all NGU/PID cases
  - Azithromycin extended schedule (500mg - 1g stat, followed by 250 - 500mg OD x 4 days) if macrolide-S M.gen. detected
  - Moxifloxacin 400mg OD x 14 days if macrolide-R M.gen. detected
  - Pristynamycin (NPPA – funded) 1g TDS x 21 days for macrolide-R/FQ-R M.gen.

# BACTERIA: GONORRHOEA

- *Neisseria gonorrhoeae*
- Males: acute anterior urethritis with purulent discharge, pharyngeal/rectal infections (often asymptomatic)
- Females: cervicitis, PID, often asymptomatic infection
- Dissemination with sepsis and septic arthritis: rare but important!
- **Risk groups: MSM, Maori & PI, returning travellers**
- Dx: NAAT as *Chlamydia* (same sample) + swab for culture if symptomatic
- **Rx:**
  - Ceftriaxone 500mg im + Azithromycin 1g stat (regardless of *Chlamydia* coinfection)
  - Ciprofloxacin not an option anymore
  - Consider Gentamicin 240mg im stat + Azithro or Doxy if anaphylaxis to beta-lactams – talk to us
- Always treat the partner(s), test of cure at 3 months (4-6 weeks if pregnant).

# BACTERIA: GONORRHOEA

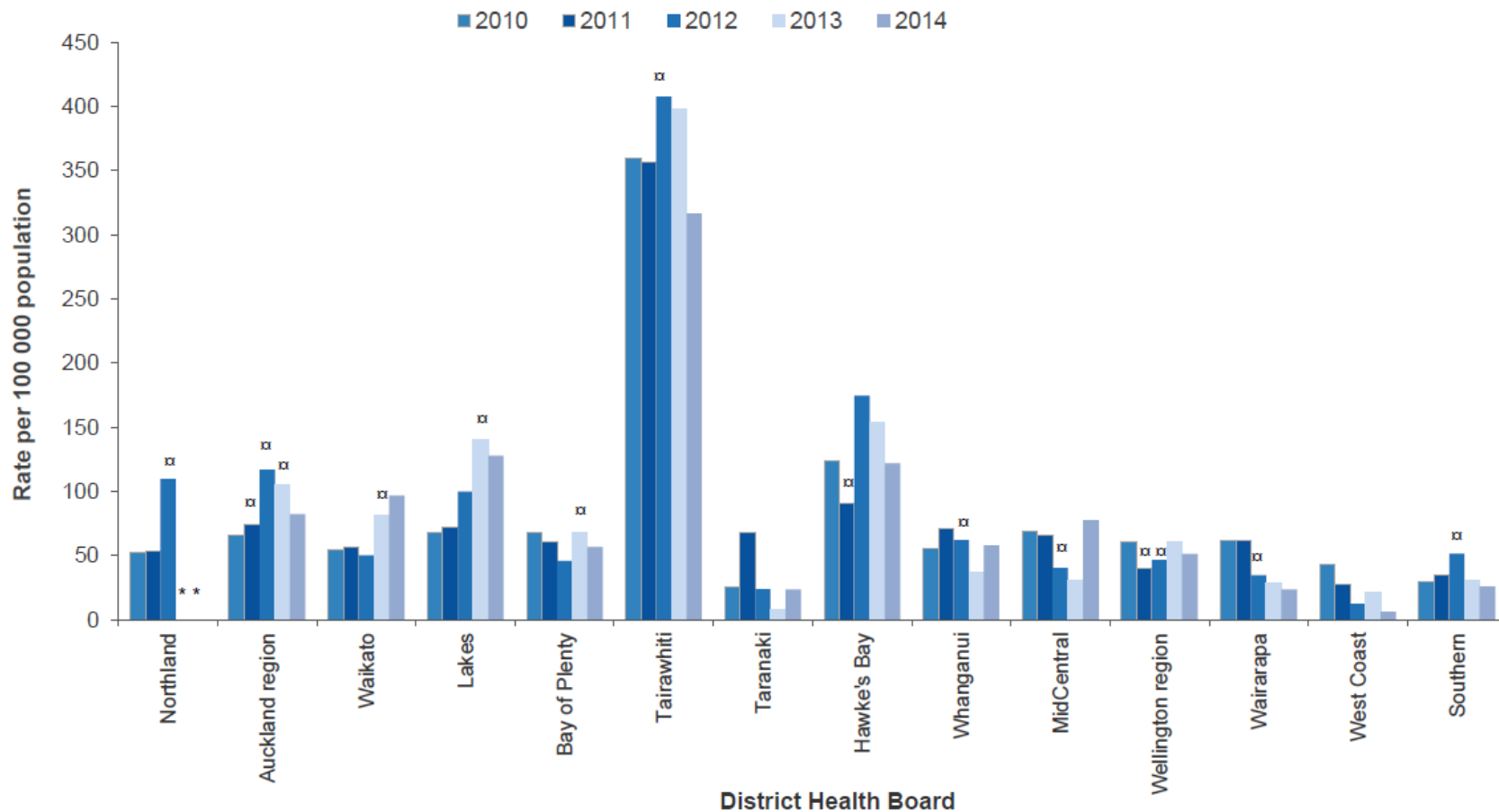
## Gonorrhoea rates per 100,000 population by age group and sex, 2010–2014



Source: Sexually Transmitted Infections in New Zealand: Annual Surveillance Report 2014, available from [www.surv.esr.cri.nz](http://www.surv.esr.cri.nz)



