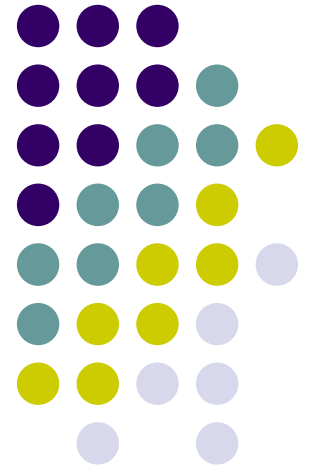


Swab Taking-Skills that do NAAT matter?

Sunita Azariah
Auckland Sexual Health Service





Content

- Clinical Facts
- ESR Data-Test Coverage
- Opportunistic testing-who?
- Which Test is best
- Challenges
- Clinical Scenarios

Chlamydia is not a Flower



Why is Chlamydia a concern?



- Chlamydia can cause reproductive sequelae in women such as pelvic inflammatory disease, ectopic pregnancy and sub-fertility
 - Recurrent infections increase risk of hospitalisation for PID and EP (Hillis et al 1997)
 - Cumulative incidence 2-4% over 10 years (Low et al 2006)
 - Women with laparoscopically diagnosed salpingitis frequently have serological evidence of current infection even if lower genital tract swabs are negative (Taylor-Robinson et al 2009)
- Men can get epididymo-orchitis (1%)
- Both sexes may get reactive arthritis

Complications in Women



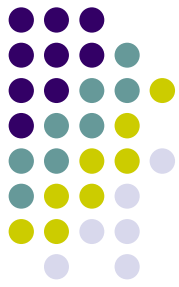
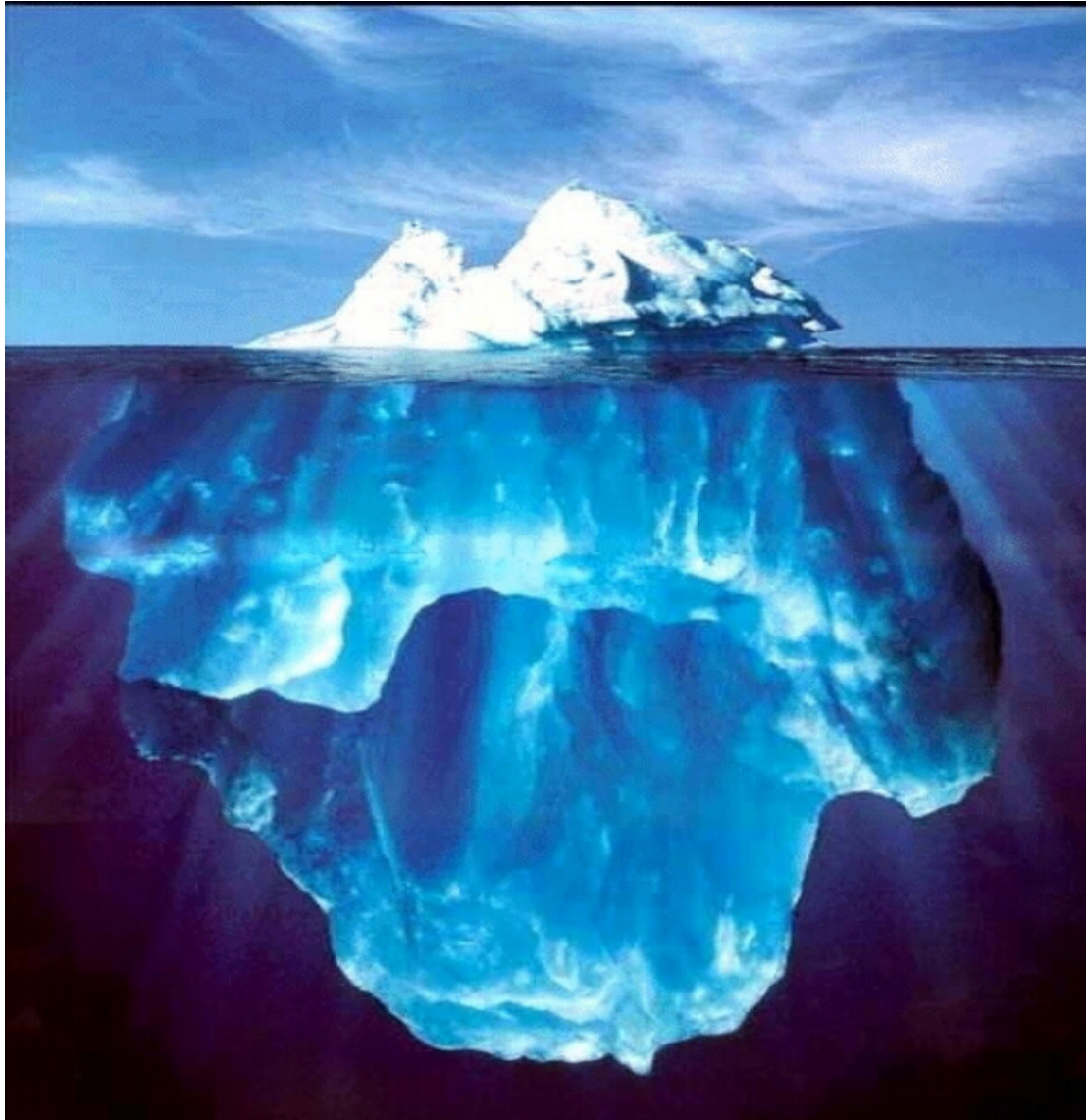
- Very little available NZ data as not notifiable: majority of women with mild to moderate PID treated in the community
 - 152 females (PID) and 33 males (epididymitis) with complicated chlamydia infections were notified to ESR in 2008.
 - ASHS data-audit of 84 women with PID in 2005 (Hilton J-2007)
 - 18% chlamydia +ve
 - 57% previously diagnosed with chlamydia