Figure 20. Gonorrhoea rates by DHB, 2010–2014

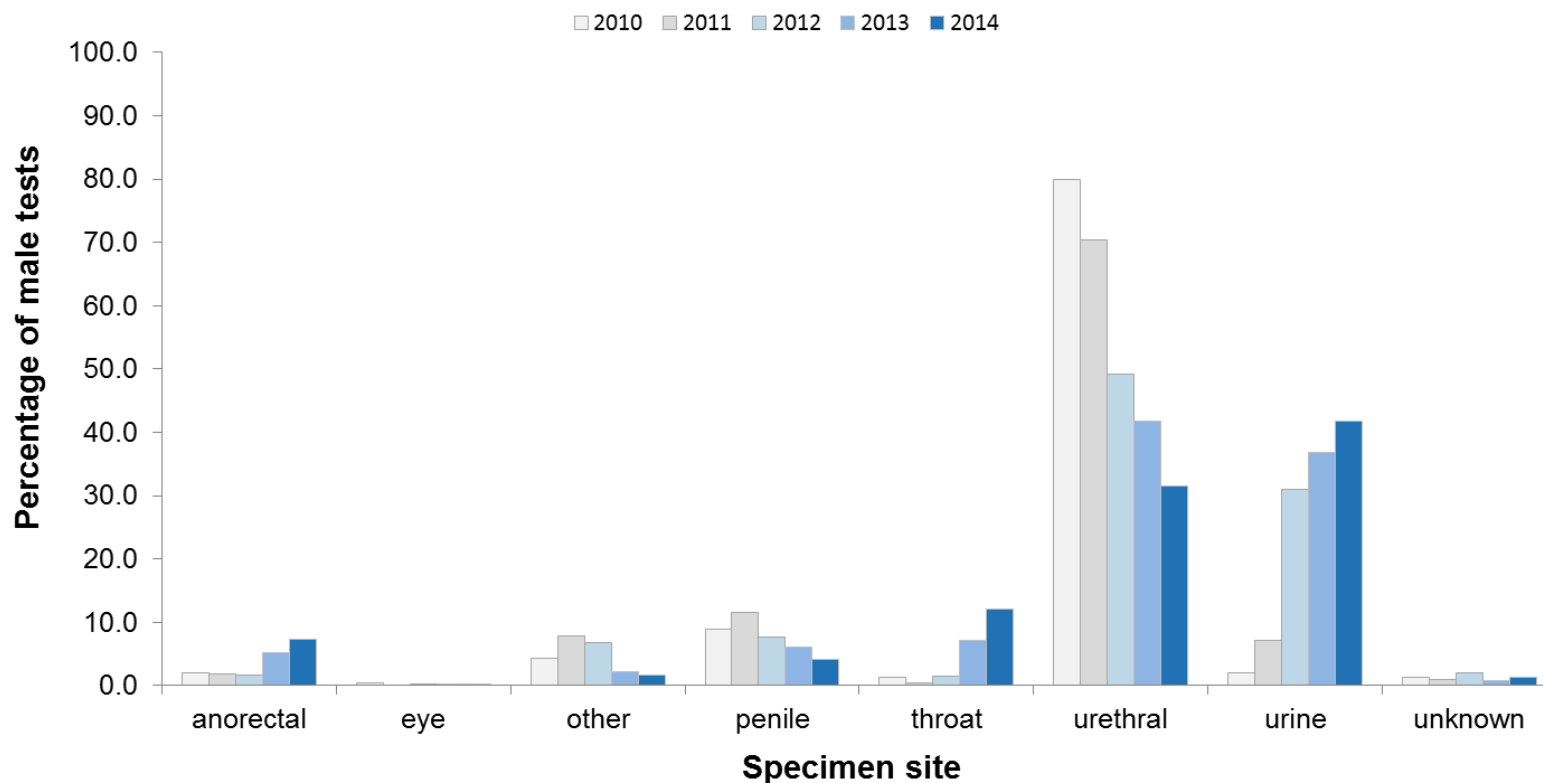


⊠ Introduction of NAAT testing (see Surveillance methods).



# BACTERIA: GONORRHOEA

## Specimen site, as a percentage of all positive gonorrhoea tests in males, 2010–2014

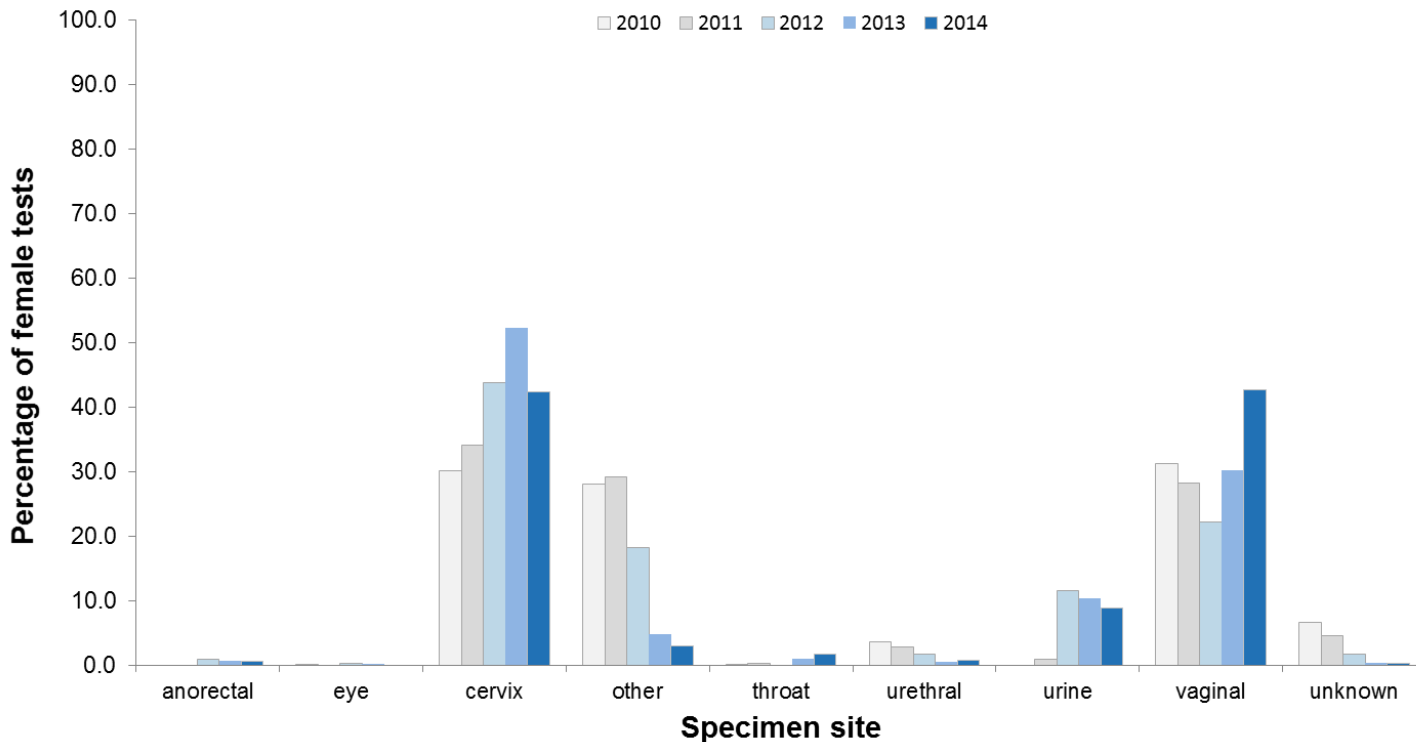


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# BACTERIA: GONORRHOEA

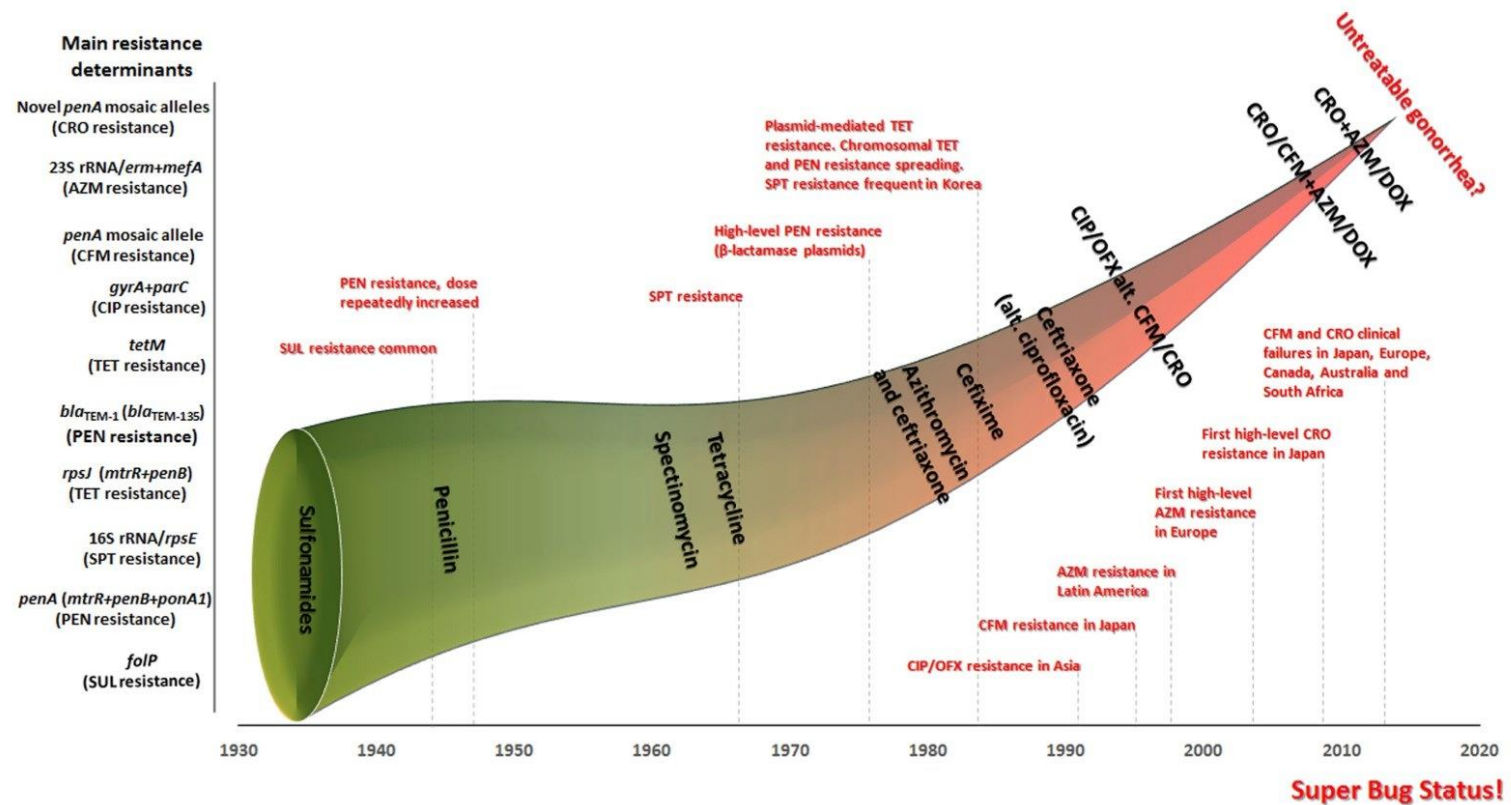
## Specimen site, as a percentage of all positive gonorrhoea tests in females, 2010–2014



Source: Sexually Transmitted Infections in New Zealand: Annual Surveillance Report 2014, available from: [www.surv.esr.cri.nz](http://www.surv.esr.cri.nz)



# HISTORY OF DISCOVERED AND RECOMMENDED ANTIMICROBIALS AND EVOLUTION OF RESISTANCE IN *NEISSERIA GONORRHOEAE*, INCLUDING THE EMERGENCE OF GENETIC RESISTANCE DETERMINANTS, INTERNATIONALLY



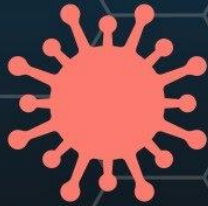
*Clin. Microbiol. Rev.* 2014, 27(3):587

THREAT LEVEL  
**URGENT**



This bacteria is an immediate public health threat that requires urgent and aggressive action.