STI Surveillance in NZ



- ESR data confirms that Chlamydia is New Zealand's most commonly reported STI
- In 2008 4970 cases of chlamydia were diagnosed in SHC's-an increase of 10% from 2007
- Laboratory surveillance reports from Auckland, Waikato and Bay of Plenty in 2008 reveal test positivity rates ranging from 6.9% to 11.1%.

However.....



True Incidence and Prevalence?



- We don't really know for a number of reasons:
 - STI surveillance is incomplete
 - ESR sentinel site surveillance
 - Patchy national lab surveillance
 - Test coverage varies
 - Chlamydia infection is predominantly asymptomatic
 - 70-90% of women (Stamm 1993) and up to 73% of men (Greene and Stafford 2007; LaMontagne et al 2003)

Background to development of Chlamydia Guidelines

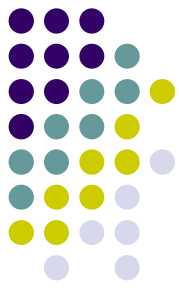


- Concern at the burden of disease from sexually transmissible infections (STIs) was identified as a priority by the Government in the *Sexual and Reproductive Health Strategy: Phase one* (Ministry of Health 2001).
- In 2006, the Ministry of Health was directed to increase opportunistic testing and treatment for chlamydia through the development and implementation of a set of guidelines.
- The Sexual Health Advisory Group was established to develop evidence-based guidelines for the management of chlamydia appropriate to the New Zealand context.



Recommendation 1

- “Current chlamydia surveillance could be improved by introducing comprehensive national data collection and laboratory reporting of all chlamydia test results”.

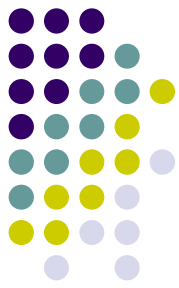


Possible Clinical Presentation

Symptoms that may be associated with chlamydia infection

Females	Males
Frequency/dysuria syndrome	Dysuria
Vaginal discharge	Urethral discharge
Inflamed/friable cervix on examination	Epididymo-orchitis
Postcoital or inter-menstrual bleeding	Testicular pain
Lower abdominal pain	Reactive arthritis
Reactive arthritis	

Opportunistic Testing-Who is at most at Risk?



Who is at Risk of Chlamydia?



- The short answer is anyone who is sexually active can get chlamydia
- However it is important to consider risk factors when initiating screening for any asymptomatic disease as screening can cause harm
- However false positive tests are rare with NAATs.