# DRUG-RESISTANT NEISSERIA GONORRHOEAE



**246,000**

DRUG-RESISTANT  
GONORRHEA INFECTIONS



**188,600** RESISTANCE TO  
TETRACYCLINE

**11,480** REDUCED SUSCEPTIBILITY  
TO CEFIXIME

**3,280** REDUCED SUSCEPTIBILITY  
TO CEFTRIAZONE

**2,460** REDUCED SUSCEPTIBILITY  
TO AZITHROMYCIN

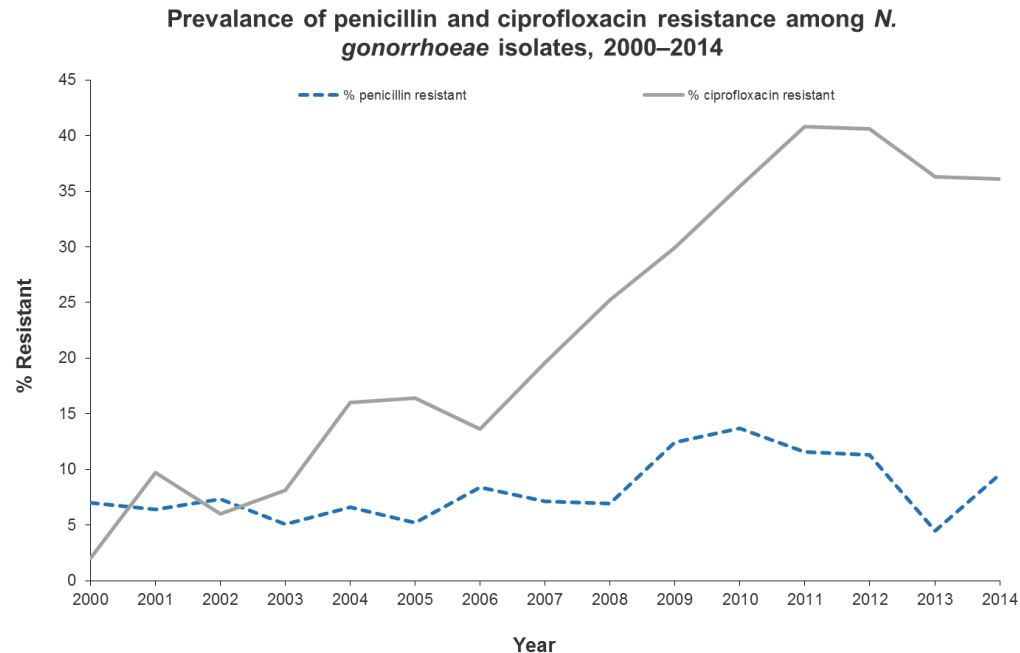


**820,000**

GONOCOCCAL INFECTIONS  
PER YEAR

# NEW ZEALAND DATA ON DRUG-R N.G.

“While no ceftriaxone resistance (minimum inhibitory concentration (MIC) >0.25 mg/L) has been detected among *N. gonorrhoeae* in New Zealand to date, in 2014 an isolate with decreased susceptibility to ceftriaxone (MICs typically 0.06 mg/L) was identified in Canterbury DHB. Isolates with decreased susceptibility had previously been identified in the Auckland region and in Waikato DHB ”.



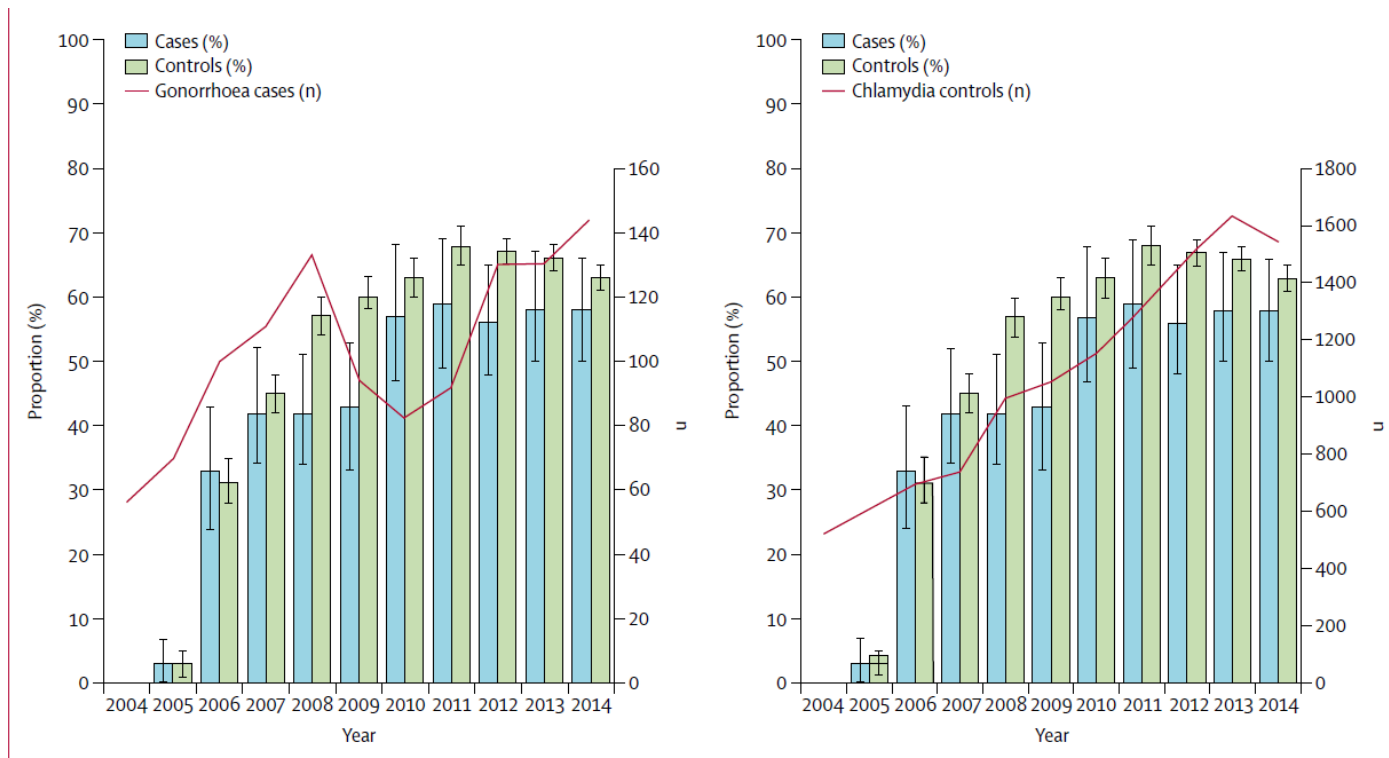
Source: Sexually Transmitted Infections in New Zealand: Annual Surveillance Report 2014, available from [www.surv.esr.cri.nz](http://www.surv.esr.cri.nz)

# FUTURE OPTIONS FOR MDR-N.G.

- Dose optimisation of the current 3<sup>rd</sup> gen. cef. + ketolide combo (pushing up Ceftriaxone to 1g im stat and Azithromycin to 2g orally stat) for strains with intermediate susceptibility
- New combinations of old antibiotics: Gentamicin 240mg im stat + either Azithro 1-2g or Doxycycline 100mg BD x 7 days
- New indication for existing antibiotics: Ertapenem iv, Tigecycline iv
- New drugs under development: Modithromycin (bicyclolide), Eravacycline (fluorocycline), Dalbavancin (lipoglycopeptide), Avarofloxacin, Delafloxacin (FQs).

# SOME HOPE FROM AOTEAROA/NEW ZEALAND!

- Hot from the press – on The Lancet!
- Effectiveness of a group B outer membrane vesicle meningococcal vaccine against gonorrhoea in New Zealand: a retrospective case-control study, The Lancet, 10 July 2017



Year-by-year difference in the proportion of cases and controls vaccinated and number of gonorrhoea (A) and chlamydia (B) diagnoses

# OPTIONS FOR SYNDROMIC RX

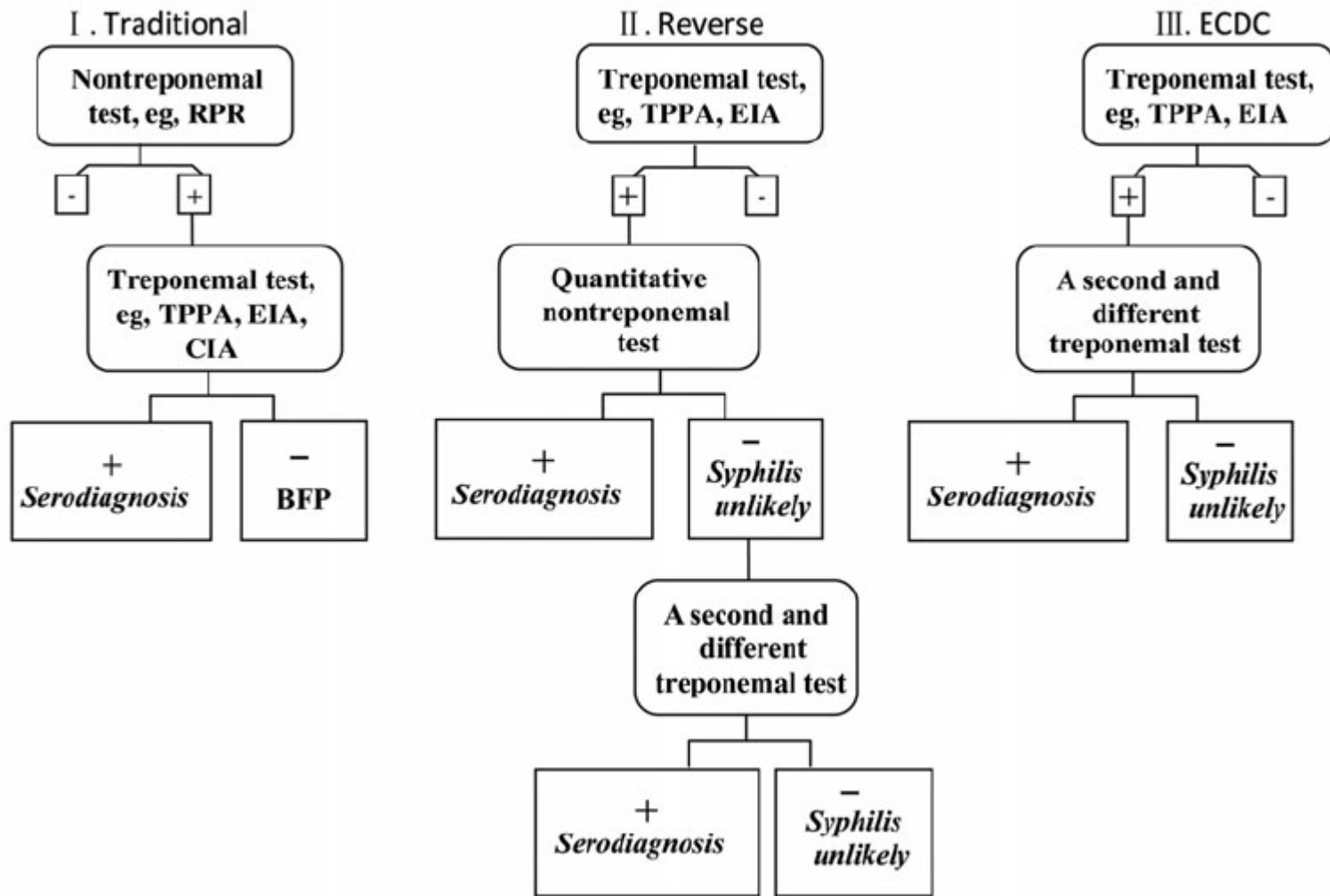
- For syndromic Rx, the current (international) Guidelines recommend **triple or quadruple Abx** to cover both CT and NG (+/- anaerobes for PID):
  - Epididymo-orchitis: Ceftriaxone 500mg im stat + Azithromycin 1g po stat + Doxycycline 100mg BD x 14 days
    - Alternative to Doxycycline if adherence/tolerance concerns: a second dose of Azithromycin 1g stat 1 week later
  - PID: as above plus Metronidazole 400mg BD x 14 days
    - Replace Doxycycline with Azithromycin 1g x 2 doses 1 week apart as above if adherence concerns/pregnancy
    - Can replace Metro daily with 2 stat doses of 2g each, 1 week apart.



# BACTERIA: SYPHILIS

- *Treponema pallidum* subspecies *pallidum*
  - primary: chancre
  - secondary: palmoplantar rash
  - tertiary: bone, brain & heart disease
  - vertical transmission: congenital syphilis
- Dx: DFA from chancres, serology (call us if in doubt re interpretation of serology)
  - any positive syphilis serology in pregnancy (even an isolated unconfirmed screening test) needs to be repeated after 4-6 weeks as sometimes the EIA screening test is the first to become positive
- Rx: Benzathine-Penicillin 1.8g im single dose for primary & secondary, x 3 doses if tertiary, latent >1 year, or unknown duration
  - Doxycycline for severe beta-lactam allergy (not in pregnancy and not for neurosyphilis).