Epidemiology of Chlamydia in New Zealand



- Of the chlamydia cases diagnosed at sexual health clinics in 2008:
 - 71.0% were aged less than 25 years.
 - Those of Maori ethnicity accounted for 37% of cases diagnosed at SHC's.
- Data from lab surveillance is similar with that 68-80% of cases were diagnosed in those under the age of 25

ESR Data

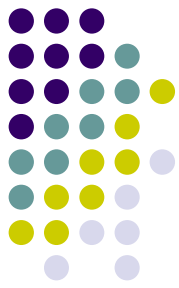
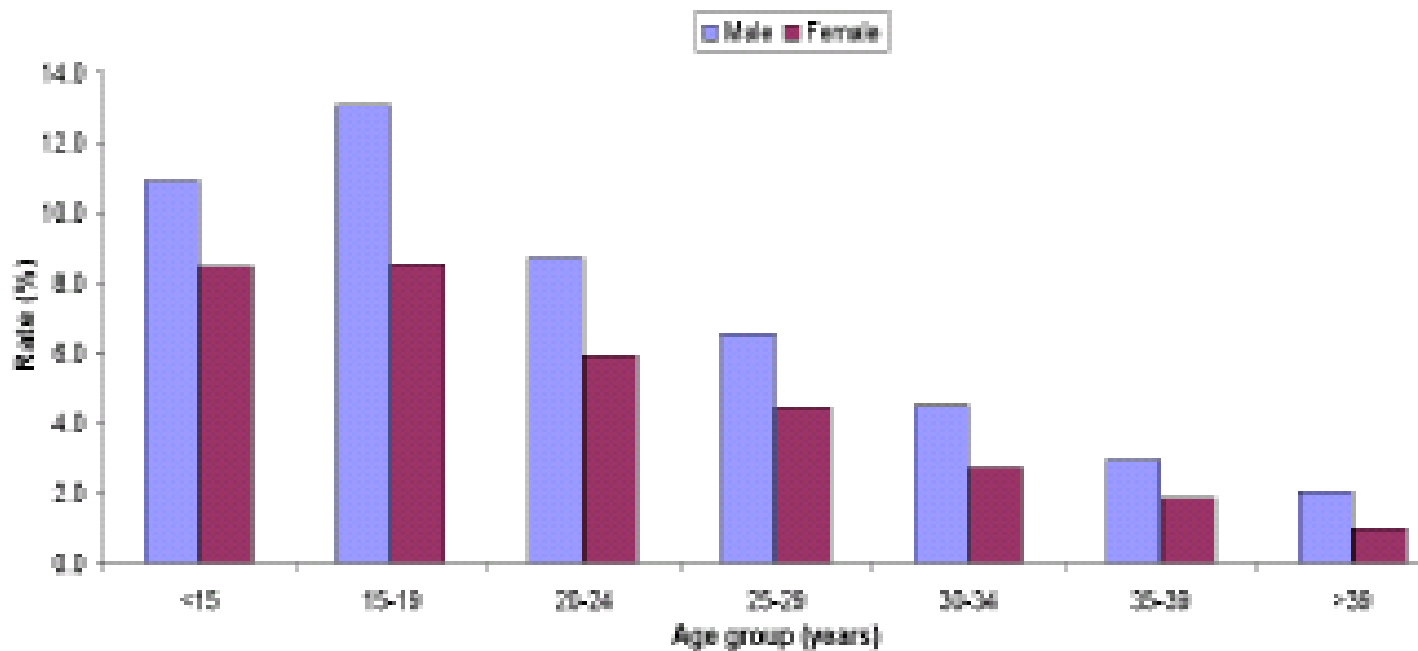


Figure 7. Clinic visit rates of chlamydia diagnosed at SHCs by age group and sex, 2008