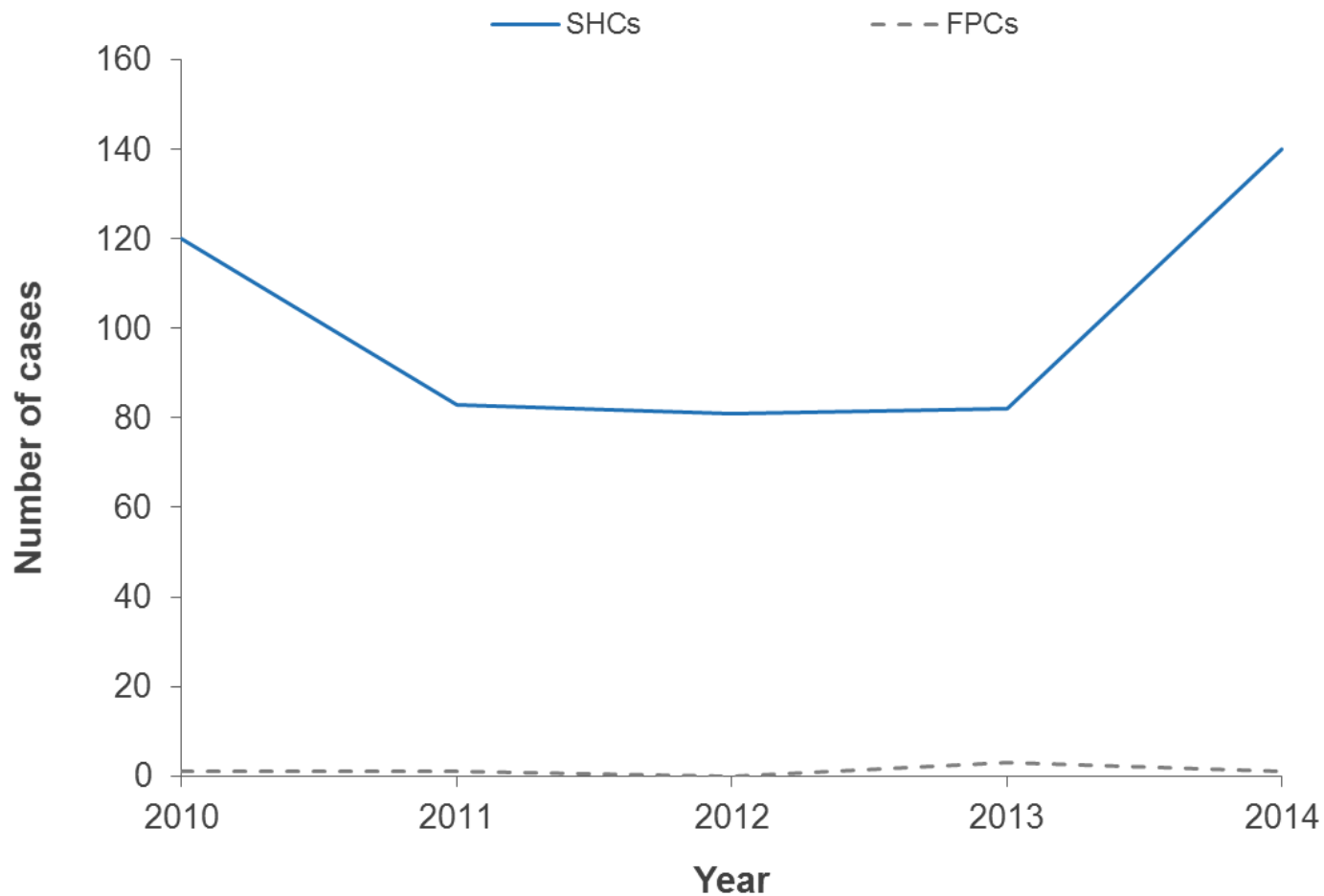
# NEW SEROLOGIC ALGORITHMS



# BACTERIA: SYPHILIS

- Primary:
  - 80% positive serology
  - EIA +
  - RPR + 1:8 – 1:16
  - TPHA +
- Secondary:
  - 100% positive serology
  - EIA +
  - RPR + 1:32 – 1:256
  - TPHA +
- Latent:
  - ~ 100% EIA, TPHA +
  - ~ 95% RPR + low titre
- Late:
  - ~ 95% EIA, TPHA +
  - ~ 70% RPR + low titre
- Post-treatment:
  - the RPR is expected to fall at least fourfold or become negative within 1 year
  - EIA and TPHA remain positive for life.

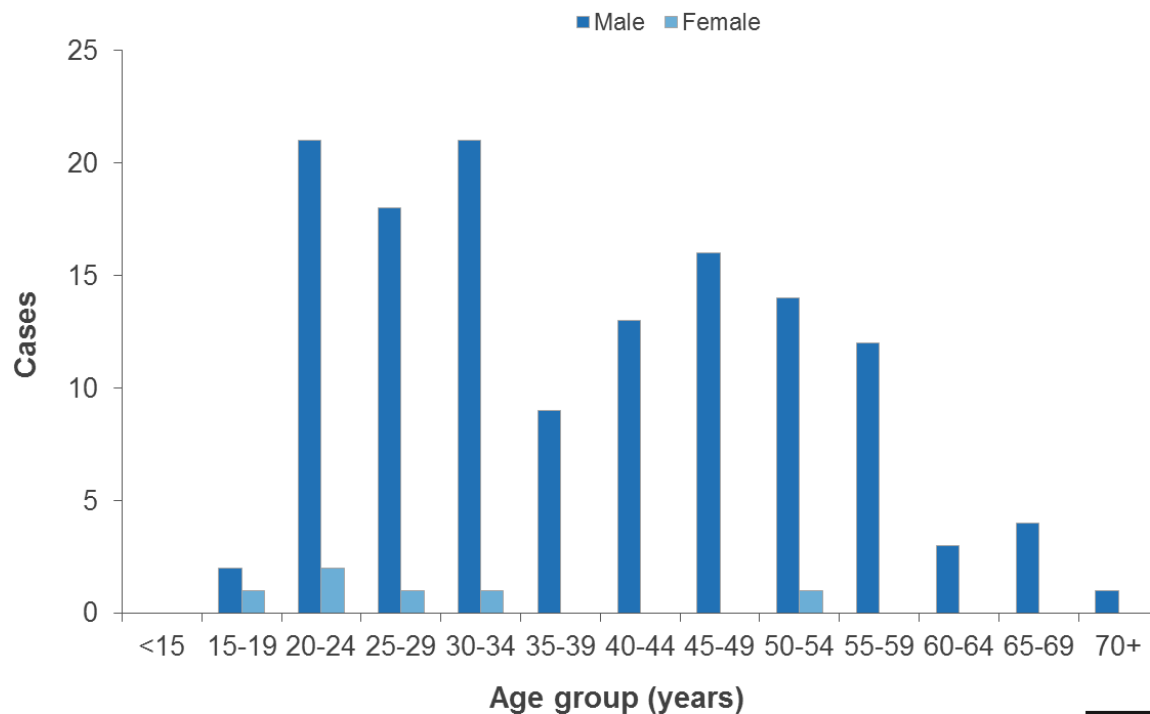
## Infectious syphilis case numbers by clinic type, 2010–2014