Denominator is the number of clinic visits

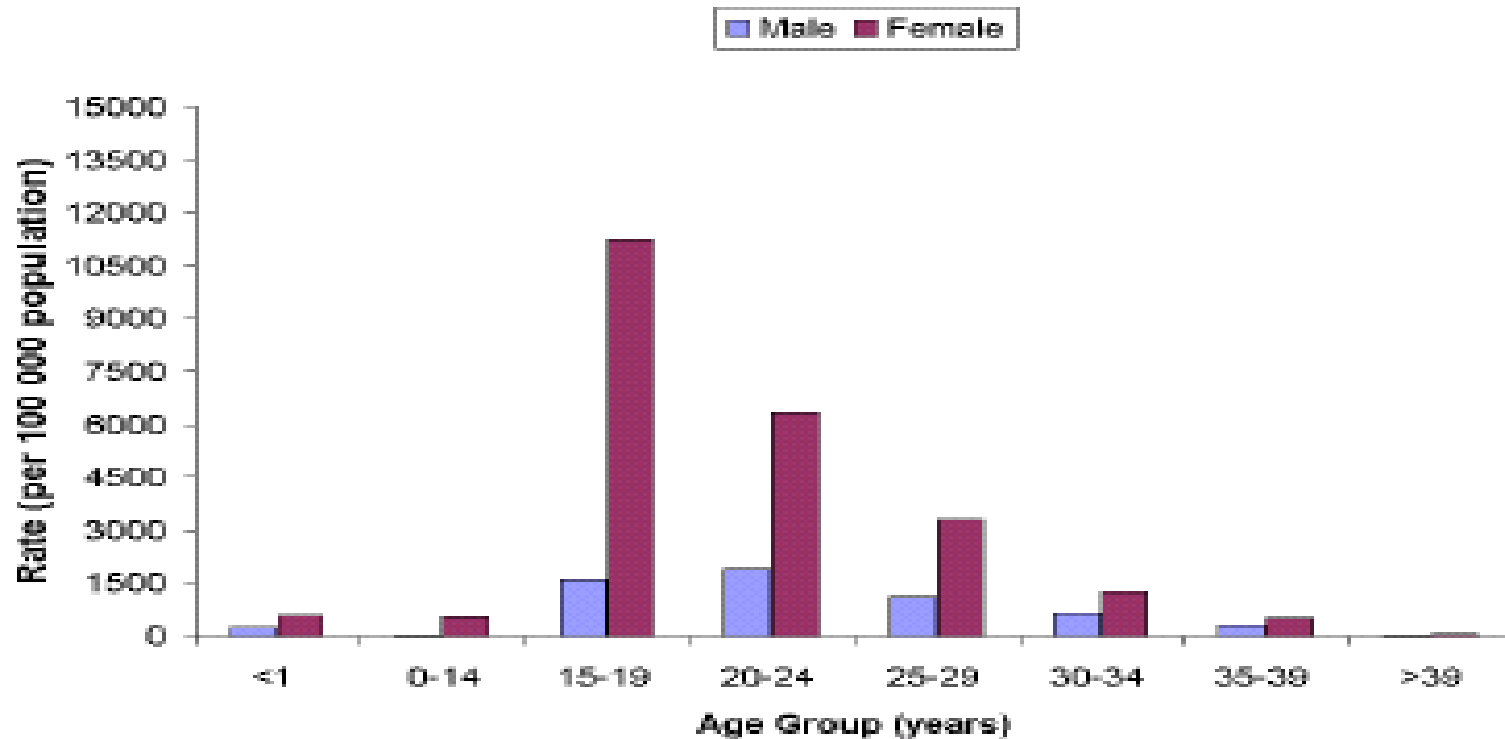


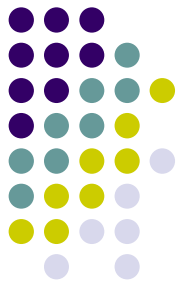


Laboratory Surveillance

Figure 27. Rates of chlamydia in the BOP region by age group and sex, 2008

Denominator is the population in each age-sex group for the region





The Male factor

- Males are tested far less frequently than women outside the sexual health clinic setting
- Morgan and Bell STI 2009- Test uptake in Waikato amongst 15-24 year olds was 22.2%-36.9% amongst females and 7.7% amongst males

Summary



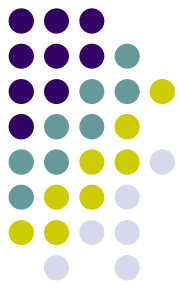
- Chlamydia rates are highest in those under the age of 25
- Men are tested less frequently than women



Recommendation 5



- *“Opportunistic testing for chlamydia should be discussed with all sexually active people aged under 25 years whenever they present to health services and if they conform with the proposed criteria”*.
- Opportunistic testing means offering a chlamydia test to people attending a health service for another reason.



Recommendations for asymptomatic opportunistic testing

This is particularly important if the individual has not consistently used condoms.

Females

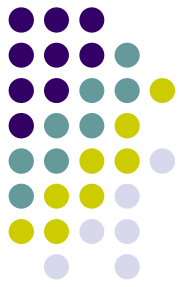
Testing should be offered to all sexually active females under 25 years of age if they have never been tested. The offer of testing should be repeated *annually* to all sexually active females under 25 years of age if they have:

- had two or more partners in the last 12 months, *or*
- had a recent partner change.