Source: Sexually Transmitted Infections in New Zealand: Annual Surveillance Report 2014, available from [www.esr.cri.nz](http://www.esr.cri.nz)

# BACTERIA: SYPHILIS

Infectious syphilis case numbers reported by SHCs  
by age group and sex, 2014



Source: Sexually Transmitted Infections in New Zealand: Annual Surveillance Report 2014, available from [www.esr.cri.nz](http://www.esr.cri.nz)



# BACTERIA: “TROPICAL” STI

- *Klebsiella granulomatis* – donovanosis
  - no domestic transmission in NZ
  - smelly, beefy exophytic lesions sometimes mistaken for malignancy
- *Haemophilus ducreyi* – chancroid
  - soft, tender chancre – Asia, Africa, HIV a co-factor
  - new presentation – chronic skin ulcers in children (PNG and other Pacific Islands), contact transmission
- *C. trachomatis* (serovars L1, L2, L3) – lymphogranuloma venereum
  - classical presentation: genital ulcer, satellite lymphadenopathy+++
  - contemporary scenario: proctitis in MSM (HIV co-factor+++)
  - (used to be) endemic in Africa, India, Southeast Asia, South America, the Caribbean; sporadic elsewhere
  - Rx: Doxycycline 100mg BD x 21 days
  - **Since 2003, epidemic in MSM (especially living with HIV) in Western Europe, North America, Australasia.**

# BACTERIA: BACTERIAL VAGINOSIS

- *Gardnerella vaginalis* – if you believe it's an STI!
- The only STI more frequent among WSW
- Commonest cause of vaginal discharge in women aged 14 to 49
- Dx: Amsel criteria (at least 3 must be present)
  - homogenous, fluid, white-greyish discharge
  - pH>4.5
  - positive whiff-test (fishy smell adding 1 drop of KOH to the discharge)
  - clue cells on wet film in normal saline
- Vaginal Gram is the golden standard
  - Nugent score – more time-consuming, requires an expert microscopist
- Don't treat if asymptomatic!
- Rx: Metronidazole 400mg BD x 7/7; alternatives: Metronidazole 2g stat or or Ornidazole, Clindamycin if azoles contraindicated
- Partners: no consensus as yet re Rx, enough evidence to recommend condoms for 1 month after Rx.

# VIRUSES: MOLLUSCUM CONTAGIOSUM

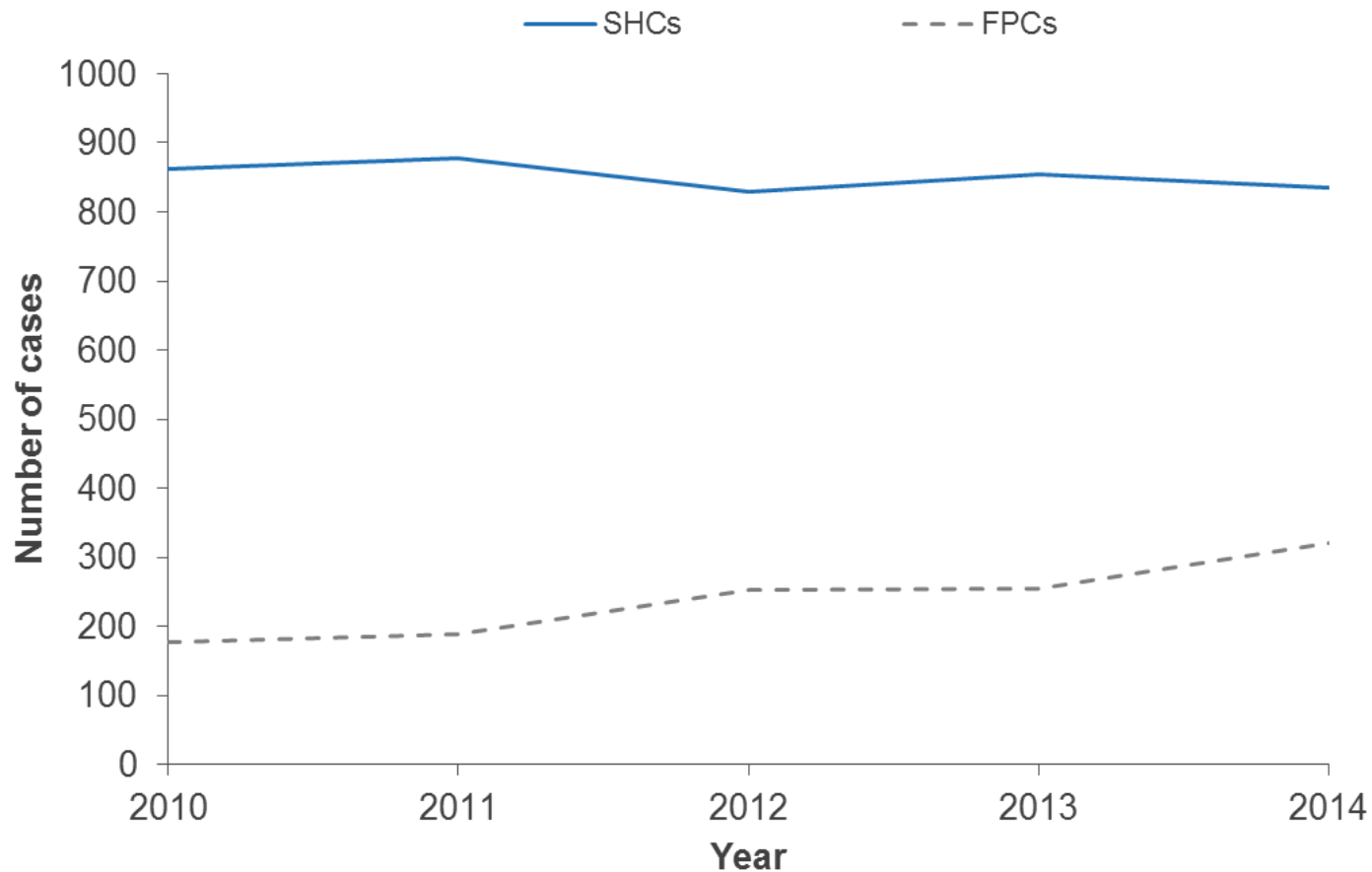
- A poxvirus
- Normally occurs in children through skin to skin contact (not an STI!), should be left alone
- Can be an STI in adults with genital skin involvement
- Single or multiple smooth umbilicated papules (2-3mm each in size)
- **No Rx** an option, as benign and spontaneous resolution invariably occurs (**unless immune suppressed - especially HIV**)
- Avoid shaving/waxing/etc. as this spreads the virus around!
- If treated, same Rx as genital warts.



# VIRUSES: HSV 1 & 2

- A few to multiple painful blisters, then sores
- Can cause satellite lymphadenopathy, fever, general malaise & neurological involvement if 1<sup>st</sup> episode
- Starts 4-7 days after transmission and lasts 7-10 days before crusting
- Recurrences vary – 90% get at least one within 12 months
- Dx: swab for HSV DNA; **don't do serology** as low sensitivity and specificity (exception: pregnancy if history unclear for primary vs. recurrence, discordant couples planning a pregnancy)
- Rx: Valaciclovir 500mg BD x 7/7 (first episode) or x 3/7 (recurrences) or 500mg OD x 12 months for suppression (new).

# Genital herpes (first presentation) cases by clinic type, 2010–2014



Source: Sexually Transmitted Infections in New Zealand: Annual Surveillance Report 2014, available from [www.psrf.org.nz](http://www.psrf.org.nz)

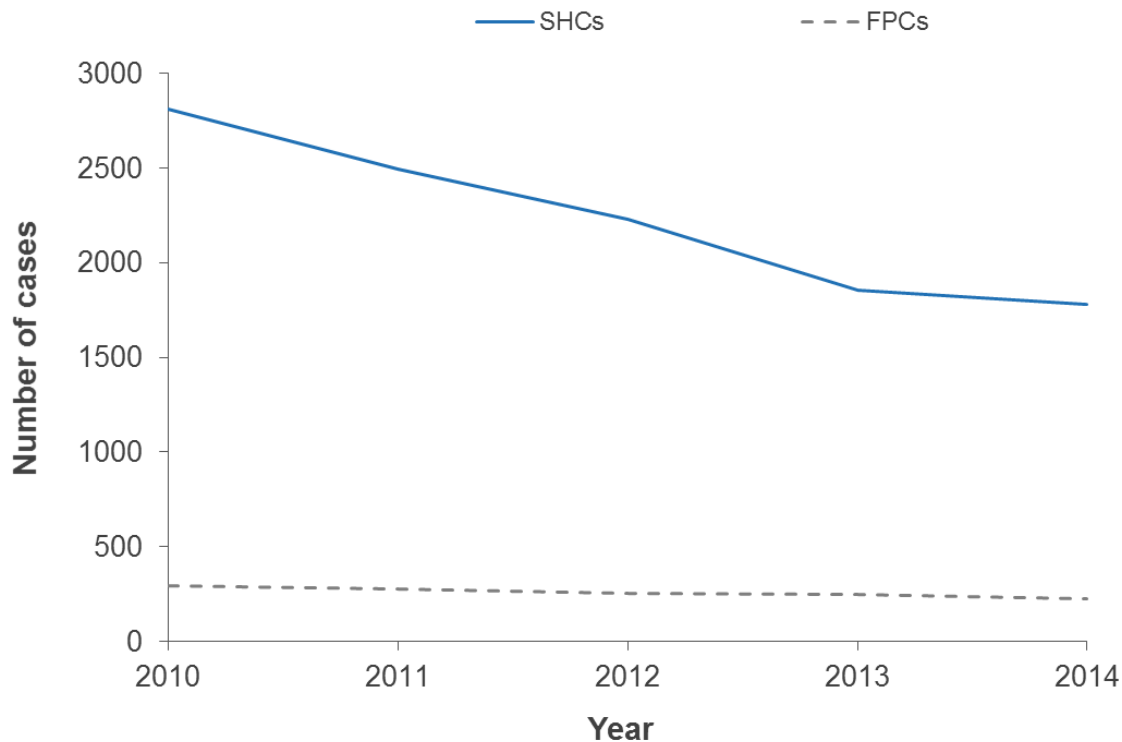


# VIRUSES: HPV

- Human Papillomavirus
- >30 genotypes infect the genital skin
  - 6 & 11 most frequently involved in genital warts (GWs)
  - 16 & 18 in genital cancers
  - all four already covered by the previous vaccine (GARDASIL™)
  - **9-valent vaccine and universal vaccination of boys and girls now available!**
- Dx: clinical examination; rarely a biopsy is needed (atypical presentation)
- Rx: Podophyllotoxin solution, Imiquimod cream, Cryotherapy: tailored according to number, site & size of lesions
- Prevention: vaccinate before sexual debut!!!

# VIRUSES: HPV

Genital warts (first presentation) cases by clinic type, 2010–2014



Source: Sexually Transmitted Infections in New Zealand: Annual Surveillance Report 2014, available from [www.esr.cri.nz](http://www.esr.cri.nz)



# OTHER BLOOD-BORNE VIRUSES

- HIV: test more! (especially **young MSM**)
- HBV & HAV (the second not being a BBV of course):
  - test more (especially if born overseas) and vaccinate if negative!
  - **self-reported history of vaccination is unreliable**  
*Clin Microbiol Infect published online: 07 July 2014*
- HCV: not an STI (apart from **HIV positive MSM**).

# **USEFUL CONTACT NUMBERS**

## **BOPDHB Sexual Health Service:**

- Clinic 2 - Tauranga: based at Lois Pearl House, 814 Cameron Rd (across the road at the traffic lights on the corner of 17<sup>th</sup> Ave), phone 07 579 8157
- Clinic 1 – Whakatane: Outpatients Department Whakatane Hospital, phone 0800 72335683

**Bay of Plenty Sexual Assault Support Services (BOP SASS):  
07 577 0512 or 0800 227 233**

**Family Planning Tauranga: 07 578 8539.**