Males

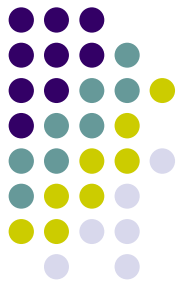
Consider testing in sexually active males if they conform with the following criteria:

- aged under 25, *and*
- two or more sexual partners in the last year or a recent partner change, *or*
- co-infection with another STI.



What Test is Best?

- Recommendation 2: A NAAT (nucleic acid amplification test) method of testing for *C. trachomatis* should be used.
 - polymerase chain reaction (PCR)-Abbot, Roche
 - transcription-mediated amplification (TMA)-Aptima
 - strand displacement amplification (SDA)-BD Probetek
- NAAT's are highly sensitive and specific
- Offer the option of non-invasive testing as a variety of specimens are suitable (Urines, swabs)



Which Sites to Test?

- *Chlamydia trachomatis* is an obligate intracellular parasite that only infects columnar epithelium:

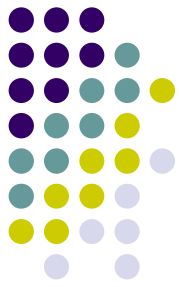
- Endocervix
- Urethra-10% to 20% sole site of infection in women
- Rectum
- Conjunctivae

NOT THE VAGINA!!!!!!!!!!!!!! Which is why NAATS are only test indicated for this site

Testing in Females



- For opportunistic testing of asymptomatic women:
NAAT's are the only suitable tests
- Highly sensitive so pick up contamination from other genital sites
 - Vaginal swab-*either self-collected or clinician collected is equally reliable-DON'T USE A SPECULUM!*
 - First-pass urine specimen
- If the woman is undergoing a speculum examination then an endocervical swab is specimen of choice



Testing in Females

- Vaginal swab is better than urine
 - more sensitive(89% to 98%)
 - Specificity (95%-99%)
 - Easier to process
- Self-collected swabs are very acceptable to women

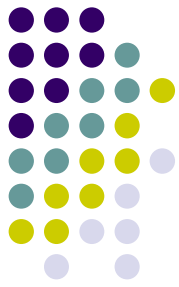
Garrow et al, STI 2002

Schacter et al STD 2005

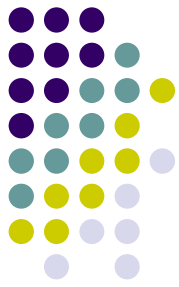
(Chernesky et al, STD 2005)



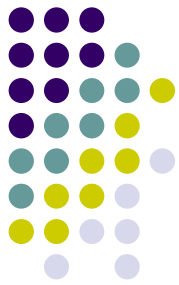
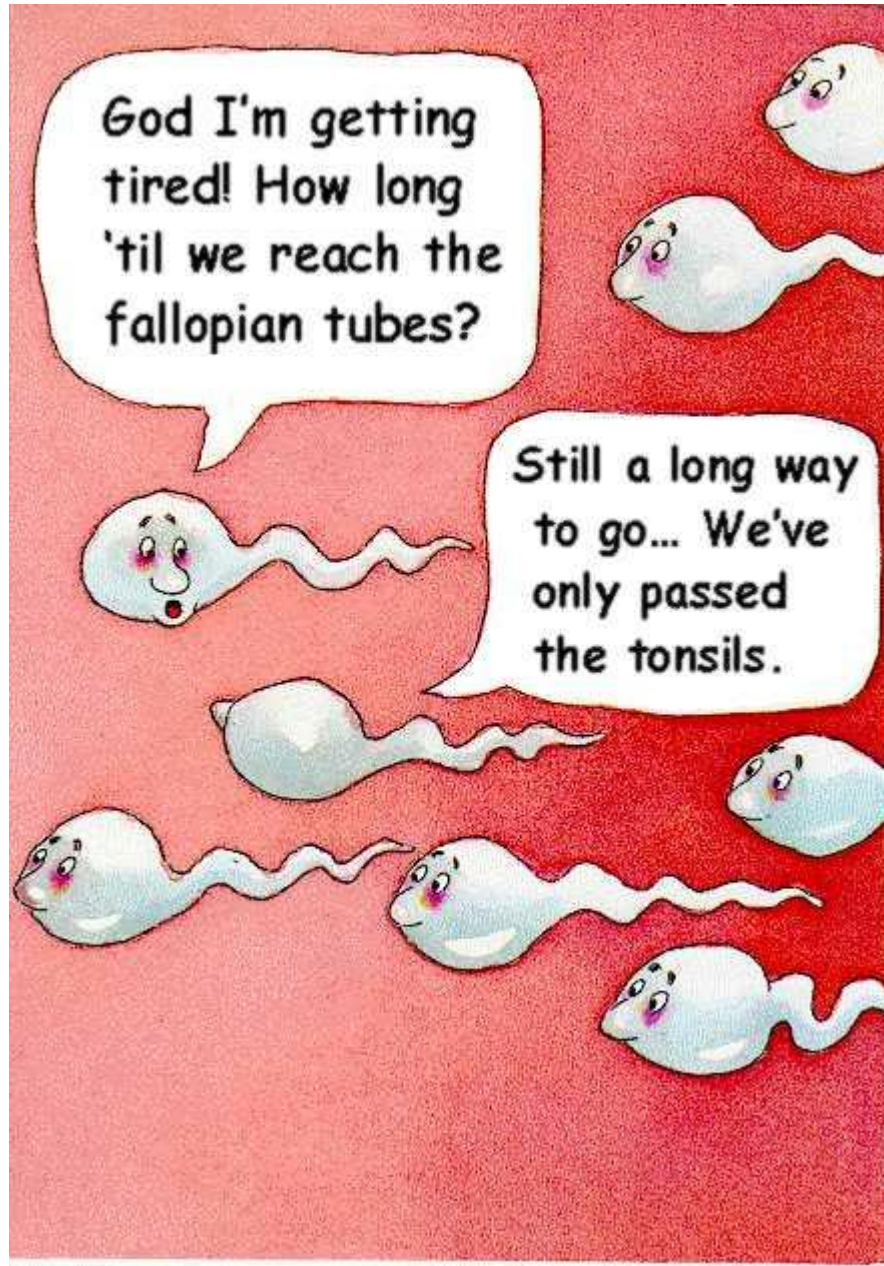
Testing in Males



Chlamydia Testing in Males



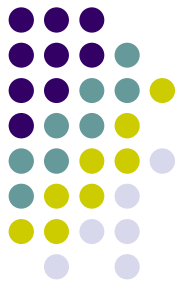
- Opportunistic testing of asymptomatic males
 - First-pass urine is best-swabs offer no advantages and urine more acceptable
 - Preferably should not have voided within previous 2 hours-however if unlikely to come back is better to test on that visit
 - MSM practising receptive anal sex-anal swab (can be self-collected)
- Symptomatic males require testing for gonorrhoea-ouch-first before urine specimen is collected



Summary-Opportunistic Test



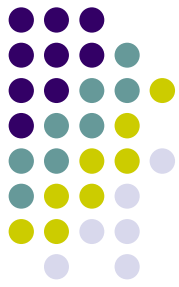
- Women-vaginal swab is best
- Men-Urine is best



Those hard to reach males

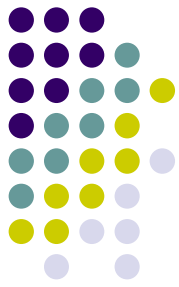
- Community screening projects have proved acceptable for young men, for example:
 - T Thomas and colleagues (NDHB) have developed a culturally appropriate health promotion intervention that has proved highly successful for community screening of male high school students
 - A health promotion model developed by Werder and Laing (ASHS) tested 517 people attending community events in 2008.
 - 75% were under 25 years.
 - Prevalence 4.06% overall- range 3.5% to 11.3%.
 - Feedback was very positive and males particularly found it highly acceptable

Challenge



- How to improve test coverage for young men?

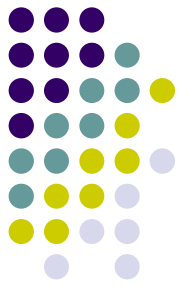




Possible Scenarios

1. 35 year-old woman presenting for cervical smear
2. 20 year-old male presenting with URTI
3. 17 year-old female requesting pregnancy test
4. 55 year-old man presenting with erectile dysfunction

Scenarios



1. Take sexual history-offer test if clinically relevant
2. Start conversation-offer test if sexually active and never been tested
3. Start conversation-offer test
4. Take sexual history-offer test if clinically relevant